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Sustainable Cities Management Initiative for Senegal

UNIDO SAP ID: 150270
GEF Project ID: 9123



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Table of contents

Acknowledgements	5
Résumé exécutif	6
Executive summary	7
Project Factsheet	8
1. Introduction	9
1.1 Evaluation objectives and scope	9
1.2 Overview of the project context	9
1.3 Overview of the project	10
1.4 Theory of change (TOC)	10
1.5 Evaluation methodology	11
1.6 Limitations of the evaluation	11
2. Project's contribution to Development Results - Effectiveness and Impact	13
2.1 Project's achieved results and overall effectiveness	13
2.2 Progress towards impact	17
2.2.1 Behavioural change	18
2.2.2 Broader adoption	18
3. Project's quality and performance	19
3.1 Design	19
3.2 Relevance	20
3.3 Efficiency	20
3.4 Sustainability	21
3.5 Gender mainstreaming	21
4. Performance of Partners	22
4.1. UNIDO	22
4.2. National counterparts	22
4.3. Donor	23
5. Factors facilitating or limiting the achievement of results	23
5.1 Monitoring & evaluation	23
5.2 Results-based management	23
5.3 Other factors	23
5.4 Overarching assessment and rating table	23
6 Conclusions, recommendations and lessons learned	24
6.1 Conclusions	24
6.2 Recommendations	24
6.3 Lessons learned	25
6.4 Good practices	25
Appendix 1: Ex-post Theory of Change of SC Senegal, as elaborated by the TE team	26
Appendix 2: Evaluation framework – Evaluation criteria, proposed guiding questions	27
Appendix 3: Environmental indicators for companies – deadlines reassessed, UNIDO Dakar	30
Appendix 4: List of documentation reviewed	32
Appendix 5 : Liste des personnes rencontrées dans le cadre de l'évaluation du projet	33
Appendix 6: UNIDO Grant Delivery Report	34
Appendix 7: Senegal: GEF Projects approved, 2016-2022	35

Abbreviations and Acronyms

Acronyms	Definition
ADM	Municipal Development Agency
AEME	Agence de la Maitrise de L'Energie
APROSI	Agence d'Aménagement et de Promotion des Sites Industriels (APROSI)
ASER	Agence Sénégalaise d'Electrification Rurale
BAT/BEP	Best Available Techniques & Best Environmental Practice
BMN	Bureau de Mise à Niveau (Ministère des PME et du Commerce)
COMFAR	UNIDO's Computer Model for Feasibility Analysis and Reporting
CONGAD	National Confederation of Development NGOs
CP	Programme for Country Partnership
DEEC	Direction de l'Environnement de des Établissements Classifiés
DGPU	Direction Générale de Planification Urbaine
ECOWAS r	Economic Community of West African States
MEDD	Ministry of Environment and Sustainable Development;
GEF	Global Environment Facility
GHG	Green House Gas
GPSC	Global Platform for Sustainable Cities
IAGU	African Institute for Urban Management
IAP	Integrated Approach Pilot
ISO	International Standardization Organization
LDCF/SCCF	Least Developed Country Fund/Special Climate Change Fund
M&E	Monitoring and Evaluation
MOE	Ministry of Energy
MOI	Ministry of Industry
MTR	Mid-term Review
NAMA	National Appropriate Mitigation Action
NIP	National Implementation Plan
PIR	Project implementation Report
PNGD	Programme National de Gestion des Déchets
POPs	Persistent Organic Pollutants
RE/EE	Resource Efficiency/Energy Efficiency
RECP	Resource Efficiency and Cleaner Production
SC IAP	e Sustainable Cities Integrated Approach Pilot
SSA	Sub-Saharan Africa
SENELEC	Société Nationale d'Electricité du Sénégal
TE	Terminal evaluation
TEQ	Toxic Equivalency Quotient ¹
ToC	Theory of Change
TORs	Terms of reference
UNIDO	United Nations Industry Development Organization

¹ Dioxin and Dioxin-Like Compounds Toxic Equivalency Information | US EPA

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The Evaluation Team hopes that the findings, conclusions and recommendations will contribute to the successful completion of the project and to the continuous improvement of similar projects in other countries.

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Résumé exécutif

Le Projet Villes Durables Sénégal était pertinent en considérant les défis énormes liés à un processus d'industrialisation, ordonné en termes environnementaux et d'efficacité énergétique et basé sur des critères d'urbanisation intégrale. Dans un tel contexte, le choix d'un nouveau parc industriel - Diamniadio – est à juger comme judicieux. La conception du projet était cohérente d'un point de vue scientifique et technique. Toutefois, le projet n'a pas consacré l'attention voulue sur les engagements de cofinancement des entités participantes (BMN et APROSI), et l'architecture du projet était compartimentée. Par contre, la logique du projet au moment de sa conception a pris en compte les opportunités de réplication et de mise à échelle.

La mise en œuvre du projet a accusé des retards, surtout au niveau des entreprises concernées, tandis que tous les outputs intermédiaires (stratégie études de faisabilités, outils et ateliers) ont été complétés en janvier 2023. Concernant le progrès vers les impacts, il est correct d'affirmer que Villes Durables Sénégal a atteint les cibles environnementales au niveau de la finalité du projet à un degré plus satisfaisant. L'ONUDI était une agence d'exécution qui a géré le don du FEM de manière efficiente et qui a honoré ses propres engagements de cofinancement.

Du fait du nombre limité des entreprises participantes, des opportunités effectives de mise à échelle et de l'absence d'une stratégie de sortie, les perspectives de durabilité sont modérément insatisfaisantes. L'Intégration de femmes dans les activités du projet ont atteint les cibles préétablies et Ville Durables Sénégal a collaboré de manière consciente avec les partenaires principaux DEEC et APROSI qui intègrent une balance de genre en faveur des femmes dans leurs corps de cadres.

Le système de suivi & évaluation, quoique basé sur un cadre logique quelque peu complexe, était en mesure de fournir toutes les données pour un rapportage cohérent et une gestion basée sur les résultats. La performance de l'ONUDI est jugée satisfaisante tandis que celle des contreparties nationales et du donateur (FEM) est considérée modérément satisfaisante. Cette appréciation est due à l'absence d'une vision stratégique pour des opportunités de réplication et de mise à échelle.

La performance globale du projet est annotée comme modérément satisfaisante.

Résumé des annotations

#	Critères d'évaluation	Annotations
A	Progrès vers impacts	4
B	Conception du projet	4
1	Conception générale	4
2	Cadre logique	4
C	Performance du projet	4
1	Pertinence	5
2	Efficacité	5
3	Cohérence	4
4	Efficience	4
5	Durabilité des bénéfices	3
D	Critères de performance transversaux	5
1	Mise à échelle d'aspects de genre	5
2	Conception du système de suivi & évaluation	4
	Réalisation du suivi & évaluation	5
3	Gestion basée sur des résultats	5
E	Performance de partenaires	4
1	ONUDI	5
2	Homologues nationaux	4
3	Donateur	4
F	Appréciation globale	4

Executive summary

SC Senegal was a relevant undertaking when considering the enormous challenges at stake, in terms of environmental and energy efficiency of an orderly industrialization process based on comprehensive urbanization criteria. In this respect, the choice of an emerging industrial park - Diamniadio - was a judicious one. From a scientific and technical point of view, project design was pertinent, but less so taking into account the lack of formal commitments of the cofinancing entities BMN and APROSI and the compartmented pattern of the project setup. Project design was conscious of mainstreaming, replication and upscaling opportunities.

Project implementation, especially at the level of the ten participating industry enterprises, suffered delays while all required intermediate outputs (strategies, feasibility studies, tools and workshops) were completed by January 2023. As for progress toward impact, it is fair to suggest that SC Senegal fulfilled the environmental targets at project goal level to a moderately satisfactory degree.

UNIDO was a project implementation agency that efficiently managed the GEF grant and complied with its own cofinancing obligations.

Due to the limited number of participating companies, the missed upscaling opportunities and the lack of an exit strategy, sustainability prospects are, however, moderately unsatisfactory.

Gender mainstreaming complied with the target set, and the project consciously collaborated with gender-balanced partner institutions (DEEC and BNM).

The M&E system, although based on a somewhat intricate logframe, was in a position to deliver all data necessary for consistent reporting and results-based management.

UNIDO's performance is assessed as satisfactory, while that of the national counterparts and of the donor (GEF) are considered moderately satisfactory. In the latter case, this assessment is due to a deficient strategic vision for replication and upscaling opportunities.

Overall, project performance is rated as moderately satisfactory.

Rating summary

#	Evaluation criteria	Mandatory rating
A	Progress to impact	4
B	Project design	4
1	Overall design	4
2	Logframe	4
C	Project performance	4
1	Relevance	5
2	Effectiveness	5
3	Coherence	4
4	Efficiency	4
5	Sustainability of benefits	3
D	Cross-cutting performance criteria	5
1	Gender mainstreaming	5
2	M&E design	4
	M&E implementation	5
3	Results-based Management (RBM)	5
E	Performance of partners	4
1	UNIDO	5
2	National counterparts	4
3	Donor	4
F	Overall assessment	4

Project Factsheet

Project title	Sustainable cities initiative for Senegal: Promoting renewable energy and integrated waste management in sustainable industrial parks
UNIDO ID	150270
GEF Project ID	9123
Country(ies)	Senegal
Project donor(s)	GEF
Project approval date/GEF CEO endorsement date	June 2015
Planned project start date (as indicated in project document/or GEF CEO endorsement document)	January 2017
Actual project start date (First PAD issuance date)	January 2017
Planned project completion date (as indicated in project document/or GEF CEO endorsement document)	January 2021
Actual project completion date (as indicated in UNIDO ERP system)	December 2022 (to be extended till March 2023)
Project duration (year): Planned: Actual:	4ys 5ys
GEF Focal Areas and Operational Programme	Integrated Approach IAP- sustainable cities
Implementing agency	UNIDO
Executing Partners	Ministry of Environment and Sustainable Development; Municipal Development Agency (ADM), Agence de management et de Promotion des Sites Industriels (APROSI), Bureau de Mis a Niveau (BMN)
Donor funding	USD 3,211,010
UNIDO input (in kind, USD)	USD 300,000
Co-financing at CEO Endorsement, as applicable	USD 11,780,000
Total project cost (USD), excluding support costs	USD 14,991,010
Planned terminal evaluation date	December 2022 – March 2023

(Source: Project document, UNIDO ERP system)

(Source: Project document, UNIDO ERP system)

1. Introduction

This is the report for the terminal evaluation (TE) of the Sustainable cities initiative for Senegal: *promoting renewable energy and integrated waste management in sustainable industrial parks*. The main objective of the project was to provide the technical assistance needed to assist national government bodies in jointly addressing current urban and industrial development challenges by developing a strategy for designing, implementing and managing sustainable industrial parks under an integrated urban planning approach.

1.1 Evaluation objectives and scope

The purpose of the evaluation was to independently assess the project to help UNIDO improve performance and results of ongoing and future programmes and projects. The terminal evaluation (TE) covered the whole duration of the project from its starting date in January 2017 to the estimated completion date in December 2022, later extended to March 2023. The evaluation had two specific objectives: (i) Assess the project performance in terms of relevance, effectiveness, efficiency, sustainability, coherence, and progress to impact; and (ii) Develop a series of findings, lessons and recommendations for enhancing the design of new and implementation of ongoing projects by UNIDO.

1.2 Overview of the project context

Dakar, the capital of Senegal, is located on the coast at the extreme west of the country. With its surroundings, it constitutes a metropolis called the Greater Dakar. Currently, Dakar represents 0.3 percent of the Senegalese territory but accounts for more than 80 percent of the economic activities in Senegal. It is home to more than a quarter of the total, and half of the urban, population of Senegal. The annual urban population growth rate is estimated at 3 percent. The city's infrastructure, built to accommodate 300,000 people, is evidently over-stretched. Over 90 percent of the population in peri-urban Dakar (Pikine and Guédiawaye) live in areas classified as slums or spontaneous settlements.

For its part, industry is confronted with several challenges that include low production levels, inadequate competitiveness of the local market, lack of capacities of industrial firms to upgrade their production systems, and geographical and structural weakness of the industrial fabric. In operational terms, initiatives concerning partnerships between the State and the private sector are still minimal, particularly with regard to the promotion of entrepreneurial initiatives, the development of innovation through research application, the creation of integrated competitiveness poles and the training of future champions of the different sectors and the development of venture capital. The shortage and unreliability of power supply and the weak infrastructural platforms cripple the performance and competitiveness of industries, causing substantial additional costs. In addition to these drawbacks, industrial production suffers significantly from its strong concentration in the Dakar area as mentioned above, hampering the potential of provincial economic zones, as well as from lack of diversification and a system of product quality certification. Against this background, industry has not paid attention to the need to protect the environment as a general concept, but also as a strategy to improve their productivity and competitiveness. Environmental issues are generally perceived by industry as causing additional production costs to a sector that is faced with many other challenges.²

Industrial pollution and waste management are some of the major challenges in Dakar. In particular, as regards waste management, Senegalese municipalities have major difficulties to cope with the waste. Waste management has become a top strategic priority of the Republic of Senegal. PNGD, "Programme National de Gestion des Déchets", is a national initiative of the

² UNIDO. Terms of reference, Independent terminal evaluation of the project "Sustainable cities initiative for Senegal: promoting renewable energy and integrated waste management in sustainable industrial parks" UNIDO ID: 150270 , GEF Project ID: 9123, November 2022.

government funded by the Islamic Bank of Development to promote sound waste management in Senegal. A priority program is currently led by the Ministry of Planning and Local Governments, which aims to assist the municipality government to improve the waste management by addressing the social need for keeping good quality of life and generating employment opportunities. In line with UNIDO's renewed mandate of promoting inclusive and sustainable industrial development (ISID), Senegal is part of the pilot countries that have adopted the Programme for Country Partnership approach which focusses on promoting industrial parks. As baseline to this project, UNIDO is already working within the Diamniadio Industrial Park in areas that include building capacity of national institutions to manage the park, developing regulatory framework for the park management. As such, this project will build on the work that is currently ongoing.

1.3 Overview of the project

The main objective of the project was to provide the technical assistance needed to assist national government bodies in jointly addressing current urban and industrial development challenges by developing a strategy for designing, implementing and managing sustainable industrial parks under integrated urban planning approach.

The project was meant to contribute to the overall program impact in terms of improved environmental performance, including global benefits such as reduced GHG emissions, protection of ecosystems, decreased land degradation, and decreased incidence of chemicals and waste. At the city level, expected benefits included local liveability and access to improved infrastructure and services, social inclusion, improved air quality and improved public health, increased resilience to natural disasters, improved labour productivity, and enhanced ability to retain, attract, or support the growth of businesses.

The following project components have been developed, in addition to project management, to achieve the project objectives:

- Component 1: Integrated urban planning and management focusing on sustainable industrial parks
- Component 2: Integrated POPs management and hazardous waste management in industries
- Component 3: Strengthening institutional framework to support sustainable and resilient industrialization
- Component 4: Promoting investments in renewable energy, low-carbon technologies and POPs in enterprises in Dakar and in Diamniadio industrial park.³

The UNIDO co-implemented, GEF-financed, project was put into place in the framework of ongoing national efforts on urban sustainable development and promoting integration of renewable energy, waste management and sustainable industries in Great Dakar area. All of the technical assistance components have been designed to support incremental activities to enhance the successful implementation of the baseline activities.

1.4 Theory of change (TOC)

The formulation of a theory of change is a key element in UNIDO's Evaluation Manual,⁴ and this also the case with IFAD'S and GEF evaluation guidelines as cited in UNIDO's Evaluation Manual. Neither the Project Document, nor the Project implementation reports (PIRs), nor the TORs

³ Ibidem.

⁴ UNIDO, Independent Evaluation Unit. Evaluation Manual, Vienna, 2018

contain a visualized Theory of Change. This is due to the fact that the TOC is applicable to programme level only and not to child-project level.

However, the logframe contained in the GEF-6 Endorsement Request (Project Document) was assessed in detail, in accordance with the evaluation questions as specified in Annex 2, Sections B1 and B2.

The mentioned underlying logframe served to build the TOC as displayed in Appendix 1. It is an ex-post construct prepared by the TE. Besides the ascending links, horizontal and mutually interacting relations are visualized. Regarding Outcome 1 and 3, there are interactions between the “strengthening of national capacities on integrated urban planning” and an “an enabling framework for implementing sustainable and resilient industrialization”. In analogous manner, Outcome 2 “An integrated POPs and hazardous waste management system” is expected to have a bearing on the participating enterprises, analogous to Outcome 4 “Increased use of renewable energy and low carbon technologies”, although companies of Outcome 2 focused on waste-related projects for POPs reduction, and not an RE/RECP upgrade. Outcome 5, if well implemented, has an enabling bearing on all other outcomes. The validity of the constructed ToC, and the number and “SMARTness” of the indicators of the logframe, 35 in total, are analysed in Chapter 3 below.

1.5 Evaluation methodology

The TE was conducted in accordance with the UNIDO Evaluation Policy, the UNIDO Guidelines for the Technical Cooperation Project and Project Cycle, and UNIDO Evaluation Manual. In addition, the GEF Guidelines for GEF Agencies in Conducting Terminal Evaluations, the GEF Monitoring and Evaluation Policy and the GEF Minimum Fiduciary Standards for GEF Implementing and Executing Agencies were applied. This includes the newly established guidelines for the improved quality of evaluation recommendations.⁵ The evaluation was carried out as an independent in-depth exercise using a participatory approach whereby all key parties associated with the project were informed and consulted throughout the process. The evaluation team leader liaised with the UNIDO Independent Evaluation Unit (EIO/IEU) on the conduct of the evaluation and methodological issues.

1.6 Limitations of the evaluation

Project architecture

The Sustainable Cities Integrated Approach Pilot (SC IAP) is an integrated program consisting of two tracks: (a) City level projects in 27 cities across 11 countries, with around US\$140 million in GEF grant funding. Each country is supported by one or several implementing agencies to manage the various projects in the participating cities, (b) The Global Platform for Sustainable Cities (GPSC), led by the World Bank with US\$10 million in GEF grant funding. The GPSC is a knowledge platform that ties all participating cities together and creates a collaborative space for cities aspiring towards sustainability to engage with entities already working in the urban realm.⁷ This fact entails a specific evaluation question in Annex 2 on how this knowledge platform has been substantiated in SC Senegal under the criterion on the performance of partners (donor).

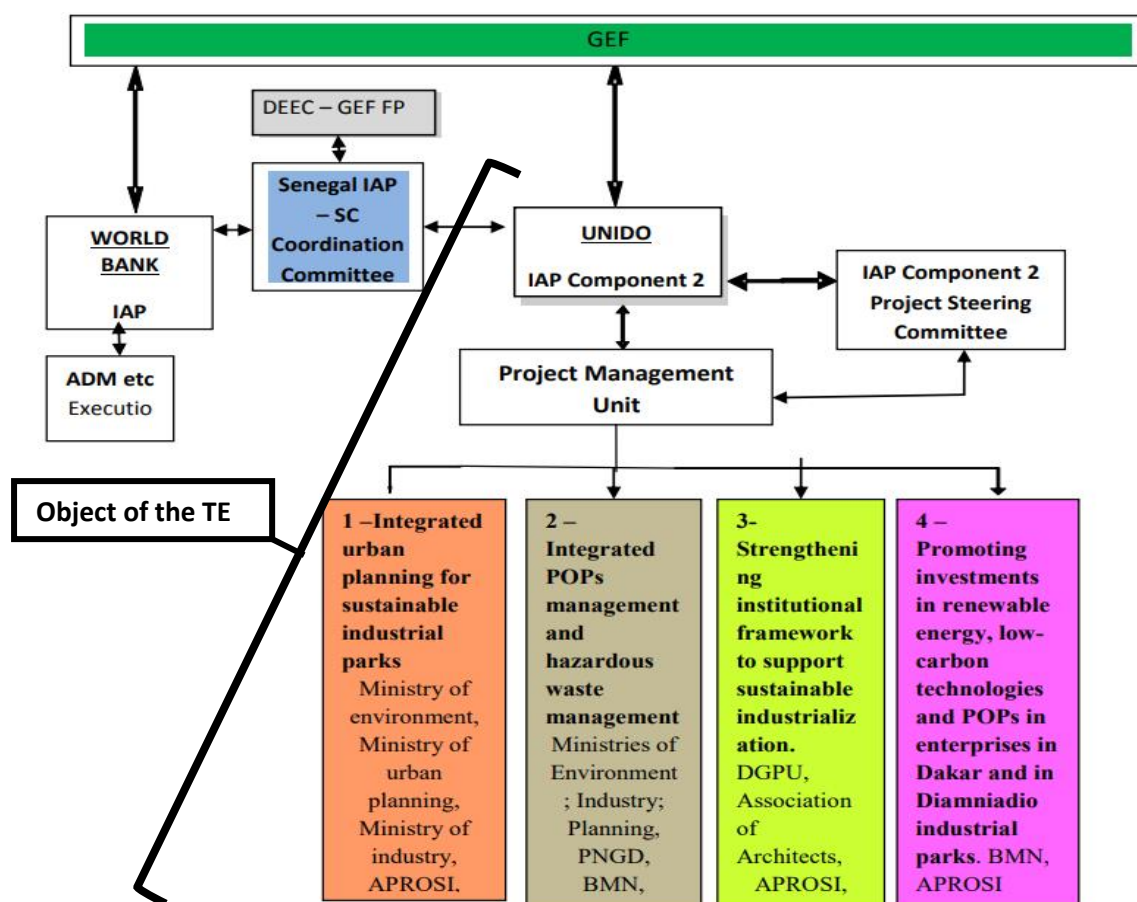
The synopsis below visualizes project architecture.

⁵ UNEG, United Nations Evaluation Group. Improved Quality of Evaluation Recommendations Checklist, June 2018.

⁶ ECG, Evaluation Cooperation Group. ECG Practice Note Formulation of Evaluation Recommendations, November 2018

⁷ GEF, UNIDO. Sustainable cities initiative for Senegal: Promoting renewable energy and integrated waste, management in sustainable industrial parks, GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL, June 2015.

Synopsis 1: Project architecture



Source: GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL (Project Document)

Financiers of SC Senegal

The cited SC Senegal Project Document mentions the following co-financiers for IAP Component 2:

• UNIDO, grants and in-kind:	US\$	380,000
• BMN, in-kind	US\$	2,207,000
• BMN, loans	US\$	4,793,000
• APROSI		<u>US\$ 4,400,000</u>
• Total	US\$	11,880,000

The UNIDO Project Implementation Reports (PIRs), on file, and other information sources were screened below to proceed to adequate budget-expenditure comparisons.

Varying timelines

The World bank-led IAP Component 1 of SC Senegal has already been completed in November 2020.⁸ The PIRs on record do not explicitly refer to this component. The mission will examine the

⁸ World Bank. PROGEP, Sustainable Cities Management Initiative, Final progress report, November 2020.

relevance of whether the performance of IAP Component 1 was instrumental for IAP Component 2 implemented by UNIDO. Another limitation of the TE is that the most comprehensive documentary source, the 2022 PIR, is eight months old and that some facts and figures are likely to be different on the basis of the final report due on 31 March 2023.

A multitude of information retrievable from secondary reporting as referred to in the PIRs

The PIRs contain a multitude of references on supporting documentations, such as steering committee minutes, feasibility studies and Monitoring Reporting Verification Frameworks (MRV). These have been consulted via the link provided by UNIDO. They complemented the insight obtained by the UNIDO PIRs.

2. Project's contribution to Development Results - Effectiveness and Impact

2.1 Project's achieved results and overall effectiveness

The assessment of the achieved results proceeds below in accordance with the five components and referring to the logframe. The main sources of this assessment are the PIRs, in particular the June 2022 PIR, and the related strategies, tools and reports available.

Component 1: Strengthening of national capacities on integrated urban planning for sustainable industrial parks and participation on Global Platform for Sustainable Cities (GPSC)

The core thrust of Component 1 consisted in subcontracting and coaching of specialized consulting firms (Ernst & Young and Gauss International) to design the strategies and monitoring tools, as well as to implement the workshops indicated in Table 1. Moreover, and on an international plane, the project allowed national project counterparts to participate in the Global Platform for Sustainable Cities (GPSC) activities. All elements weighed, Component 1 has delivered the required outputs and attained the expected outcome.

Table 1: Results matrix for Component 1

Component outputs	KPI targets	Actual	Notes
Output 1.1: A strategy to guide the design, implementation and management of sustainable industrial parks and integration into urban tissue developed	A (1) strategy on integrated urban planning strategy for sustainable industrial parks	Target reached in 2021	Ernst & Young has completed the strategy, which was shared with DEEC. ⁹
Output 1.2: APROSI, ADM, DGPU, architects, cities, private sector, local experts trained the integration of sustainable industrial parks in cities across the country	Number of training workshop (2) and participants (male/female: 40/20)	Targets over-achieved in 2021	Ernst & Young organized 5 online workshops from April 23 to May 18 gathering 49 participants per session and one presential workshop (May, 26-27) with fifteen (15) participants. ¹⁰
Output 1.3: Sustainability performance of Diamniadio industrial park measured and regularly reported	5 reports	Target achieved	A Monitoring Reporting Verification Framework (MRV) for Diamniadio Industrial Park was developed with Gauss, plus 6 reports on GHG emissions for Diamniadio industrial

⁹ FEM, ONUDI, EY: Provision of services related to design, management and integration of sustainable industrial parks in Senegal under the project "Sustainable Cities Initiative for Senegal: SC-IAP", Final Report, August 2021.

¹⁰ FEM, ONUDI: Shifting from industrial zones to eco-industrial parks, Knowledge product, 2021.

			park, following an MRV cycle for emissions of years 2019 and 2020. ¹¹
Output 1.4: Project counterparts participate in the Global Platform for Sustainable Cities (GPSC) activities that include annual meetings, targeted training programmes	Number of events (8) and participants (male/female: 35/15)	Targets achieved	Events attended in New Delhi, Abidjan Sao Paulo, Singapore, Vienna (2 events), Dakar and New York. Number of participants and gender not specified. Numerous presentations are on record

Component 2: Integrated POPs management and hazardous waste management in industries

Component 2 was conclusive in that it facilitated the formulation and validation of a strategy on integrated POPs and hazardous waste management by Ramboll, with significant participation of stakeholders. For the implementation of two pilot projects referring to the subject matter, none of the selected companies, both in the area of animal products processing, implemented the feasibility studies that were prepared by the consulting firm Okosaneder. It is to be noted that these companies have been pre-identified in the project document to benefit from TA in output 2.2. These studies have shown the environmental benefits regarding CO₂e abatement the reduction of POPs in µg TEQ. In the case of SODEA, the Covid-19 Pandemic may have been a major driver for ceasing its business activities, while the reason given for the non-performance of SOGAS is indicated in Table 2. Thus, Component 2 is only moderately satisfactory in terms of effectiveness.

Table 2: Results matrix for Component 2

Component outputs	KPI targets	Actual	Notes
Output 2.1: An integrated POPs and hazardous waste management strategy developed in a gender-sensitive manner for enterprises in Dakar and Diamniadio industrial park	A (1) strategy on integrated POPs and hazardous waste management strategy.	Target reached	International partner Ramboll developed an integrated POPs and hazardous waste management strategy for Dakar and Diamniadio. ¹² Three awareness and one validation workshop were conducted with 54 participants of which 33 per cent women.
Output 2.2: Technical assistance provided to conduct detailed feasibility studies of selected pilot projects	2 feasibility studies.	Study targets reached, no pilot projects implemented.	Diagnostic reports and feasibility studies of pilot project company SODEA ¹³ and SOGAS ¹⁴ were finalized by Okosaneder and approved by key stakeholders. However, none of the companies have implemented the studies. SODEA ceased its activities, and SOGAS is not proceeding to the required investments because it may not obtain the renewal of its license to manage slaughterhouses.

Component 3: An enabling framework is created for implementing sustainable and resilient industrialization

¹¹Gauss. Mécanisme de mesure, notification et vérification (MRV) des émissions de GES pour le parc industriel de Diamniadio, Sénégal Proposition du mécanisme MRV, Avril 2021.

¹² Ramboll. Dakar (Sénégal), Projet ONUDI 150270 - Réalisation d'une cartographie environnementale, d'une stratégie de réduction des POP et de gestion des déchets dangereux, et d'audits d'entreprises pour l'efficacité énergétique et la production propre (RECP), Version finale 2, 28 juin 2022.

¹³ Okosaneder. «Projet FEM-6 Villes Durables Sénégal GEF9123(SAP150270) », Spécifications techniques pour la prestation de services liés à la réalisation d'études de faisabilité pour la Société SODEA, Mars 2021.

¹⁴ Okosaneder. «Projet FEM-6 Villes Durables Sénégal GEF9123(SAP150270) », Spécifications techniques pour la prestation de services liés à la réalisation d'études de faisabilité pour la Société de Gestion des Abattoirs du Sénégal (SOGAS), Novembre 2021.

Under Component 3, the main documentary deliverables were: (i) the environmental mapping for the greater Dakar areas and 10 “Resource Efficiency and Clean Production” (RECP) assessments for 10 companies, all on record (ii) the “Green Industry Approach for Managing Diamniadio Industrial Park” report. Thirteen workshops were implemented in this context, with over one hundred participants in total. The main target institutions were BMN and APROSI. There is a wealth of key documents and tools available, such as the “Senegal Industrial Environmental Assessment Toolkit” (SEAT). This warrants a rating of satisfactory for this component.

Table 3: Results matrix for Component 3

Component outputs	KPI targets	Actual	Notes
Output 3.1: Environmental and resilience mapping of existing industries in greater Dakar, RECP assessments for selected enterprises conducted and technological and process upgrading opportunities identified.	1 report on environmental mapping of greater Dakar industries· 10 RECP assessments for 10 enterprises	Targets achieved	The environmental mapping of greater Dakar area and 10 RECP audits were completed in 2022. A validation organized by DEEC on February 23, 2022. 28 people participated in this workshop included 12 women (43% female participation). All RECP assessment conducted by Ramboll are on record.
Output 3.2: Technical and institutional capacity of Agence de la Maîtrise de L'Énergie (AEME) and other relevant stakeholders for the adoption of renewable energy, resource efficient, and chemical and waste management technologies strengthened.	2 training workshop and participants (male/female: 35/15)	Targets achieved	EY has implemented two face-to-face and seven online workshops on the subject matter, with 29 participants, not gender-differentiated.
Output 3.3: APROSI, BMN and other companies assisted in designing and implementing sustainable industry approach for managing Diamniadio industrial park in terms of resource efficiency, chemical and waste management and renewable energy use.	1 Green industry approach for managing Diamniadio industrial park report	Targets achieved	UNIDO developed a “Senegal Industrial Environmental Assessment Toolkit (SEAT)”. Additional key deliverables: - User handbook for park managers, - User handbook for applicants, - Handbook of recommendations on best environmental practices in the industrial sector in Senegal. Three capacity building workshops were held with 51 participants (29% women).

Outcome 4: Increased use of renewable energy technologies and low-carbon technologies to reduce carbon intensity of industrialization and urbanization in Dakar and Diamniadio

Component 4 is the one that has -or will have - the most direct and tangible participation of industries in Dakar and foremost in Diamniado Industrial Park. The 2022 PIR presents a multitude of information on these enterprises, which are summarized in Table 4. While the preparation of strategies, feasibility studies and managing tools proceeded relatively well (Components 1 and 3), the required investments in the enterprises are lagging behind, which is the essence of Component 4. The interviewed companies indicate three major reasons: (i) the Covid-19 Pandemic that brought many activities to a halt, (ii) the ensuing supply chain disruptions for many imported investments goods, and (ii) the fact that most companies rely on own financial resources as they deem the real cost of bank credit as exorbitant (including high collateral deposit cost, in total not less than 17 per cent). The amounts committed are considerable. By adding PIR 2022 data for Output 4.3, the ten companies mentioned have engaged the sum of USD 2.29 million.

Obviously, if the related environment and energy efficiency relevant investments are not made, or made late, the expected environmental benefits do not substantiate in time, or not at all. For this reason, the TE team has requested the UNIDO Dakar project office to proceed to a reassessment of the probable investment deadlines. The results are given in Section 2.2 on progress towards impact.

In terms of effectiveness and focusing on Component 4, the rating given is satisfactory. This rating is given despite the delays accumulated (Output 4.3), and the achieved Outputs 4.4 and 4.5. DEEC remarked that some subcontracts assigned by UNIDO to international consulting firms did not explicitly oblige these to include nationally available expertise, see Table 4, Output 4.1. On the other hand, UNIDO comments infer that over USD 1 million was allocated to BMN for the execution of Component 4, with further implication of Okosaneder for output 4.4. Most of the work was therefore conducted by national entities.

Table 4: Results matrix for Component 4

Component outputs	KPI targets	Actual	Notes
Output 4.1: GHG emission inventory/energy audit conducted for Diamniadio urban pole and an action plan for climate smart and resilient urban development elaborated and developed as NAMA	1 GHG Inventory report, 1 Nationally Appropriate Mitigation Action (NAMA) report	Targets achieved	Gauss was selected to conduct a greenhouse gas (GHG) emission inventory. The NAMA report was presented to DEEC in February 2021 upon DEEC decided to enrich it with in-house and in-country expertise (see also text). Two three-day training sessions each with average participation of 28 of which 32 percent women).
Output 4.2: Enterprises in Dakar and Diamniadio industrial park implement small to medium scale pilot renewable energy and energy efficient applications and RECP measures (at least 1MW systems) and get ISO 50001 and ISO 14001	10 enterprises with energy/low carbon audits 9 enterprises with resource efficiency pilot projects 5 new industries ISO 50001 and ISO 14001 certified.	5 enterprises selected, see also Output 4.3	As per project document, BMN was selected to carry out these activities. 10 companies have completed (or are completing) the pilot projects: - Phase 1: Eiffage, CSIP, IBS - Phase 2: SENICO, HDI, NMA Sanders, Rufsac, Sosagrin, SCULLER Metal and Afric Azote CSIP, IBS, SCHULLER and SENICO companies have started the ISO 14001 certification while SOSAGRIN company has begun ISO 50001.
Output 4.3: Enterprises in Dakar and Diamniadio industrial park implement pilot projects on waste recycling, recovery and energy generation to reduce dioxin and furan emissions and hazardous waste	2 waste recovery and energy generation facility pilot projects	Overshot in numbers of pilot projects, but implementation lagging behind.	Five companies are finalizing their eco -technological upgrades: CSIP, APS, SMIP, Eiffage and IPS. Five additional RECP projects have been selected in FY 2022: Sosagrin, NMA Sanders, Senico, Schuler Métal and Rufsac
Output 4.4: Business model designed to mobilise investment in replication and scaleup of sustainable industry approach in sustainable industrial parks	1 Business model report	Achieved in January 2023	Cabinet Okosander was selected to execute output 4.4 and 4.5: business model development, monitoring/ evaluation of pilot projects, and for the development of best practice manual. Eiffage and Senico were selected by UNIDO as evaluated pilot projects .
Output 4.5: Pilot projects monitored, evaluated and showcased.	2 projects monitored, evaluated and showcased: 1 Best practice manual	Achieved in January 2023	

Component 5: Monitoring and Evaluation

Under Component 5, the project attained all related indicators. However, some caveats are presented in Section 5 on monitoring & evaluation.

Table 5: Results matrix for Component 5

Component outputs	KPI targets	Actual	Notes
Output 5.1: Project results regularly monitored and reported in line with GPSC time frames.	Steering committee and project office established. MTR and TE implemented.	Targets achieved	Four steering committee (COPIL) minutes on record.
Output 5.2: Mid-term review and independent terminal evaluation conducted,	MTR and TE implemented.	Targets achieved	MTR and TE on record

Summing up, project effectiveness covering all components is considered satisfactory on the basis of the target-achievement comparisons in Tables 1 to 5. The most convincing insight gained was however the testimonies collected in four of the concerned enterprises, as well as feedback collected from the persons encountered (Appendix 5). While most inputs received acknowledged delays, in part suffered by external circumstances, they all concur that SC Senegal was effective and that the observed changes were attributable to the project.

2.2 Progress towards impact

According to the project document (Annex A), seven project goals of environmental impact relevance were targeted. Table 6 below summarizes the expected and the attained targets. Data from Appendix 3 have been used to estimate effective end target values. However, it is not entirely clear whether Annex A of the project document applies the same time spans as Appendix 3 of this TE report. Moreover, the project document assumed that SOGAS and SODEA would be key contributors to CO₂e abatement, which was not the case in reality. Comments from UNIDO HQ have been taken into account to consolidate effective end targets, which may display figures that differ from the ones reported in Appendix 3. Despite this caveat, it is fair to suggest that SC Senegal fulfilled the environmental targets at project goal level to a moderately satisfactory degree.

Table 6: Comparison of expected and effective project goal indicators

Project goal indicators	Expected end targets	Effective end targets	Remarks
• RECP assessments are conducted (nos)	10	10	Fully met
• Enterprises are ISO 50001 and ISO 14001 certified (nos)	5	5	The issuing of the certificates is delayed, and expected between March and September 2023 SOGAS and SODEA dropped out (Table 2)
• Industries piloting the use of renewable energy technologies (nos)	9	7	
• Total installed capacity of renewable energy equipment (MW)	1	1,9	Overachieved
• Total amount of energy generation (MWh)	8,429	16,644	Overachieved
• Total amount of POPs emissions avoided (µg TEQ)	93	5,400	
• Total amount of tCO ₂ e avoided	6,738	35,184	

2.2.1 Behavioural change

The mission in Senegal was the main opportunity to assess behavioural patterns among the participating industries. In terms of behaviour, it is obvious that the interviewed enterprise heads and the environmental or ISO certification focal point are perfectly aware of their mission, not only in environmental terms. Statements such as “Recycling really pays! (CISP)”, “ISO certifications give us a competitive advantage (IBS and SOSAGRIN)” and “beyond certifications, we have found international alliances to achieve better standards (Schuller Metal)” infer that the respect of the environment is also a business driver. SC Senegal was obviously capable of triggering such motivational potential.



Compagnie Sénégalaise industrielle de PVC (CSIP)

Photo 1 :



Photo 2: Schüller Métal



Photo 3 : IBS et SOSAGRIN

2.2.2 Broader adoption

Mainstreaming

As Appendix 3 details, the project has collaborated with ten companies, most of them in Diamniadio industrial park or about to move there. This is a dismal number compared to the 8,000 registered enterprises registered in Senegal with DEEC as “établissements classés”. It is true that also small rural automobile repair shops belong to this category. Nevertheless, the

achievements of SC Senegal are still far from any mainstreaming, and this has only partly to do with the sheer numbers mentioned. While SC Senegal has successfully induced national counterparts to the Global Platform for Sustainable Cities (GPSC) activities (Output 1.4), the project has not made relevant mainstreaming efforts in this sense in Senegal. For instance, it has not sought proactive cooperation with the DGPU (Délégation Générale à la Promotion des Pôles Urbains de Diamniadio et du Lac Rose)¹⁵ as suggested by the UNIDO Resident Representative. DGPU is responsible for urban planning because the Diamniado Industrial Park will be part of a completely new city outside Dakar. Then, the insights and achievements of SC Senegal would be highly relevant for the five “Agropoles”¹⁶ planned in Senegal. The TE of PARFA in 2022 has highlighted such mainstreaming opportunities in relation to PARFA already.¹⁷

Replication and scaling up

Given the insight related to mainstreaming, it can only be said that the potential for replication and upscaling of the material and immaterial assets of SC Senegal is considerable. The workshop organized by BM, DEEC and UNIDO in January 2023 aimed to demonstrate successful industrial results to foster replication by other industries. The project also developed videos and communication material to document the business and environmental potential of RECP. In terms of *effective* replication and upscaling, there are however limitations as explained below. According to Appendix 7, the newest of the GEF grants to Senegal is also implemented by UNIDO, which is named “Promoting cleantech innovation for climate action in Senegal”.¹⁸ The only tangible reference to SC Senegal is the following: “*Coordination with other GEF-financed projects and initiatives: GEF-6, 2015, World Bank: Cities-IAP: Sustainable Cities Initiative, approved for implementation in January 2017. Special attention will be put on those activities addressing Focal Area CCM-4: Policy, planning and regulatory frameworks foster accelerated low GHG development and emissions mitigation*”. There are two limitations to this intention: (i) while this new project was expected to start in July 2022, IAP Component 1 was already completed, and IAP Component 2 was bound to be terminated in December 2022 and (ii) coordination does not mean replication, and less upscaling. Therefore, designing a new project within an analogous subject matter, but without an explicit replication or scaling-up drive, may have been a lost opportunity. This warrants a recommendation under Section 6.2.

3. Project's quality and performance

3.1 Design

The design of SC Senegal, as shown in the project document, carefully built on environmental assessments related to the abatement of CO₂e emissions, partially related to resource efficiency and cleaner production, as well as to energy efficiency and renewable energies. Precise indicators were assigned to these dimensions, including by benchmarking potential emission reductions of Persistent Organic Pollutants (POPs).

The project logframe is relatively intricate. The fact that the project document did not include a TOC may have contributed to a relative focus on (necessary) details for environmental issues, and less on considerations of strategic and operational nature. A key example is the weak commitment of the cofinancing agencies to their obligations as indicated by the project document. As shown in Section 1.6, the cofinancing pledges amounted to a total USD 11.78 million, of which only UNIDO has reported upon in detail. According to a summary communication of BMN, only a

¹⁵ <https://www.dgpu.org/>

¹⁶ [AGROPOLE DU SENEGAL – Projet des agropoles du Sénégal](#)

¹⁷ UNIDO. Independent terminal project evaluation. Republic of Senegal, Agricultural Value Chains Resilience Support Project (PARFA), Vienna, July 2022

¹⁸ GEF. Promoting cleantech innovation for climate action in Senegal, GEF ID 10715, 15 July 2022 – 14 July 2027.

small part of the BMN commitments have been delivered (Table 7). APROSI does not seem to be aware of any cofinancing obligations in the framework of the project (more details in Section 3.3). UNIDO comments note that APROSI was reminded of its co-financing obligations on multiple occasions.

Some co-financing materialized through the following:

- Organization of several workshops on the SEAT toolkit
- Recruitment of IT expert to test and pilot the SEAT toolkit
- Participation in technical meetings, PSC and BMN selection process for RECP work

As the above infers, APROSI was not completely absent from project activities but obviously did not assign high priority to it. This affected the coherence of the project.

In GEF-funded projects in general, cofinancing is an important element justifying the investment, by highlighting the leverage function of a GEF grant. In the case of SC Senegal, this dimension seems to have been considered as a pro-forma function only. This hints at a design process that was not sufficiently focussing on mutual commitments. Appendix 7 indicates that six GEF grants have been issued for Senegal between 2016 and 2002, three of which were or are co-implemented by UNIDO.¹⁹ The six projects amount to a total of GEF grants of USD 39 million, with an expected cofinancing leverage of USD 438 million or a leverage factor of 12.57. The effective cofinancing contributions for IPA Component 2 of SC Senegal are detailed in Section 3.3.

Another conspicuous trait is that the UNIDO-executed project, i.e., IAP Component 2, was part of a bigger construct, as indicated in Synopsis 1. The World Bank implemented the lion's share of the GEF grant under IAP Component 1, in collaboration with the Municipal Development Agency (ADM), and the Nordic Development Fund. Specific actions of this IAP Component 1 are never referred to in the UNIDO PIRs while an undated progress report of IAP Component 1 contains some generic narrative on IAP Component 2.²⁰ Consequently, it is not possible to assess whether the performance of IAP Component 1 was instrumental for IAP Component 2 implemented by UNIDO, as suggested in Section 1.6. All the above hints at relatively compartmented design pattern of SC Senegal. Considering that this is not congruent with the challenges at stake, project design is assessed as only moderately satisfactory.

3.2 Relevance

Acting on environmental and climate change relevant hazards of the industrial development of Senegal was - and remains - highly relevant. In this context, the TE mission discussed the question whether it was pertinent to select a new industrial park, Diamniadio, as the main stage for the project. The preliminary conclusion is that this choice was a good one to attract innovative companies, ready to face the risks of a relocation and to combine such a move with the adoption of environmentally relevant investments. The interviews conducted and referred to under effectiveness, appear to confirm this position. The relevance of the project is intact and satisfactory.

3.3 Efficiency

Appendix 6 displays the UNIDO Grant Delivery Report per 31 March 2023. Against a total agreement budget of USD 3'211'010, the amount of USD 3'182'066 or 99 percent has been disbursed and committed by this date. The situation regarding the cofinancing commitments of UNIDO, BMN and APROSI is shown in Table 7.

¹⁹ [Projects | GEF \(thegef.org\)](#)

²⁰ SENEGAL, Project Title: Sustainable Cities Management Initiative, Cities: Dakar, Diamniadio, and Saint-Louis, no author, no date.

Regarding the cofinancing inputs of the participating ten companies, there is a disconnect between the BMN figure of USD 1.70 million and the PIR 2022 data of USD 2.29 million.

On the basis of the available data, it can be concluded that UNIDO was in a position to achieve close to 100 percent disbursement of the GEF grant, and 75 percent of its cofinancing share per 31 March 2023. It is noteworthy that UNIDO had already disbursed or committed the GEF grant to the extent of 72 percent by December 2019. The total cofinancing from BMN and APROSI are modest or nil, but this may have to do also with unsystematic reporting or unawareness of cofinancing obligations, foremost by APROSI.

Cofinancing entity and type	Pledged amounts USD	Disbursed and committed amounts USD ^{21 22 23}	Percentage of disbursement %
UNIDO, grants and in-kind	380'000	286'386	75%
BMN, in-kind	2'207'000	56'910	3%
BMN, loans	4'793'000	1'188'604	25%
Contributions of enterprises		1'703'216	n.a.
APROSI	4'400'000	n.a.	0%
Totals	11'780'000	3'229'481	27%

Table 7: SC Senegal cofinancing pledges and disbursed amounts

3.4 Sustainability

A strong factor favouring sustainability is the commitment and ownership of the ten participating companies, which is underlined by their willingness to invest USD 2.29 million of which a major part may already have been placed. On the other hand, the critical mass of these relative success stories is still small, and the expected delays, as highlighted in Appendix 3 and Table 6, may be additional hurdles against sustainability because they represent factors of uncertainty. Both the project document and the PIRs include explicit and detailed project risk analyses with related risk mitigation measures. The 2022 PIR, by and large, assumes low to medium risks over the financial years 2021 and 2022. The areas with medium risk assessments are related to institutional and financial risks, but remarkably also relate to gender (lack of interest from women and / or lack of qualified female personnel to participate in the project, see Section 3.5 below). The consulted PIRs do not include relevant mentions of an exit strategy being define or applied.

Given the low critical mass of participating companies, and the uncertainty of effectively achieving the investments and thus the financial and environmental benefits, the assessment of project sustainability is moderately unsatisfactory. Moreover, there is no evidence that the project has taken advantage of real mainstreaming, replication and upscaling opportunities, which could have become factors of sustainability. It is true, however, that the project design aimed at building a basis for replication and scale-up through capacity building, feasibility studies, a business model report, and a best practice manual.

3.5 Gender mainstreaming

SC Senegal has monitored indicators related to women's participation in workshops and other events. The overall target of the project related to female participation was 30 percent across the

²¹ As per 23 January 2023 for UNIDO cofinancing

²² Email message, dated 17 February 2023, for BMN cofinancing and contribution of enterprises.

²³ Interview with the Secretary General of APROSI, 17 February 2023.

board. Per relevant project output, the participation of women was the following, on the basis of the 2022 PIR:

Table 8: Gender mainstreaming indicators

Relevant project outputs	Total event participants	Percentage of female participation
Output 1.2	64	No gender differentiation
Output 1.2	35	40%
Output 2.1	54	33%
Output 3.1	28	43%
Output 3.2	Probably reported under Output 1.2 by mistake	
Output 3.3	83	24%
Output 4.1	57	33%
Output 4.3	39	33%
Total and average	296	32%

Considering the information of Table 8, it can be inferred that the gender participation target has been achieved. The UNIDO Dakar team also remarked that the gender profile of DEEC and BMN, thus the main project counterparts, counted more women than men in executive positions. Gender mainstreaming of the project is rated as satisfactory.

4. Performance of Partners

4.1. UNIDO

Taking into account the overall effectiveness of the project, and the UNIDO-specific efficiency assessment, it is fair to say that UNIDO was in a position to handle a project with a complex structure and a relatively intricate logframe. This was so despite the limitations imposed by the Covid-19 Pandemic and the resulting supply bottlenecks for investment goods for the participating companies. The delays in completing the investments in most of the participating enterprises may be attributed to this disruption. All in all, UNIDO performance is rated as satisfactory.

4.2. National counterparts

The main counterpart institution of the project was DEEC (Direction de l'Environnement et des Établissements Classés) under MEDD (Ministry of Environment and Sustainable Development). It was also DEEC that assured the chair of the steering committee sessions, of which four minutes are on record. The minutes of the session in October 2020²⁴ dealt with the Covid-19 limitations and also addressed the need of contract amendments between UNIDO and BMN, with the aim of clarifying the mutual commitments and to improve M&E. The national counterparts assured the participation of Senegalese cadres in all events related to the GPSC with relevant documentary contributions on record (Output 1.4).

In the contractual arrangements between UNIDO and BMN, there is no mention of the cofinancing obligations of the latter, a fact highlighted under Sections 3.1 (design) and 3.3 (efficiency). Table 7 details the effective cofinancing contributions of UNIDO, BMN and APROSI, which were modest to nil for the latter two.

For a project with a clear industrial development thrust such as SC Senegal, it is conspicuous that the Ministry of Industry apparently played only a minor role, although it was a member of the project steering committee. The active triangle of the project was UNIDO, DEEC and BMN. In

²⁴ ONUDI. Comité de pilotage projet villes durables, Compte-rendu de la réunion, Dakar, 2 octobre 2020.

matters of mainstreaming environmental concerns into industrial policies and development practice, testimonies collected suggest that the Ministry of Industry remained in the defensive rather than proactive. The above induces the TE mission to assess the performance of the national counterparts as only moderately satisfactory.

4.3 Donor

Appendix 7 reveals that GEF has mobilized US\$39 million in grants between 2016 and 2002, i.e., about one grant per year, with a displayed cofinancing leverage factor of 12.57. The example of SC Senegal infers that cofinancing commitments were only marginally honoured. This is discrediting a main purpose of GEF grants, that of mobilizing cofinancing resources.

Another consideration in the assessment of GEF performance is the question of why GEF is producing a big number of scientifically well-researched projects that do not however really aim to upscale synergies with previous GEF operations. This case is made in Section 2.2.2. Consequently, donor performance is rated as moderately satisfactory only.

5. Factors facilitating or limiting the achievement of results

5.1. Monitoring & evaluation

Section 2.1 (Project's achieved results and overall effectiveness) builds extensively on the 2022 PIR, which in turn painstakingly compares expected indicator targets with achieved magnitudes. Appendix 3 displays all expected environmental benefits and related indicator magnitudes, and re-assesses the implementation dates. The M&E function of the project was and is intact and performing well.

5.2. Results-based management

The project responded well to changes in the composition of participating companies, by phasing the selection of interested companies in two stages, based on previous results. This has paid off as the number of pilot projects reached the number of ten, as expected. The flexibility in project implementation is commendable.

5.3. Other factors

In Section 2.2.2 on broader adoption, key factors of limiting mainstreaming, replication and upscaling are mentioned. These go beyond the mere achievement of results, but are limiting the prospects of broader adoption. The case is also made that GEF is not sufficiently mainstreaming synergies into its project production processes.

5.4. Overarching assessment and rating table

Table 9 below summarizes the assessment of SC Senegal by applying the UNIDO evaluation criteria. i

Table 9: Rating summary

#	Evaluation criteria	Mandatory rating
A	Progress to impact	4
B	Project design	4
1	Overall design	4
2	Logframe	4
C	Project performance	4ç
1	Relevance	5
2	Effectiveness	5
3	Coherence	4
4	Efficiency	4

#	Evaluation criteria	Mandatory rating
5	Sustainability of benefits	3
D	Cross-cutting performance criteria	5
1	Gender mainstreaming	5
2	M&E design M&E implementation	4 5
3	Results-based Management (RBM)	5
E	Performance of partners	4
1	UNIDO	5
2	National counterparts	4
3	Donor	4
F	Overall assessment	4

6. Conclusions, recommendations and lessons learned

6.1. Conclusions

SC Senegal was a relevant undertaking when considering the enormous challenges at stake, in environmental and energy efficiency terms of an orderly industrialization process based on comprehensive urbanization criteria. In this respect, the choice of an emerging industrial park - Diamniadio - was a judicious one. From a scientific and technical point of view, project design was pertinent, but less so taking into account the lack of formal commitments of the cofinancing entities BMN and APROSI and the compartmented pattern of the project setup. The design was also adamant of mainstreaming, replication and upscaling opportunities.

Project implementation, especially at the level of the ten participation industry enterprises, suffered delays while all required intermediate outputs (strategies, feasibility studies, tools and workshops) were completed by January 2023. UNIDO was a project implementation agency that efficiently managed the GEF grant and complied with its own financing obligations. Due to the limited number of participating companies, the missed, but really existing, upscaling opportunities and the lack of an exit strategy, sustainability prospects are however moderately unsatisfactory.

Gender mainstreaming complied with the target set, and the project consciously collaborated with gender-balanced partner institutions (DEEC and BNM). The M&E system, although based on a somewhat intricate logframe, was in a position to deliver all data necessary for consistent reporting and result-based management. UNIDO's performance is assessed as satisfactory, while that of the national counterparts and of the donor (GEF) are considered moderately satisfactory. In the latter case, this assessment is due to a deficient strategic vision for replication and upscaling opportunities. Overall project performance is rated as moderately satisfactory.

6.2. Recommendations

The TE of SC Senegal formulates three recommendations. All of them refer to future GEF-funded operations where UNIDO is the designated project implementer.

- Devote increasing attention, in designing the implementation of a GEF grant, to aspects of strategic partnerships and to the formalization of mutual commitments, including co-financing commitments.
- Integrate more explicit replication and upscaling threads into the steady flow of new GEF grants that would tangibly take stock of success stories, champions and best practices in a genuine sense of knowledge management.
- Integrate more explicitly the "logical" public and private sector partners into the implementation of a GEF grant and to give them a voice in the steering organs.

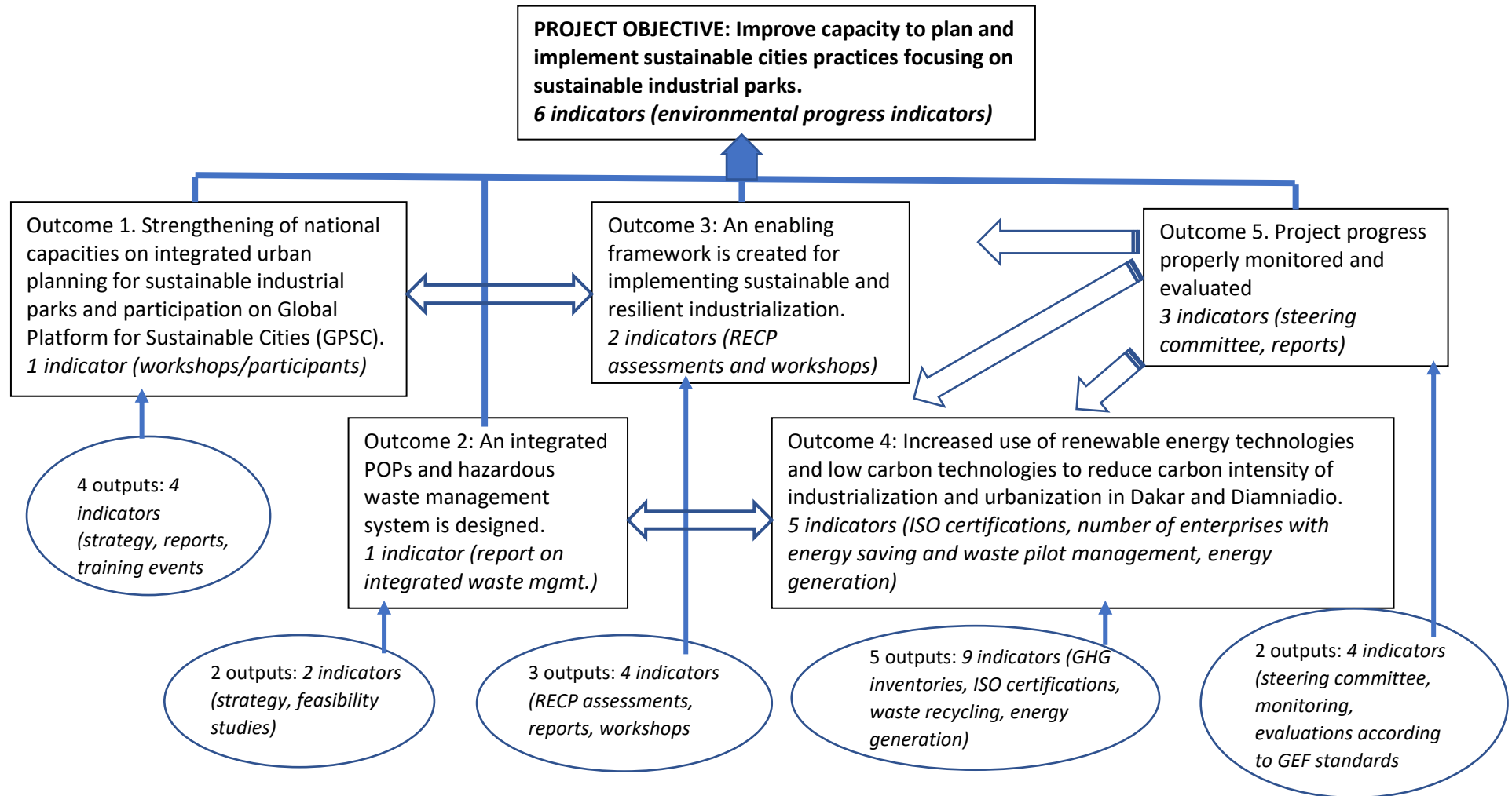
6.3. Lessons learned

Opportunities for replication, upscaling and mainstreaming must be identified during project design already, which was not the case. This entails the risk that the significant material and immaterial assets of the project will remain anecdotic.

6.4. Good practices

The IAP Component 2 of SC Senegal has selected the beneficiary companies on a competitive basis, which may be one of the factors that the project was able to leverage US\$2.29 million of company funds for the required investments for ISO certifications, enhanced energy efficiency and the abatement of dangerous waste.

Appendix 1: Ex-post Theory of Change of SC Senegal, as elaborated by the TE team



Appendix 2: Evaluation framework – Evaluation criteria, proposed guiding questions

#	Evaluation criteria	Evaluation key questions (TOR)	Additional guiding questions proposed
A	Progress to impact	What are the project's key results (outputs, outcome and impact)? What are the key drivers and barriers to achieve the long term objectives? To what extent has the project helped put in place the conditions likely to address the drivers, overcome barriers and contribute to the long term objectives?	What are observed, or probable, achievements driving progress to impact, in the following impact domains: • Safeguarding the environment, • Economic performance, • Social inclusiveness? Are the indicators predefined and effectively measured in a position to assess progress to impact? Is there tangible evidence of mainstreaming, upscaling and behavioural change related to the project's environmental and climate change concerns?
B	Project design		
1	Overall design		Did the design of SC Senegal respond to the generic requirements of equilibria between mission, competence, authority and responsibility? Was the project design consistent with the country's priorities, in the work plan of the lead national counterpart?
2	Logframe		Was the logframe's hierarchy of overall goal, development objective and outcomes logical and supported by SMART indicators? Were the assumptions plausible and realistic?
C	Project performance		
1	Relevance		Did the SC Senegal design respond to evident and verifiable potentials and constraints? Is there evidence that the project beneficiaries have actively been involved in the identification of potentials and constraints? Have the donor's priorities been considered? Have social and environmental safeguards been considered? ²⁵
2	Effectiveness	How well has the project performed? Has the project done the right things? What are the project's key results (outputs, outcome and impact)? To what extent have the expected results	What are the reported disconnects between logframe indicator magnitudes and effective magnitudes attained at a given date? Is there tangible evidence of the reported magnitudes (nature and reliability of sources, geo-referenced data and maps, counterfactuals)?

²⁵ 6 GEF/C.41/10/Rev.1 available at: http://www.thegef.org/sites/default/files/council-meetingdocuments/C.41.10.Rev_1.Policy_on_Environmental_and_Social_Safeguards.Final%20of%20Nov%2018.pdf

		been achieved or are likely to be achieved?	To what extent is the identified progress result of the project attributable to the intervention rather than to external factors? What is the opinion of the beneficiaries concerning effectiveness?
3	Coherence		Was the project design coherent with the complexity of the subject matter, the prevailing institutional context and the qualifications of the involved human resources?
4	Efficiency	Has the project done things right, with good value for money? How well has the project fit?	Was project management efficient in terms of timelines, human resources and financial management? What are the disbursement rates per financier and project component? What is the ratio between project management and total costs? What is the per beneficiary household project cost?
5	Sustainability of benefits	What are the key risks (e.g. in terms of financial, socio-political, institutional and environmental risks) and how these risks may affect the continuation of results after the project ends?	Has SC Senegal included a risk analysis and a risk management strategy at design? Has risk management been an issue during implementation? Has SC Senegal included an exit strategy at design or was this issue raised during implementation? What is the level of stakeholder ownership?
D	Cross-cutting performance criteria		
1	Gender mainstreaming	Were the gender mainstreaming and human rights dimensions sufficiently addressed both at design and at implementation phase?	Have gender (and youth) specific objectives and indicators been formulated? Have gender and youth specific data been recorded and reported on? What are the views of women and youth on effective mainstreaming?
2	M&EL • M&E design • M&E implementation		Has the M&E system adopted been in line with the underlying logframe? Were the proposed indicators SMART (simple, measurable, achievable, relevant and time-bound)? Have data outputs from M&E been used for periodic reporting?
3	Results-based Management (RBM)		Have data outputs from M&E been used for project steering and management?
E	Performance of partners		
1	UNIDO		Were the contractual arrangements (with the Government of Senegal, national counterparts and the donor) explicit enough for an effective and efficient project management? How adequate were the overall project management and UNIDO's project management set-ups? Were supervisions jointly implemented? Was reporting done jointly?

			Were there agreed mechanisms of coordination between IFAD and UNIDO, and records thereof, such as meeting minutes?
2	National counterparts		How conducive was the performance of DEEC (steering committee, technical committee, PCU)? With which national counterparts, except for CEEC, did SC Senegal have sustained working relations? Were such relations established on contractual bases?
3	Donor		What was the role of GEF, or the GEF focal point, during project implementation? Did GEF comment on environment and climate change relevant topics reported by the project and the specialized national counterparts? What kind of insights did the GPSC knowledge platform generate?
F	Overall assessment	What lessons can be drawn from the successful and unsuccessful practices in designing, implementing and managing the project?	• What is the overall rating of SC Senegal with justifications? • To what extent are the lessons of SC Senegal applicable to generic UNIDO projects, or is the project a special case? • Notwithstanding the above, which key principles of design, management and monitoring has SC Senegal showcased, positively or negatively?

Appendix 3: Environmental indicators for companies – deadlines reassessed, UNIDO Dakar

Name of company	Granted ISO 14001/50001 certifications		Implemented RECP pilot projects		tCO2eq emissions reduced (10 years)		RE MWp capacity installed		RE MWh energy avoided (5 years)		µg TEQ POP emissions reduced per year		Remarks
Output 4.2	June 2022	Probable date	June 2022	Probable date	June 2022	Probable date	June 2022	Probable date	June 2022	Probable date	June 2022	Probable date	
EIFFAGE			completed	Ended in May 2022	522.44		0.03		489.01				All activities implemented.
IBS		March/April 2023	investments in progress	Ended by June 2023		12'072.00		0.96		17'686.00			ISO 14001 certification estimated by April 2023. Renewable energy generation estimated to be in operation by June 2023.
SOSAGRIN		May/June 2023	investments in progress	Ended by June 2023		5'315.43		0.54		7'787.04			ISO 50001 estimated by June 2023. Renewable energy generation estimated to be in operation by June 2023.
SCHULLER METAL		September 2023	investments in progress	ended by march 2023		349.93		0.03		504.71			The company will move to Diamniadio by end of March 2023. ISO certification by September 2023.
SENICO		September/October 2023	investments in progress	ended in January 2023		1'928.38				2'825.05			All required investments have been completed.,
RUFSAC			investments in progress	ended in February 2023		1'750.80		0.16		2'564.90			The last solar panel element was installed on 13 February 2023.
NMA			investments in progress	ended in January 2023		1'200.13				1'220.58			The company has completed all necessary investments
Output 4.3													
CSIP		March 2023	investments in progress	ended by June 2023	433.48							26.65	The investments will be completed by June 2023. L
Hdi			investments in progress	ended in October 2022		4'626.00						0.34	The company has completed all necessary investments

AfricAzote			investments in progress	ended by April 2023		230.98						146.21	The lacking boiler will be delivered by April 2023.
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Appendix 4: List of documentation reviewed

[Dioxin and Dioxin-Like Compounds Toxic Equivalency Information | US EPA](#)

UNIDO. Terms of reference, Independent terminal evaluation of the project “Sustainable cities initiative for Senegal: promoting renewable energy and integrated waste management in sustainable industrial parks” UNIDO ID: 150270 , GEF Project ID: 9123, November 2022.

UNIDO, Independent Evaluation Unit. Evaluation Manual, Vienna, 2018

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GEF, UNIDO. Sustainable cities initiative for Senegal: Promoting renewable energy and integrated waste, management in sustainable industrial parks, GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL, June 2015.

World Bank. PROGEF, Sustainable Cities Management Initiative, Final progress report, November 2020.

FEM, ONUDI, EY: Provision of services related to design, management and integration of sustainable industrial parks in Senegal under the project “Sustainable Cities Initiative for Senegal: SC-IAP”, Final Report, August 2021.

FEM, ONUDI: Shifting from industrial zones to eco-industrial parks, Knowledge product, 2021.

Gauss. Mécanisme de mesure, notification et vérification (MRV) des émissions de GES pour le parc industriel de Diamniadio, Sénégal Proposition du mécanisme MRV, Avril 2021.

Ramboll. Dakar (Sénégal), Projet ONUDI 150270 - Réalisation d’une cartographie environnementale, d’une stratégie de réduction des POP et de gestion des déchets dangereux, et d’audits d’entreprises pour l’efficacité énergétique et la production propre (RECP), Version finale 2, 28 juin 2022.

Okosaneder. «Projet FEM-6 Villes Durables Sénégal GEF9123(SAP150270) », Spécifications techniques pour la prestation de services liés à la réalisation d’études de faisabilité pour la Société SODEA, Mars 2021.

Okosaneder. «Projet FEM-6 Villes Durables Sénégal GEF9123(SAP150270) », Spécifications techniques pour la prestation de services liés à la réalisation d’études de faisabilité pour la Société de Gestion des Abattoirs du Sénégal (SOGAS), Novembre 2021.

<https://www.dgpu.org/>

[AGROPOLE DU SENEGAL – Projet des agropoles du Sénégal](#)

UNIDO. Independent terminal project evaluation. Republic of Senegal, Agricultural Value Chains Resilience Support Project (PARFA), Vienna, July 2022

GEF. Promoting cleantech innovation for climate action in Senegal, GEF ID 10715, 15 July 2022 – 14 July 2027.

[Projects | GEF \(thegef.org\)](#)

SENEGAL, Project Title: Sustainable Cities Management Initiative, Cities: Dakar, Diamniadio, and Saint-Louis, no author, no date.

Email message, dated 17 February 2023, for BMN cofinancing and contribution of enterprises.

Interview with the Secretary General of APROSI, 17 February 2023.

ONUDI. Comité de pilotage projet villes durables, Compte-rendu de la réunion, Dakar, 2 octobre 2020.

Appendix 5 : Liste des personnes rencontrées dans le cadre de l'évaluation du projet

Prénom et Nom	Structure et fonction
Partenaires nationaux, partenaires techniques financiers	
Moussa NDIAYE Fatou NDIAYE	Coordination technique du projet IVD/ONUDI
Mme BA,	DG BMN
Oumou Khayri Niang Ousmane CISSOKHO Fagueye FALL	Experts Bureau de Mise à Niveau des Entreprises (BMN) - Dakar
M. Bohoum SOW	Secrétaire général (SG) APROSI
M. Baba DRAME	Directeur Direction Environnement et Établissements classés (DEEC)
M. Cheikh Fofana,	DEEC Directeur adjoint DEEC,
Mme Madeleine DIOUF SARR	Chef de la Division Changements climatiques et Point focal du FEM
Mme Fatma NIANG	Agent Division changements climatiques
Ablaye Diaw	DEEC, Point focal Convention POP
Samuel Tabaane	Chef de Division, Direction du Redéploiement industriel (DRI)Ministère de l'industrie
Mr Dial (DG) Adama Ndiaye (SG)	Direction du Redéploiement industriel (DRI)
Mamadou FAYE Fatou Ndoeye	Directeur des stratégies et du développement durable DPGU, chef de Division
Malick Sy	Programme pays de l'ONUDI
Entreprises	
Saliou DIOP	Directeur industriel SENICO
Olaedao OSoka	Chief executive Officer Daystar Power
Malick GUEYE	Directeur général Entreprise Schuller Métal
Mme SYLLA Mariama	DGA, CSIP
Ousmane LOUM, DG CSIP	Directeur général CSIP
Nassira DIOP, Mme DIAGNE -	Responsable QHSE - système management qualité 9001V15
El Sakhalin Khassimou	PCA IBS
Bassirou Sow	IBS Sénégal, responsable QHSE
Céline Aubry	Daystar Power
Yves Dailly	IBS Sénégal
Fadonou Yao obesor	IBS Sénégal
Sakhly Ali	IBS Sénégal

Appendix 6: UNIDO Grant Delivery Report

 GRANT DELIVERY REPORT		Grant:	2000003603	Grant Status:	Authority to implement	Grant Validity:	08.03.2017 - 31.03.2023
		Sponsor:	400150 - GEF - Global Environment Facility	Currency:	USD	Reporting Period:	#ERROR
		Other Reference:	9123-U3-PJ-FS-GR-01	Fund:	GF	Prepared on:	12.04.2023
Project	Project Description	Country	Region	Project Manager			Project Validity
150270	SUSTAINABLE CITIES MANAGEMENT INITIATIVE FOR SENEGAL	Senegal	Africa	Yoshinari Suzuki			05.10.2015 - 31.03.2023

Funds Available											
	Description	Released Budget Current Year (a)	Obligations Current Year (b)	Disbursements Current Year (c)	Expenditures Current Year (d=b+c)	Total Agreement Budget (e)	Released Budget (f)	Obligations + Disbursements (g)	Funds Available* (h=f-g)	Support Cost (i)	Total Expenditures (j=g+i)
2000003603		USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	20,714.95	356.25	14,711.02	15,067.27	415,156.97	415,156.97	409,509.29	5,647.68	0.00	409,509.29
1500	Local travel	14,030.61	(3,573.81)	20,300.17	16,726.36	92,132.24	92,132.24	94,827.99	(2,695.75)	0.00	94,827.99
1700	Nat.Consult./Staff	20,705.21	(1,670.46)	14,690.12	13,019.66	353,406.73	353,406.73	345,721.18	7,685.55	0.00	345,721.18
2100	Contractual Services	33,483.46	(32,665.25)	49,739.33	17,074.08	2,264,326.22	2,264,326.22	2,247,916.84	16,409.38	0.00	2,247,916.84
3000	Train/Fellowship/Study	0.00	0.00	0.00	0.00	3,342.57	3,342.57	3,342.57	0.00	0.00	3,342.57
3500	International Meetings	10.89	0.00	0.00	0.00	41,420.15	41,420.15	41,409.26	10.89	0.00	41,409.26
4300	Premises	0.00	0.00	0.00	0.00	1,991.67	1,991.67	1,991.67	0.00	0.00	1,991.67
4500	Equipment	58.74	0.00	0.00	0.00	4,333.65	4,333.65	4,274.91	58.74	0.00	4,274.91
5100	Other Direct Costs	1,828.47	0.00	0.61	0.61	34,899.80	34,899.80	33,071.94	1,827.86	0.00	33,071.94
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	286,386.01	286,386.01
2000003603	USD Total	90,832.33	(37,553.27)	99,441.25	61,887.98	3,211,010.00	3,211,010.00	3,182,065.65	28,944.35	286,386.01	3,468,451.66

Appendix 7: Senegal: GEF Projects approved, 2016-2022

Title	ID	Focal Areas	Type	Agencies	GEF Grant	Cofinancing	Status	Cofinancing leverage factor
Promoting cleantech innovation for climate action in Senegal	10715	Climate Change	Full-size Project	United Nations Industrial Development Organization	3'108'607	11'150'000	Project Approved	3.59
Ecosystem-based Adaptation (EbA) for resilient natural resources and agro-pastoral communities in the Ferlo Biosphere Reserve and Plateau of Thies	10691	Climate Change	Full-size Project	United Nations Development Programme, International Union for Conservation of Nature	8'949'533	10'503'187	Project Approved	1.17
Land Degradation Neutrality for biodiversity conservation, food security and resilient livelihoods in the Peanut Basin and Eastern Senegal (Dékil Souf)	10384	Biodiversity, Land Degradation	Full-size Project	Food and Agriculture Organization	5'786'073	36'000'000	Project Approved	6.22
Africa Environmental Health and Pollution Management Project – Senegal	9854	Chemicals and Waste	Full-size Project	The World Bank	5'504'587	300'300'000	Project Approved	54.55
Food-IAP: Agricultural Value Chains Resilience Support Project (PARFA)	9134	Climate Change, Land Degradation	Full-size Project	International Fund for Agricultural Development, United Nations Industrial Development Organization	7'219'450	28'544'133	Project Approved	3.95
Cities-IAP: Sustainable Cities Initiative²⁶	9123	Biodiversity, Climate Change, Land Degradation, Chemicals and Waste	Full-size Project	The World Bank, United Nations Industrial Development Organization	8'715'597	51'780'000	Project Approved	5.94
-				Totals / average	39'283'847	438'277'320		12.57

Source: [Projects | GEF \(thegef.org\)](#)

²⁶ IAP Components 1 and 2 combined.

