



## Promoting cleantech innovation for climate action in Senegal

### Part I: Project Information

**GEF ID**

10715

**Project Type**

FSP

**Type of Trust Fund**

GET

**CBIT/NGI**

CBIT No

NGI No

**Project Title**

Promoting cleantech innovation for climate action in Senegal

**Countries**

Senegal

**Agency(ies)**

UNIDO

**Other Executing Partner(s)**

Directorate of Environment and Classified Establishments (DEEC) within the Ministry of Environment and Sustainable Development (MEDD)

**Executing Partner Type**

Government

**GEF Focal Area**

Climate Change

**Taxonomy**

International Waters, Sustainable Urban Systems and Transport, Climate Change Mitigation, Focal Areas, Climate Change, Sustainable Development Goals, Influencing models, Convene multi-stakeholder alliances, Demonstrate innovative approaches, Transform policy and regulatory environments, Strengthen institutional capacity and decision-making, Deploy innovative financial instruments, Stakeholders, Communications, Behavior change, Awareness Raising, Public Campaigns, Strategic Communications, Beneficiaries, Private Sector, SMEs, Large corporations, Financial intermediaries and market facilitators, Individuals/Entrepreneurs, Capital providers, Type of Engagement, Information Dissemination, Consultation, Partnership, Participation, Civil Society, Academia, Gender Equality, Gender Mainstreaming, Women groups, Sex-disaggregated indicators, Gender results areas, Participation and leadership, Capacity Development, Knowledge Generation and Exchange, Access to benefits and services, Capacity, Knowledge and Research, Innovation, Learning, Indicators to measure change, Knowledge Generation, Workshop, Training, Professional Development, Knowledge Exchange, North-South, South-South, Peer-to-Peer, United Nations Framework Convention on Climate Change, Paris Agreement, Nationally Determined Contribution, Agriculture, Forestry, and Other Land Use, Energy Efficiency, Renewable Energy, Financing, Technology Transfer, Climate Change Adaptation

**Sector**

Technology Transfer/Innovative Low-Carbon Technologies

**Rio Markers**

**Climate Change Mitigation**

Climate Change Mitigation 2

**Climate Change Adaptation**

Climate Change Adaptation 0

**Submission Date**

12/9/2021

**Expected Implementation Start**

7/15/2022

**Expected Completion Date**

7/14/2027

**Duration**

60In Months

**Agency Fee(\$)**

295,317.00

**A. FOCAL/NON-FOCAL AREA ELEMENTS**

<b>Objectives/Programs</b>	<b>Focal Area Outcomes</b>	<b>Trust Fund</b>	<b>GEF Amount(\$)</b>	<b>Co-Fin Amount(\$)</b>
CCM-1-4	Promote innovation and technology transfer for sustainable energy breakthroughs for cleantech innovation	GET	3,108,607.00	11,150,000.00
<b>Total Project Cost(\$)</b>			<b>3,108,607.00</b>	<b>11,150,000.00</b>

## B. Project description summary

### Project Objective

To promote an innovative approach for switching to clean energy technologies and solutions in small and medium enterprises (SMEs) and startups through a strengthened cleantech ecosystem in Senegal

<b>Project Component</b>	<b>Financing Type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>GEF Project Financing(\$)</b>	<b>Confirmed Co-Financing(\$)</b>
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
1. Transforming early-stage innovative cleantech solutions into scalable enterprises	Technical Assistance	1.1 Early-stage cleantech innovations are accelerated under consideration of equality	<p>1.1.1 Based on GCIP approach, guidebooks are developed for Senegal (including mapping of cleantech solutions, identification and prioritization of actions in accordance with national strategies for climate change and energy)</p> <p>1.1.2 A pool of cleantech innovation and entrepreneurship experts (trainers, mentors and judges) is trained and certified to support the Senegalese cleantech innovation and entrepreneurship accelerator (15-30 experts accredited, at least 35% women)</p> <p>1.1.3. Five (5) annual cycles of the national competition-based cleantech innovation and entrepreneurship accelerator conducted</p>	GET	944,828.00	3,500,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
	Technical Assistance	1.2 Start-ups and SMEs are supported through advanced and gender-responsive business growth and investment facilitation services	<p>1.2.1 Targeted business growth support services provided to selected cleantech enterprises towards (3-5 per year) commercialization</p> <p>1.2.2 Enterprises (up to 25) are connected to financing opportunities and provided with tipping-point investment facilitation support</p> <p>1.2.3 Mentoring and partnership support provided to cleantech enterprises for global market expansion</p>	GET	449,054.00	1,600,000.00
	Investment		1.2.4 Innovative early-stage financing mechanism designed and established to support the deployment and scale-up of cleantech solutions	GET	963,165.00	3,000,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
2. Cleantech innovation and entrepreneurship ecosystems (CIEE) strengthening and connectivity	Technical Assistance	2.1 Cleantech innovation and entrepreneurship ecosystems in Senegal strengthened	<p>2.1.1 National cleantech innovation and entrepreneurship support institutions (i.e., funding agencies and industry associations etc.) are trained to promote cleantech innovations and entrepreneurship</p> <p>2.1.2. Recommendations on policies and regulations to promote cleantech innovation and entrepreneurship developed (gender-responsive)</p> <p>2.1.3 Platform for ecosystem players established to promote linkages, collaboration and to facilitate the generation, exchange and dissemination of knowledge products</p>	GET	280,880.00	1,405,000.00

<b>Project Component</b>	<b>Financing Type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>GEF Project Financing(\$)</b>	<b>Confirmed Co-Financing(\$)</b>
3. Knowledge management and project coordination	Technical Assistance	3.1 Efficiency and sustainability of the project ensured through project coordination, knowledge management, communication and advocacy	<p>3.1.1 Technical operational guidelines developed (based on GCIP) and implemented</p> <p>3.1.2 Project knowledge management, communication and advocacy strategy is developed (based on GCIP) and applied</p> <p>3.1.3 The Senegalese web platform is developed and operated to connect national ecosystem players, and linked to the GCIP global web platform</p>	GET	56,846.00	200,000.00



Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
	Technical Assistance	3.2 Impact and progress of the project tracked and reported	<p>3.2.1 Environmental and social impacts of the project estimated, tracked and reported</p> <p>3.2.2 Capacity enhancements of the Project Executing Entity to ensure long-term sustainability, retention of institutional knowledge and ability to engage funding partners in a more harmonized and consistent manner.</p> <p>3.2.3 Project progress monitoring and reporting as per UNIDO and GEF guidelines conducted</p> <p>3.2.4. Independent mid-term review and terminal evaluation conducted</p>	GET	275,948.00	950,000.00
<b>Sub Total (\$)</b>					<b>2,970,721.00</b>	<b>10,655,000.00</b>

**Project Management Cost (PMC)**

GET	137,886.00	495,000.00
<b>Sub Total(\$)</b>	<b>137,886.00</b>	<b>495,000.00</b>
<b>Total Project Cost(\$)</b>	<b>3,108,607.00</b>	<b>11,150,000.00</b>

**Please provide justification**

**C. Sources of Co-financing for the Project by name and by type**

<b>Sources of Co-financing</b>	<b>Name of Co-financier</b>	<b>Type of Co-financing</b>	<b>Investment Mobilized</b>	<b>Amount(\$)</b>
GEF Agency	UNIDO	Grant	Investment mobilized	50,000.00
GEF Agency	UNIDO	In-kind	Recurrent expenditures	150,000.00
Recipient Country Government	Ministry of Environment and Sustainable Development	Grant	Investment mobilized	5,000,000.00
Recipient Country Government	Ministry of Environment and Sustainable Development	In-kind	Recurrent expenditures	4,000,000.00
Recipient Country Government	Bureau de Mise ? Niveau (BMN)	In-kind	Recurrent expenditures	250,000.00
Recipient Country Government	Bureau de Mise ? Niveau (BMN)	Public Investment	Investment mobilized	500,000.00
Other	ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)	In-kind	Recurrent expenditures	1,200,000.00
<b>Total Co-Financing(\$)</b>				<b>11,150,000.00</b>

**Describe how any "Investment Mobilized" was identified**

The co-financing modalities were discussed with interested entities, i.e. the Ministry of Sustainable Development during the PPG phase. With regard to "Investment Mobilized", in the framework of these discussions, it was agreed that: a) MEDD will provide co-financing in the total amount of 9 million USD, of which 4 million USD as in-kind contribution and 5 million USD a cash contribution to be provided within the lifecycle of the project via budgetary appropriation, which will be utilised to support project activities (in particular, these funds will be used for activities and initiatives aiming to improve the cleantech and innovation ecosystem under the umbrella of Component 2 and Component 3); b) UNIDO will provide a grant in the amount of 50,000 USD as well as in-kind co-financing estimated at 150,000 USD (total contribution of 200,000 USD); c) BMN will provide in-cash (loans/grants/equity) contributions totalling 500,000 USD, leveraged from BMN's network of investors to support the accelerated enterprises

access appropriate financing (grant, loans, equity), and in-kind contributions totalling 250,000 USD; d) ECREEE will provide in-kind contribution in the amount of 1,200,000 USD, leveraged through its portfolio of active projects that have synergies with the Cleantech Senegal project. Due to COVID-19 related restrictions, in-depth stakeholder consultations with the private sector were limited. UNIDO organized online meetings with potential funders from the private sector and other potential sources for co-financing, who indeed showed interest. During project implementation further co-financing is expected to be secured. The GEF grant is focused on supporting the formative stages of cleantech enterprises i.e., prototyping, proof of concept, ecosystems building. Co-financing from the public sector (predominantly in-kind) creates the enabling framework conditions that de-risks the key interventions by the project, in line with the GCIP interventions (to which this project is linked). As was already confirmed by the findings of the Independent Evaluation of the previous GCIP cycles, co-financing in the form of grants, seed funding, equity from angels, venture capital funds, impact investors, crowd funding platforms etc. will be mobilized during the implementation of the project from the private sector in the development, growth and scale-up of the start-ups. In line with GEF Guidelines on Co-financing (<https://www.thegef.org/documents/co-financing>), paragraph 9, co-financing that will be mobilized from the private sector during the implementation of the project will be monitored and reported through the regular reporting mechanisms to the GEF. Under the umbrella project of GCIP, project 10461 (to which this project is linked) a strategic partnership will be established between GCIP and the Private Financing Advisory Network - PFAN ([www.pfan.net](http://www.pfan.net)), under which GCIP alumni companies will be systematically connected to PFAN for specialized project development, business coaching and investment facilitation services and introduction to investors, hence mobilize co-financing. Furthermore, in countries where PFAN operates (Senegal included) GCIP activities will be linked to PFAN network of expertise and investors.

**D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds**

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>	<b>Total(\$)</b>
UNIDO	GET	Senegal	Climate Change	CC STAR Allocation	3,108,607	295,317	3,403,924.00
<b>Total Grant Resources(\$)</b>					<b>3,108,607.00</b>	<b>295,317.00</b>	<b>3,403,924.00</b>

**E. Non Grant Instrument**

NON-GRANT INSTRUMENT at CEO Endorsement

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Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

**F. Project Preparation Grant (PPG)**

PPG Required **true**

**PPG Amount (\$)**

80,000

**PPG Agency Fee (\$)**

7,200

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programmin g of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>	<b>Total(\$)</b>
UNIDO	GET	Senegal	Climate Change	CC STAR Allocation	80,000	7,200	<b>87,200.00</b>
<b>Total Project Costs(\$)</b>					<b>80,000.00</b>	<b>7,200.00</b>	<b>87,200.00</b>

## Core Indicators

### Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)	225000	225000	0	0
Expected metric tons of CO <sub>2</sub> e (indirect)	1125000	1125000	0	0

### Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)				
Expected metric tons of CO <sub>2</sub> e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

### Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO <sub>2</sub> e (direct)	225,000	225,000		
Expected metric tons of CO <sub>2</sub> e (indirect)	1,125,000	1,125,000		
Anticipated start year of accounting	2022	2022		
Duration of accounting	10	10		

### Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

### Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)



Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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**Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment**

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
<b>Female</b>	412	412		
<b>Male</b>	763	763		
<b>Total</b>	1175	1175	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

## Part II. Project Justification

### 1a. Project Description

ment1. Compared to the PIF, the project financing was increased by USD 860,000. This increase in funding brings the financing (from GEFTF) requested for this project to US\$ 3,202,018, (excl. project preparation grant (PPG) and Agency fees for project cycle management services associated with the total GEF grant). This increase is processed in accordance with the marginal adjustment rule for Senegal and is within the allowed maximum ceiling. This increase will allow Senegal to use all of its STAR allocation resources before the completion of the GEF-7 cycle and strengthen the project by enabling more resources to be channelled towards Senegalese enterprises and the wider cleantech ecosystem. With regards to the project design, there were no substantive changes between PIF and RCE version. Indeed, the project design is still consistent with the original PIF and only minor changes have been introduced at the PPG stage. These include: i) some components/outcomes/outputs were merged or split or wording was amended to better reflect the project objective or the aim of the component/outcome/output as well as to better reflect the gender-responsiveness approach of the project, ii) the budget allocation was moderately adjusted, and the attribution of co-financing was revised; ii) an output on capacity building was created (3.2.2). An overview of the main changes is further detailed in the two tables below.

**Table 1: Comparison of the project description summary (Table B) between the original description at PIF stage and this RCE version**

Components / outcomes / outputs at PIF stage (original)	Components / outcomes / outputs at RCE (current document)
1: Transforming early-stage innovative cleantech solutions into commercial enterprises	1: Transforming early-stage innovative cleantech solutions into scalable enterprises
1.1 Early-stage cleantech innovations accelerated into enterprises	1.1 Early-stage cleantech innovations are accelerated under consideration of equality
1.1.1 GCIP methodologies, guidelines, tools and training systems for cleantech innovation and entrepreneurship accelerator adapted for Senegal	1.1.1 Based on GCIP, guidebooks are developed for Senegal (including mapping of cleantech solutions, identification and prioritization of actions in accordance with national strategies for climate change and energy)
1.1.2 Pool of cleantech innovation and entrepreneurship experts (trainers, mentors and judges) trained and certified to support cleantech innovation and entrepreneurship accelerator in line with GCIP training system	1.1.2 A pool of cleantech innovation and entrepreneurship experts (both women and men trainers, mentors and judges) is trained and certified to support the Senegalese cleantech innovation and entrepreneurship accelerator (15-30 experts accredited, at least 35% women)
1.1.3. 5 (five) annual national competition-based cleantech innovation and entrepreneurship accelerators conducted	1.1.3. Five (5) annual cycles of the national competition-based cleantech innovation and entrepreneurship accelerator conducted
1.2 Cleantech enterprises commercialize and mobilize investment to scale up their operations	1.2 Start-ups and SMEs are supported through advanced and gender-responsive business growth and investment facilitation services
1.2.1 Targeted advanced business growth support services provided to selected cleantech enterprises towards commercialization	1.2.1 Targeted business growth support services provided to selected cleantech enterprises (3-5 per year) towards commercialization

1.2.2 Enterprises receive tipping-point investment facilitation support and are connected to investors and financing opportunities	1.2.2 Enterprises (up to 25) are connected to financing opportunities and provided with tipping-point investment facilitation support
1.2.3 Mentoring and partnership support provided to cleantech enterprises for global market expansion in collaboration with the global GCIP network	1.2.3 Mentoring and partnership support provided to cleantech enterprises for global market expansion
2. Cleantech innovation and entrepreneurship ecosystems strengthening and connectivity	2. Cleantech innovation and entrepreneurship ecosystems (CIEE) strengthening and connectivity
3. Knowledge management and coordination with GCIP at the programmatic level	3. Knowledge management and project coordination
3.1 Project outcomes enhanced through use of guidelines, knowledge management, and communication and advocacy	3.1 Efficiency and sustainability of the project ensured through project coordination, knowledge management, communication and advocacy
3.1.1 GCIP internal operational guidelines adapted and implemented for programmatic coherence	3.1.1 Technical operational guidelines developed (based on GCIP) and implemented
3.1.2 Knowledge management, communication and advocacy strategies of GCIP adapted and applied	3.1.2 Project knowledge management, communication and advocacy strategy is developed (based on GCIP) and applied
3.1.3 National web platform operated as part of the GCIP global web platform to connect national ecosystem players and coordinate with global GCIP community	3.1.3 The Senegalese web platform is developed and operated to connect national ecosystem players, and linked to the GCIP global web platform
4. Monitoring and evaluation	Does not exist as component anymore, Monitoring and Evaluation is now part of component 3, as sub-component 3.2 (see the next rows of this table).
4.1 Impact of project tracked and reported	3.2 Impact and progress of the project tracked and reported
4.1.1 Environmental and social impacts of project estimated, tracked and reported	3.2.1 Environmental and social impacts of the project estimated, tracked and reported
Not present at PIF stage	3.2.2 Capacity enhancements of the Project Executing Entity to ensure long-term sustainability, retention of institutional knowledge and ability to engage funding partners in a more harmonized and consistent manner
4.1.2 Project progress monitoring and reporting as per UNIDO and GEF guidelines	3.2.3 Project progress monitoring and reporting as per UNIDO and GEF guidelines conducted
4.1.3 Independent mid-term review and terminal evaluation conducted	3.2.4 Independent mid-term review and terminal evaluation conducted

**Table 2: Comparison of the budget allocation to Components between the original PIF and the RCE version.**

<b>Budget allocation at PIF (original)</b>	<b>Budget allocation at RCE (current document)</b>
Component 1 GEF Project Financing: USD 1,650,000 Co-financing: USD 8,000,000	Component 1 GEF Project Financing: USD 2,357,047 Co-financing: USD 8,100,000
Component 2 GEF Project Financing: USD 250,000 Co-financing: USD 2,000,000	Component 2 GEF Project Financing: USD 280,880 Co-financing: USD 1,405,000

Component 3&4 GEF Project Financing: USD 330,493 Co-financing: USD 909,091	Component 3 GEF Project Financing: USD 332,794 Co-financing: USD 1,150,000
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## 1a. Project Description.

2. In 2011, the United Nations Industrial Development Organization (UNIDO), with the support of the Global Environment Facility (GEF) and the Government of South Africa, successfully implemented the "Greening the COP17" project. One of the four Components of the project focused on the design and implementation of the first South Africa Clean Technology Competition (2011 SA Cleantech) for green entrepreneurs (mainly small and medium-size enterprises, further referred to as SMEs) with innovative ideas and concepts in the areas of energy efficiency, renewable energy and green building practices. All participants were given an opportunity to present their solutions and get feedback, while the best ones were offered additional training, mentoring and access to cleantech networking events.

3. This success of the 2011 SA Cleantech encouraged the project expansion into the Global Cleantech Innovation Programme (GCIP) for SMEs, simultaneously implemented in Armenia, India, Malaysia, Pakistan, Turkey and South Africa in 2014. The GCIP takes a competition-based approach to identify a pool of promising entrepreneurs and support them through ongoing mentoring, webinars and networking events to grow their innovative ideas and concepts into full-fledged products and services ready for entering the national and global markets. Under the 2014 competition cycle, a total of 555 applications were received across the six countries, from which 159 innovative cleantech entrepreneurs were selected to take part in an accelerator programme. The entrepreneurs were chosen across 4 cleantech categories; 58 in renewable energy (RE), 41 in energy efficiency (EE), 32 in waste to energy (WTE), and 28 in water efficiency.

4. Having progressed through the GCIP, these entrepreneurs were connected with potential customers, investors, partners and policy-makers at national and international levels through Investor Connect events and National Academies. In addition, the very best entrepreneurs from the GCIP were given the opportunity to attend the Cleantech Open Global Forum, held in November 2014 in Silicon Valley, USA, involving more than 100 cleantech exhibitions and networking events, giving the GCIP winners a high level of exposure to broaden their networks and to benefit from the global linkages.

5. In 2015 Thailand joined GCIP and about 10 countries, including Nigeria, Vietnam, Ukraine, Indonesia and Kazakhstan had expressed interest in becoming part of it thereafter. In the period from 2014 to 2016, GCIP received almost 3,000 applications in the 8 countries it was operating, from which 580 entrepreneurs were selected for further acceleration and mentoring, as well as receiving access to investors and media. The growth rate of applications GCIP has received between 2014 to 2015 and 2015 to 2016 was 62.5% and 33% respectively, indicating a strong and constant increase in interest towards the acceleration programme.

6. Building on the success and the lessons learned within GCIP in the first 5 years and taking into account the increased need to accelerate the pace of cleantech innovation, UNIDO together with its counterparts, has developed this project. The project is in line with the GEF's Climate Change Mitigation Focal Area Strategy under the GEF-7 Programming Directions and the GEF Private Sector Strategy. It is also fully aligned with key national priorities of the Republic of Senegal (République du Sénégal in French) as well as UNIDO's mandate to promote inclusive and sustainable industrial development (ISID). The project will also benefit from strong linkages to the GCIP Programme - i.e. the GEF-UNIDO Global Cleantech Innovation Programme (GCIP), GEF ID 10408, hereinafter referred to as GCIP (the PFD can be accessed at the following link: <https://www.thegef.org/project/global-cleantech-innovation-programme-gcip-accelerate-uptake-and-investments-innovative>).

### 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description);

Country context and environmental challenges

7. Senegal has a population of 14.54 million people, which is predominantly rural (64%), with a majority of women and youth (52% women, 71.2% under the age of 19). The country is experiencing high population growth rate of 2.8% annually and recording economic growth that is amongst the highest in Africa that between 2014 and 2018, the rate remained above 6% annually[1]. Accordingly, the country is experiencing a concomitant increase in GHG emissions.

8. GHG emissions from the energy sector have experienced the sharpest increase in comparison to the other sectors changing from 5.6 to 11,59 million tons of CO<sub>2</sub>e between 2000 and 2016 i.e. more than a 100% increase within 15 years. During the same period, CO<sub>2</sub> emissions per capita increased from 0.402 to 0.727 tons. The energy sector currently contributes around 33% to the total GHG emissions generated within in the country. Senegal's primary energy supply is mostly based on fossil fuels (coal and oil) contributes to 64% of total primary energy supply[2]. Furthermore, around 55% of the population in both rural and urban areas is highly dependent on the use of wood fuel for cooking, which is a major driver of deforestation. While 66% of the population has access to electricity, the production of electricity is mostly based on fossil fuel powered plants, which makes the entire power generation dependent on fluctuating petroleum prices. Therefore, as the economy continues to grow, there will be simultaneous growth in energy demand and associated GHG emissions, unless significant decoupling between economic growth and GHG emissions happens.

9. According to the World Resources Institute, agriculture is the most GHG emitting sector in Senegal contributing 34% of the total emissions. Emissions increased since the 1990s by 36%[3], mostly caused by enteric fermentation, manure left on pasture as well as burning savannah. The increase in enteric fermentation is based on the steady expansion of livestock population increasing from some 3 to over 16 million within 10 years[4]. In the past decade, variability of rainfalls has increased to the point where farmers experience damaging effects within the agricultural sector including livestock. Only 7% of cultivated land is irrigated, making Senegalese agriculture heavily dependent on rainfall. These changes in climate are already forcing significant changes in agriculture in the country. As an example, the peanut industry, once the motor of the Senegalese economy, was affected by prolonged drought periods and has now been replaced by the production of cereals such as millet, rice and corn, as well as fruits, vegetables, and cassava. Additionally, increasing temperature causes droughts that take a toll on food security resulting in food shortage, such as witnessed in the past decades[5].

#### Barriers that need to be addressed

10. With a continuously growing economy and a steady population growth, Senegal is heading towards a high emission trajectory in the coming years. According to the latest Africa Energy Outlook of 2019, Senegal's economy can grow six fold while limiting its energy demand by a factor of three, if it increasingly integrates sustainable and renewable energy use[6].

11. SMEs[7] are the key driver of economic growth in Senegal, making up for 90% of local businesses represented by some 300,000 entities. The Agency for the Development and Framework of SMEs in Senegal (ADEPME) is the operational arm of the government responsible for the promotion and support of domestic SMES. Within its Support Program for Solidarity Initiatives for Development (PAISD), ADEPME is promoting the cooperation between banks and SMEs, providing a coaching program on business plan development as well as supporting SMEs in credit risk analysis. However, based on a 2017 survey by the World Bank, Senegalese SMEs regard the access to finance as the

biggest barrier to their business, followed by unfair competition from the informal sector and a lack of reliable access to electricity. Despite the recognized importance of innovation in the national economy, there are still a number of challenges that limit Senegalese cleantech SMEs from contributing towards the development and commercialization of cleantech innovations as presented in Table 3 below.

12. Senegal has always accorded importance to the role of research and technology innovation as crucial to economic and social growth. Since the 1970s, the government has made efforts to foster science and technology innovation through creation of dedicated national entities. However, there is not a consolidated, nation-wide Science, Technology and Innovation (STI) policy document, and research mandates and associated institutions are distributed under the supervision of different ministries. At the regional level, Senegal has actively participated in the development and adoption of the STI policy for the ECOWAS. However, the fragmentation of research and innovation institutional frameworks and lack of a consolidated strategy results in the contribution of innovative technology solutions, business models and services to economic development being rather small[8]. The engagement of the private sector in STI and R&D is very minimal. Only few companies in the telecommunications sector contribute to the funding of research and innovation. Most R&D funding is provided by the State in the form of grants to the various research structures (universities, public scientific institutions, higher schools, etc.), postgraduate scholarships and competitive funds. In 2015, 85% for R&D in STI came from the Senegalese government, and only 2% from the enterprises[9].

**Table 3: Barriers faced by cleantech SMEs in Senegal**

Barriers faced by cleantech SMEs in developing and scaling-up innovative cleantech solutions
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I. Limited capacity to develop / scale-up and limited awareness among SMEs & entrepreneurs / investors / regulators and wider ecosystem about cleantech opportunities

Cleantech entrepreneurs or SMEs have limited knowledge on how to develop a successful business plan to transform an idea into a viable business, they lack the set of skills and know-how to transform a cleantech innovation into a viable enterprise, which leads to high rates of failure for early-stage cleantech enterprises. This fact, if combined with the fewer availability of coaching or mentorship options for cleantech SMEs in order to grow their abilities, has an impact on the chances of turning business ideas into sustainable and long-standing enterprises.

Beyond SMEs and entrepreneurs, the awareness of potential cleantech opportunities should be raised among all stakeholders who participate in the CIEE (from investors to development institutions, associations and policy-makers). Indeed, awareness shall be created at all levels: for policy-makers, investors, private sector, development institutions, associations, etc. since they all contribute and play a role in the market and the CIEE.

In the private sector, there is a lack of awareness about new developments and trends on cleantech innovations related to their operations, manufacturing and distribution, both locally and globally. In addition, limited access to international expertise and limited knowledge of markets and potential partners outside the country reduce the possibility of growth for these companies. Therefore, having access to a network of connections also complements the creation of capacities.

Results from the online questionnaire show that 52% of the people that answered considered that limited knowledge on how to develop a successful business plan to transform an idea into a viable business is an important barrier for cleantech SMEs / entrepreneurs to grow or sustain a successful business.

2. Limited access to finance and availability of innovative financing products for cleantech

Limited access to finance is a key barrier for cleantech SMEs in Senegal at the early, growth and scale-up phases since the absence of collateral constitutes one of the biggest burdens in obtaining a loan or securing investments. In fact, it was identified in the general census to the enterprises conducted in 2016 that financing needs were not fully met by the available financing options in the country. Therefore, most SMEs or entrepreneurs end up relying on their own financing 'sources' such as their own savings, their family or friends. They claim financial institutions (FIs) have too many applicability conditions or requirements that are hard for them to fulfil. In fact, 63% of the respondents to the online questionnaire regarded this as one key barrier to SMEs growth. In addition, the products that FIs offer are not suitable for the cleantech sector applicants (37% of the respondents to the online questionnaire said that FIs do not offer specific financing options to cleantech businesses). For example, commercial banks, public markets as well as venture capital funds tend to invest in low-risk and tested technologies. This makes it difficult for cleantech businesses to access capital for innovation projects that still have technology specific risks and need patient capital or seed and non-dilutive capital.

This also shows that, there is limited knowledge in the FIs about the actual risks of the technologies or about how to effectively measure the risk in order to improve their financial products offer. In terms of risks, there may also be differences between clean technologies themselves: some clean technologies may be innovative in a given country or region but are already a well-known and proven technology at international level (e.g., solar PV irrigation for agriculture), which helps to understand it better and thus estimate any potential risks associated to it.

On the other hand, limited awareness of financial schemes and their respective requirements and procedures available to cleantech SMEs as well as limited government financial incentives to support private sector in advancing and adopting innovations in the cleantech space are also present. The Government of Senegal has recently passed the 'Start-up Act' that intends to encourage new businesses (including cleantech) but there is still a need to improve or operationalize its implementation for this to take a visible effect on the market.

As mentioned in the previous barrier, there are also limited networking opportunities where investors and cleantech enterprises and entrepreneurs can interact and find working opportunities together.



<p>3. Lack of mechanisms to coordinate institutional efforts and market actors? interventions</p>	<p>Lack of governmental coordination or incentive mechanisms to encourage investments in cleantech SMEs and to coordinate the work of various ecosystem players also have an impact on the 'enabling environment' for companies to grow or be established. In fact, 63% of the respondents to the online questionnaire think the lack of governmental coordination or incentive mechanisms to encourage investments in cleantech SMEs is one key barrier to cleantech growth in the country. Creating the appropriate rules would improve the business environment and increase the interest in the cleantech sector. Policy-makers have the responsibility to provide the legal and regulatory framework as well as the tools to encourage the private sector to invest in the cleantech market. Additionally, interaction among the different market actors is key for the market to evolve. In Senegal, there are a number of incubators (especially in the universities, that have an interesting project pipeline) and accelerators that provide support to innovative ideas (not all necessary from the cleantech sector) but not all entrepreneurs may be aware of their existence, the incubators do not focus exclusively in the cleantech area or they have some limitation in terms of budget and have to 'leave out' some ideas due to this limitation. If there was an improved coordination, communication and engagement mechanism linking the different actors, a greater number of innovative cleantech ideas would reach the market and would have the opportunity to grow. Such a mechanism would bring about synergies, complementarities and identify opportunities for collaboration. This has to be coupled with the improvement of the institutional framework to anchor and also coordinate the work of the various ecosystem players.</p>
<p>4. Lack of access to electricity service</p>	<p>Although, as a result of the consultation that took place, the lack of access to electricity is not regarded as a barrier of major concern among the stakeholders -which goes in line with the many efforts done by the Government in increasing national energy access- this may be the case for urban entrepreneurs and SMEs, but not for rural entrepreneurs and SMEs, since in rural areas, electricity access is not universal yet.</p>

5. Limited or insufficient policy, regulatory and incentive framework

Fostering innovation and entrepreneurship demands a robust and enabling policy and regulatory environment that, in turn, provides a basis for attracting investments. Although the Government has deployed a number of support mechanisms for SMEs, they are still either insufficient or not completely implemented, or there is insufficient awareness about their existence among enterprises, which is more often seen in the case of individual entrepreneurs. The two most relevant pieces of legislation that exists for the cleantech SMEs are the Start-up Act (passed in 2020) and the adjusted Priority Action Plan under the PSE (also dated 2020) that still have to be fully operationalised. In the case of cleantech, having a framework that would incentivise investment in this sector, is crucial for its growth and will create the enabling environment to encourage innovation, scaling-up of and deployment of projects. Evidence from the online questionnaire shows that 22% of the respondents think that the local business environment is not attractive for investors. Additionally, specific feedback from the stakeholders obtained at PPG stage with regards to the policy and regulatory environment showed that: i) the framework has to be improved since some of the documents are obsolete, e.g., the Environment Code is from 2001; ii) texts governing RE and EE are not adapted to reality and the actors do not know them sufficiently; iii) the frame is not appropriate and has gaps to be addressed such as for example a real incentive framework in terms of taxation (e.g., exemption on equipment must be harmonized (via port and airport) to be effective and the Feed in Tariff effectiveness must be also clarified), iv) the framework should support and promote the entrepreneurship through access to finance (e.g., by including bonus, grants, support in seeking interest-free financing, etc.); v) the administrative procedures for the acquisition of space (leases) become a major constraint sometimes; vi) energy costs are also very high; vii) there should be more regulations in the building and industrial sector in order to reach certain level of efficiency, and also tariff should be lowered for more cleantech products such as smart meters; viii) include Good Environmental Governance procedures so the ecology and environmental dimensions are considered in alignment with the inclusive and effective involvement of local communities. The overall conclusion is that even if there is some framework, it still needs to be further strengthened so it becomes fully applicable and in line with the cleantech sector needs, as well as with the climate change national (and international) goals. An article on Climate Policy<sup>[10]</sup><sup>1</sup> highlights the need to align, especially after the Paris Agreement, the issues of trade in cleantech goods, and the promotion of cleantech industries through industrial policy measures such as local content requirements, in the formulation of (climate) policy. This means there is opportunity to accommodate green industry promotion strategies and, simultaneously, address climate change.

<p>6. Weak and disjointed cleantech innovation ecosystem</p>	<p>This goes in hand with the need for a coordination mechanism (previously described in barrier V) that is able to support the creation of an enabling environment to propel investment in the cleantech sector. The cleantech innovation ecosystem in the country is in its formative stages where there are a lot of discontinuities and asymmetries. There are incubators, there are accelerators, there is a growing need in the cleantech SME for capacity building, training and finding financial solutions for their businesses, there is interest in cleantech as an option not only for climate change mitigation but also for consolidating sustainable businesses that can support that objective, and there are examples of innovative ideas, many of them run by women and young entrepreneurs, that have the potential to become fruitful enterprises; however, there is a need to establish a mechanism or a system that would make all those involved parties work together in a systematic manner. Although supportive infrastructure like the Kosmos Innovation Center (KIC) exists, the weak ecosystem does not support the systematic transformation of cleantech innovations into enterprises that contribute towards industrial productivity gains and CO2 emission reductions.</p>
<p>7. Lack of public awareness</p>	<p>While there is no doubt that climate change is already affecting the country's economy and population, there is still a lack of public awareness regarding the fact that cleantech innovation presents an economic opportunity but also helps to reduce GHG emissions. In spite of the fact that there is a number of cleantech business growing in the country that can help increase the awareness about this matter (such as those related to plastic recycling, renewable energy for electricity generation, or applying energy efficiency measures to reduce consumption, etc.), there is still a need to create wider awareness about the benefits derived from the development and utilization of cleantech products, services and business models as a means to put the country on a low GHG emissions and economically sustainable trajectory. Results from the online questionnaire show that 33% of the respondents consider that there are insufficient awareness campaigns or availability of information about cleantech opportunities.</p>

<p>8. Limited mentoring and training opportunities</p>	<p>A significant barrier to the improvement and growth of the cleantech market and for the creation of innovative ideas at national level is the lack of trained experts for mentoring start-ups and entrepreneurs involved in this market. There are incubators and government agencies that do provide support or training services to SMEs on business plan development and similar topics, but they have recognized they still need to improve their training curricula and skills in order to better provide supporting services to the business to reach them (this was part of the feedback received during interviews with stakeholders at PPG stage). There is also a lack of information about technology options available at local or international level, best practices, and benchmarks within the enterprises, which could be supplied or transferred by educational institutions and associations.</p> <p>The 52% of the respondents to the online questionnaire have identified the limited availability of coaching or mentorship for cleantech SMEs to continue growing into a sustainable and long-standing business as one barrier they face. Also, 33% said that there are insufficient alternatives for receiving training on clean technologies.</p>
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## 2) the baseline scenario and any associated baseline projects;

Baseline: the economy, energy and emissions

13. Senegal is located on the West African coast with a population of about 16.29 million<sup>[11]</sup><sup>2</sup> where 64% of it lives in rural areas and with a majority of women and youth (52% women, 71.2% under the age of 19); it is also experiencing high population growth at 2.8% annual rate and recording economic growth that is amongst the highest in Africa, which between 2014 and 2018 remained above 6% annually<sup>[12]</sup><sup>3</sup>, with the implementation of major reform programmes that stimulated investment in key sectors such as agriculture, industry, tourism, transport infrastructure and extractive industries. The Gross National Income (GNI) per capita had reached 1,430 USD in 2020<sup>[13]</sup><sup>4</sup>. The COVID-19 pandemic has impacted the economy and growth slowed down significantly, especially for the tourism and the transport sectors (services sectors), as well as for exports. The services sector remains the main contributor to the Gross Domestic Product (GDP), while the primary sector (agriculture, in particular) represents a key driver of economic growth.

14. The Senegalese economy's growth has been mostly driven by the implementation of the PSE (Plan Sénégal Emergent /Emerging Senegal Plan) which is the reference document for the country's economic and social development, under a single vision: "Un Sénégal émergent en 2035 avec une société solidaire dans un état de droit" ("An emerging Senegal in 2035 with a united society under the rule of law?"). The reforms and incentives implemented are meant to encourage investment and creation of businesses. For example, the Business Environment and Competitiveness Reform Programme (Programme de Réformes de l'Environnement des Affaires et de la Compétitivité, PREAC) has been under implementation since 2013 and has implemented innovations to enhance the business environment. For example, the elimination of minimum capital for Limited Liability Companies (LLCs), the creation of one-stop shops for the constitution of a company, the dematerialization of customs procedures, the reduction of taxes for companies that invest, as well as the various tax incentives offered by the Senegalese Investment Code and the free export company regime (no VAT).

It provides specific incentives to stimulate investment in key sectors such as agriculture and agribusiness, fisheries, livestock and related industries, manufacturing, tourism, and mining, among other sectors.

15. In accordance with IRENA figures, Total Primary Energy Supply (TPES) in Senegal in 2018 was dominated by fossil fuels. Data show that 50% of the TPES was from oil, 14% from coal plus others, less than 1% from gas, and the remaining 35% from renewable sources (of which 99% is bioenergy and 1% solar energy) [14]<sup>5</sup>. The same source of information reveals that, in 2018, RE consumption in Senegal was dominated by bioenergy (97%), associated to households' biomass consumption, and only a small portion of renewable electricity (3%) is produced. Renewable electricity generation in 2019 was from solar energy and bioenergy, together representing 15% of total electricity generation, which was 2,263 GWh<sup>5</sup>. The renewable share of Total Final Energy Consumption (TFEC) was 36.6%<sup>5</sup>. Households' biomass consumption largely consists of charcoal and fuelwood, mainly used for cooking. These two energy sources represented 35% of final household energy consumption in 2016[15]<sup>6</sup>. The country aims at diversifying and promoting alternative fuels and more efficient technologies for cooking in the domestic sector, as stated in the Nationally Determined Contributions targets, which contributes to preserve forest resources. The high utilisation of biomass explains the relatively high share of renewables in the TFEC. As of 2019, the national overall electricity access rate reached 70.4%[16]<sup>7</sup>, one of the highest in the subregion. Access to electricity is however not evenly distributed: in the same year, it was as high as 95% in urban areas, but limited to 48% in rural areas, though increasing[17]<sup>8</sup>.

16. As of 2019, the total installed capacity for electricity generation (both on- and off-grid) is approximately 1,324 MW (estimate based on available data), of which the vast majority is fossil fuel-based. Renewables account for 22% of the generating capacity (the share of solar alone is above 10%). Senegal has a considerable renewable energy potential, mainly in the form of solar energy (for PV): most of the country's territory has a relatively high solar irradiation and receives over 3,000 hours of sunshine per year. The average solar PV potential is in the range of 1,600-1,800 kWh/kWp-year, corresponding to a load factor of about 20%[18]<sup>9</sup> - considerably higher than countries where PV has been widely deployed (e.g., Germany). Other noticeable potential sources of energy are bioenergy, hydro and wind (along the coast from Dakar to Saint-Louis, wind speeds of 6 m/s have been measured)[19]<sup>10</sup>.

17. Senegal has inaugurated its first utility-scale wind power project: the 158 MW Taiba N'Diaye wind farm in 2020 (not included in the previous figures) which will increase the participation of renewables in the generation mix for the coming years. In terms of hydropower potential, some contracts to build hydropower plants in both Senegal and Gambia rivers have been also recently awarded (in 2021) by the Gambia River Basin Development Organisation (128 MW) and by the Senegal River Basin Development Organization (18 MW) which will also increase the renewable capacity for electricity generation in the country. Regarding biomass potential as energy source, a study by the Global Green Growth Institute (2017) shows that current potential is mainly from Typha plant, sugarcane, and municipal waste[20]<sup>11</sup>. Senegal has made significant progress toward decarbonising the electricity system. Given a rapidly increasing energy demand and the Government's target of reaching 100% electricity coverage and connection of at least 90% of rural households by 2025 as part of their SEforAll actions[21]<sup>12</sup>, it will be crucial to continue developing and promoting innovation and

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investment in renewable energy projects to reduce dependence on fossil fuels and thus reduce carbon emissions from electricity generation.

18. Senegal's total 2018 greenhouse gas (GHG) emissions were 34.36 MtCO<sub>2</sub>e, of which the majority were from the energy sector (34%) and agriculture (32%), followed by emissions from land-use change and forestry (LUCF) (13%), waste (12%), and industrial processes (10%)<sup>[22]</sup><sup>13</sup>. Agriculture emissions have increased mainly due to enteric fermentation, manure left on pasture, and burning savannah, and energy emissions have increased as well, due to more fossil fuel combustion for transportation, fuelwood and charcoal for cooking, and electricity generation<sup>[23]</sup><sup>14</sup>. In line with this, the implementation of cleantech to improve EE may bring additional benefits in terms of reduced demand and, consequently, reduced carbon emissions in the energy sector and agricultural sector but also in other sectors such as transport and buildings. The International Energy Agency (IEA) reports that energy intensity has been decreasing in the African continent in the past 20 years, meaning there is still opportunity to continue that trend and to improve it in specific regions of the continent, such as North Africa, where it has remained more stable throughout that period. The report highlights that in North Africa final energy use in 2018 was dominated by the transport (38%) and residential buildings sectors (27%); while in the rest of the African continent, overall residential buildings accounted for 64% and transport 16% of final energy use. On the other hand, industry represented 25% of final energy use in North Africa and only 13% in Africa overall<sup>[24]</sup><sup>15</sup>.

19. In terms of climate change impacts and vulnerability, it is worth mentioning that climate risks and hazards are present in Senegal with predominance of droughts and floods, but sea-level rise, and coastal erosion are the natural hazards that pose the greatest threat to the country. Climate change will also impact climate-sensitive sectors such as agriculture (70% of production is rainfed), livestock and fisheries, which account for 20% of GDP and employ a majority of the workforce<sup>[25]</sup>. Also, economic activities such as fishing, tourism, and agriculture are adversely affected by sea-level rise. Increase in pest infestations due to changing climate patterns might spark food shortages and temporary migrations<sup>[26]</sup><sup>16</sup>.

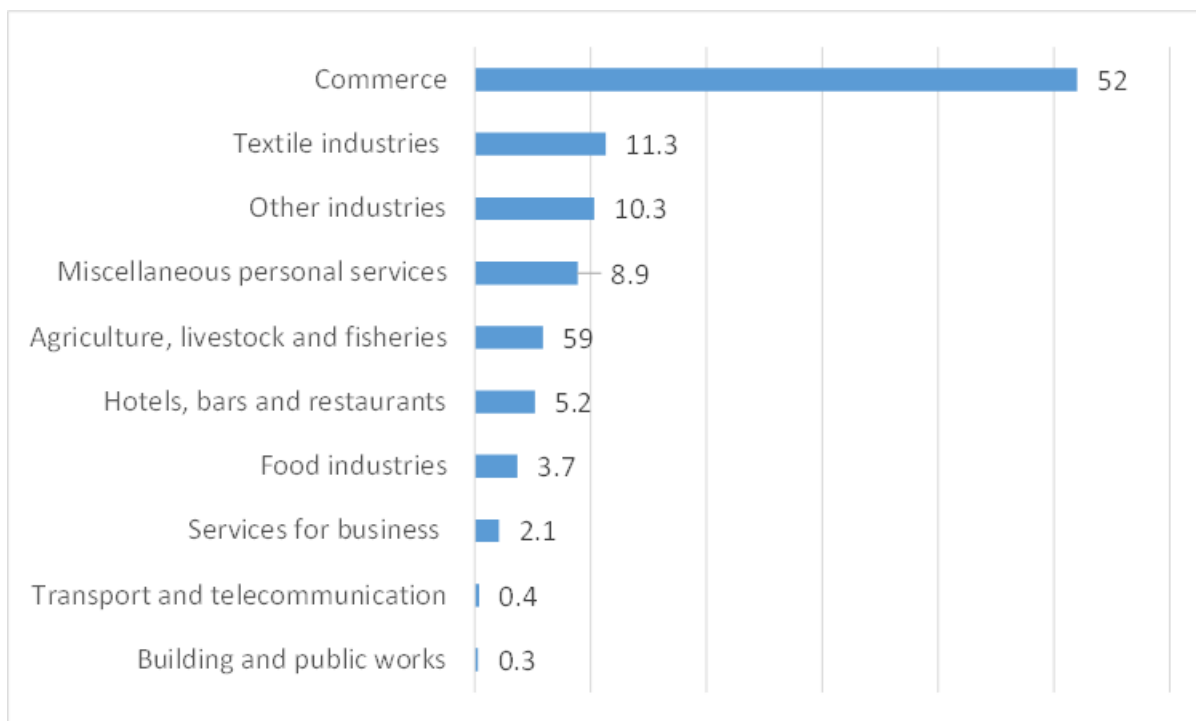
20. In the Senegalese climate change scenario, there are opportunities to apply innovative approaches and technologies that can lead to mitigating GHG emissions as well as working as an adaptation measure to climate change. This is particularly interesting for the agricultural sector. Together with other measures, adopting cleaner technologies (?cleantech?) can help tackle the growing trend on GHG emissions while at the same time respond to the increasing energy demand from all sectors. In this context, cleantech is defined as a broad range of solutions (technologies, processes, services, business models, and their combinations) that lead to an increase in positive impact or a decrease in negative impact on climate change through mitigation and adaptation, transition to a low-emission economy, sustainable energy systems, and other dimensions of environmental sustainability. Climate technology, clean energy technology etc. are subsets of cleantech. Co-benefits of a robust cleantech sector include creation of green jobs, women and youth entrepreneurship, and sustainable income generation. SMEs and start-ups are key promoters of cleantech; it is therefore crucial to create a favourable environment for them to innovate and thrive. The following section focuses on the entrepreneurship ecosystem and the barriers that prevent SMEs to thrive, with a particular focus on the cleantech sub-sector.

Business, entrepreneurship and barriers

21. The Government of Senegal has conducted a general census to the enterprises in 2016 and issued the final report in 2017 where information was collected about the current status of the

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enterprises in the country, regardless of the size. Results show that more than half of the enterprises are dedicated to commercial activities (52%); the rest of them are divided in different sectors (see Figure 1) including textile industries, services, agriculture, etc. According to the mentioned general census, 407,882 economic units were counted, of which nearly 40% was concentrated in Dakar.



Source: ANSD/RGE 2016

**Figure 1: Percentage of enterprises per type of activity**[27]<sup>17</sup>

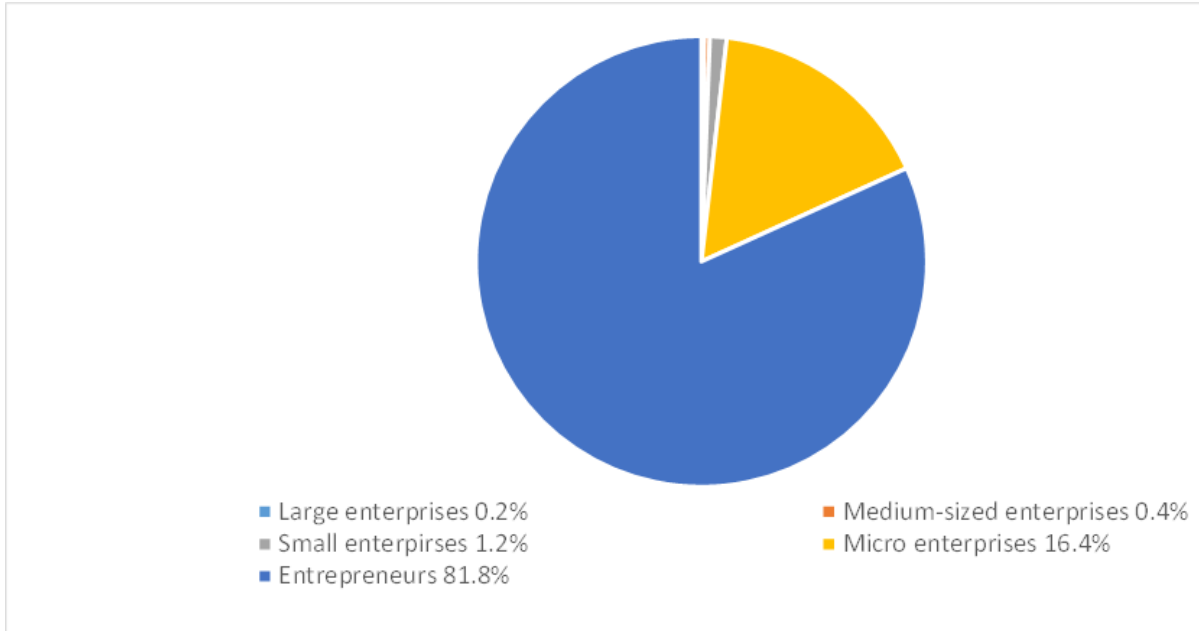
22. The country's economy is dominated by micro and small enterprises, of which 90% are estimated to belong to the informal sector. The distribution of the enterprises and businesses in Senegal in accordance with their size, shows a clear predominance of entrepreneurs (81.8%) and very small businesses (16.4%). Figure 2 shows that they are distributed in: entrepreneurs (entrepreneurs), very small enterprises (très petites entreprises), small enterprises (petites entreprises), medium enterprises (moyennes entreprises), and large enterprises (grandes entreprises). Each type [28]<sup>18</sup> is defined as follows, in accordance with the Senegalese legislation:

- a. The Entrepreneur: any natural person exercising, on an individual basis, a professional, civil, commercial, craft, agricultural or service-providing activity, whose annual turnover excluding tax does not exceed: 30,000,000 FCFA for commercial activities; 20,000,000 FCFA for craft and similar activities; 10,000,000 FCFA for the provision of services.
- b. Very small enterprises: any person other than a physical or legal entrepreneur, exercising a professional, civil, commercial, craft, agricultural, industrial or service-providing activity, whose annual turnover declared net of tax is less than or equal to 100,000,000 FCFA. The company maintains, at least, a basic accounting system.
- c. Small enterprises: any natural or legal person exercising a professional, civil, commercial, craft, agricultural, industrial or service-providing activity, whose annual turnover excluding tax is greater



than 100,000,000 FCFA and less or equal to 500,000,000 FCFA. It keeps accounts either internally or by a Chartered Accountant or by a Chartered Management Center or any other similar accredited accounting services provider.

d. Medium enterprises: any natural or legal person, exercising a professional, civil, commercial, craft, agricultural, industrial or service-providing activity, whose annual turnover excluding tax is greater than CFAF 500,000,000 and less or equal to 2,000,000,000 FCFA. It keeps accounts according to the regular system and is certified by a Chartered Accountant.



Source: ANSD/RGE 2016

**Figure 2: Distribution (in percentage) of the enterprises in Senegal in accordance to their size[29]<sup>19</sup>**

23. The majority of the population works in agriculture or fisheries. However, agricultural productivity is low. The main causes of this are poor soil quality and irregular rainfall along with overgrazing and deforestation, all of which are leading to increasing desertification[30]<sup>20</sup>. Potential RE applications such as for example solar PV irrigation for crops could be useful to support the agricultural sector growth. This is even more relevant if we consider that the sector with the highest number of very small enterprises is the agricultural one, in addition to the cattle breeding and fisheries sectors. Small and medium-size enterprises are mainly found in the construction industry. The table below (Table 4) includes the detailed distribution of enterprises per sector and size. Note the high concentration of very small enterprises in the agriculture, cattle breeding, fisheries sector and food industries, and also of entrepreneurs in the textile industries as well as other industries. These facts could yield potential opportunities to encourage innovation in these sectors to reduce carbon emissions with the adoption of cleantech (i.e., RE and EE). In terms of the form of exploitation (formal or informal), a company is said to be formal when it keeps accounts according to a standardized accounting system. The informal sector occupies a large part of the economy and covers 97.0% of the business units. Whether formal or not, companies are distributed differently depending on the environment and industry. In most sectors, the proportion of informal enterprises is over 95%. Agriculture and textile industries are the most represented in the informal sector with percentages greater than 99%.



**Table 4: Concentration (%) of enterprises by size per sector of activity**[31]<sup>21</sup>

Sector of activity	Entrepreneurs	Very small enterprises	Small enterprises	Medium enterprises	Large enterprises	Total
Agriculture, cattle breeding and fisheries	0.0	99.5	0.3	0.2	0.1	100.0
Food industries	0.0	96.9	2.0	0.6	0.6	100.0
Textile industries	98.1	1.8	0.1	0.0	0.0	100.0
Other industries	87.1	11.5	0.8	0.3	0.4	100.0
Construction and public works	25.4	39.9	16.0	11.7	7.1	100.0
Trade	93.2	5.1	1.3	0.2	0.2	100.0
Transport and telecoms	48.3	29.7	10.7	5.7	5.5	100.0
Hotels, bars and restaurants	86.9	11.7	0.9	0.3	0.1	100.0
Services provided to other enterprises	55.2	33.3	7.5	3.0	1.0	100.0
Miscellaneous personal services	88.8	9.9	0.9	0.3	0.1	100.0

24. The 'Doing business' ranking of the World Bank (WB) puts Senegal in position 123 out of 190 economies ranked for the year 2019[32]<sup>22</sup>, meaning that there are still challenges to open a business in spite of the Government's reforms and efforts to encourage investment and entrepreneurship. In fact, the general census of enterprises conducted by the Government of Senegal in 2017, explored the challenges that were faced to open a business in the country and most answers showed that finding a proper source of finance was one key issue they faced. Most of the enterprises surveyed by the mentioned census state that they had financing needs to improve their premises (62.3%) or to expand their activities (60.8%), especially in the agricultural sector. Analysis of business financing sources reveals that 19.6% of business units included in the census have requested financing from their families or friends, 15.2% (mostly in the informal sector) use micro-credit and 12.6% participate in tontines[33]. In addition, 6.2% formulated a financing need with banks and 2.6% with support funds. The tontines are usually found among the informal sector workers because they offer a way to save some money without the need to put any collateral. An innovative approach has been proposed by a local Senegalese innovative start-up: MaTontine (<http://matontine.com/>), who was able to automate the process through an online app and is now able to offer a wide range of financial services to the users, such as micro-credits or insurance products. This example shows that innovation in the way financial products are offered is also of great importance as it enables vulnerable or informal population to have access to financing that adapts to their needs.

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25. SMEs play a necessary and vital role in any economy: they provide jobs, exports, contribute to GDP and income distribution, etc. and thus are a strategic piece to build a more sustainable and resilient economy. This is not only true at national level, but also at regional and even international scale - particularly in developing countries and emerging economies. SMEs (as well as entrepreneurs and very small companies) are key drivers of cleantech innovation: they develop and adopt clean technologies, services and products or find alternative ways of applying these in different sectors. Although there are no clear figures on the actual number of cleantech SMEs active in Senegal, the market is witnessing a significant growth of start-ups in this field. Some relevant examples include plastic recycling, e-waste management and recycling, rubber recycling from worn tyres, rural electrification concessionaires, energy management, Typha and clay-based construction, ecologic warehouses for food storage, among others. Although Senegal's cleantech innovation and entrepreneurship ecosystem (CIEE) is gradually improving, it is still in need of support. The fact that there are start-ups and SMEs being established in the country shows that there is a genuine opportunity to contribute to the cleantech market growth.

26. CIEE is defined in this context as the network and interactions among innovation and entrepreneurship stakeholders and the social, economic and policy environment, and their combined influence on the development and commercialisation of cleantech solutions. The CIEE still faces barriers (as detailed in Table 3) to continue growing into a solid and more cohesive market. There is a need to address the barriers that are currently limiting the development and wide adoption of innovative cleantech entrepreneurship. There are several that have been identified and described in Table 3. There is also specific reference in each of the barriers to evidence collected during the PPG stage. A Baseline Assessment was conducted during PPG which included desktop work plus interviews to the local stakeholders and the distribution of an online survey with the intention to verify the existing barriers and get first-hand experiences and opinions from the stakeholders about the different aspects concerning the CIEE in Senegal.

27. Moreover, it is worth mentioning that the General Enterprise Census 2016 carried out by the Ministry of Economy also enquired the participating enterprises about challenges they face to sustain their business. They all said that they have faced at least some constraint. Insufficient demand (production of goods or services flow) was cited as the first constraint they face, followed by lack of suitable premises, excessive taxes and duties, difficulty in sourcing raw materials, difficulty in accessing credit, lack of specialized technology or machinery and spare parts availability, high transport cost and energy supply difficulties. The sectors who face more difficulties are the agriculture, cattle breeding and fisheries sector (claim that the lack of suitable premises is their main constraint), other industries<sup>[2334]</sup>, textile industry and food industries (they all claim insufficient demand as their main constraint).

28. The most significant constraint identified by businesses in Senegal varies depending on their size: (i) entrepreneurs main constraint has to do with insufficient demand for their products or services (and the need to have suitable premises comes in a close second place); (ii) very small companies quote unsuitable premises as their major hurdle (also the insufficient demand for their products in a close second place); (iii) small and medium sized enterprises identify high taxes and levies as their main constraint. The table below describes all barriers faced by enterprises in accordance with their size as per the mentioned Census 2016 (Table 5).

**Table 5: Proportion of companies having declared a constraint according to size (%) (TAKEN from the General Enterprise Census 2017)**

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	Entrepreneurs	Micro enterprises	Small enterprises	Medium-size enterprises
Insufficient demand	32.1	22.3	13	3.
Lack of suitable premises	25.3	26.3	9.1	1.
High taxes	18.4	10.6	21.8	12.
Difficulties in access to credit	15.1	17.6	10.3	5.
Difficulties in supply of raw materials	14.8	14.5	6.3	2.
Cost of transportation	10.4	9.6	7.1	2.
Lack of specialized technology	9.9	19.2	4.3	1.
Difficulties in supply of energy	9.3	9.2	5.9	3.
Limited access to business supporting structures	6.5	7.8	6.1	3.
Difficulties in ccess to public procurement	5.8	4.8	5.6	2.
Administrative procedures	4.4	3.5	7	6.
Cost of technical and commercial platforms	4	3.6	5	
Corruption	4	2.9	3.7	1.
High cost of labor	3.8	6.1	3.8	2.
Insufficient human capitals	3.4	6.2	2.8	2.
Dispute resolution procedure	1.9	1.9	3.6	3.

Source: ANSD/RGE 2016

29. Senegal has always accorded importance to the role of research and technology innovation as crucial to economic and social growth. Since the 1970s, the government has made efforts to foster science and technology innovation through the creation of dedicated national entities. However, there is not a consolidated, nation-wide Science, Technology and Innovation (STI) policy document, and research mandates and associated institutions are distributed under the supervision of different ministries. As a result of the fragmentation of the institutional framework and the lack of a consolidated strategy for R&D and innovation, the contribution of innovative technology solutions, business models and services to economic development has been very limited.

30. At the regional level, Senegal has actively participated in the development and adoption of the STI policy for the ECOWAS[35]<sup>24</sup>. The overall objective of the ECOWAS Directive is "to promote cooperation and achieve sustainable economic and social development through the implementation of a policy of "Science, Technology and Innovation" to meet the current and future needs of the people and guarantee them a better quality of life". According to UNESCO's STI profile and information[36]<sup>25</sup> for Senegal, between 2010 and 2015, the country has improved in the following two key metrics: (i) number of researchers per million inhabitants and (ii) women as a share of total researchers (see Figure 3). In 2015, Senegal counted around 1,000 researchers per million inhabitants, up by more than 60% compared to 2010. In the same period, the share of women in research grew slightly, from about 25% to 29.3%. Almost all of them are researchers working in higher education institutions (98% in 2015). Despite the noticeable progress, there is still room for improvement. As shown in Figure 4, the engagement of the private sector in STI and R&D in Senegal is very limited, mainly driven by a small number of companies in the telecommunications sector. Most R&D resources are provided by the State in the form of grants to the various research structures (universities, public scientific institutions, higher schools, etc.), postgraduate scholarships and competitive funds. In terms of expenditure on R&D, in

2015, 85% of R&D in STI came from the Senegalese government and only 2% from the enterprises. In the same year, Senegal, spent 0.6% of the GDP in R&D[37]<sup>26</sup>.

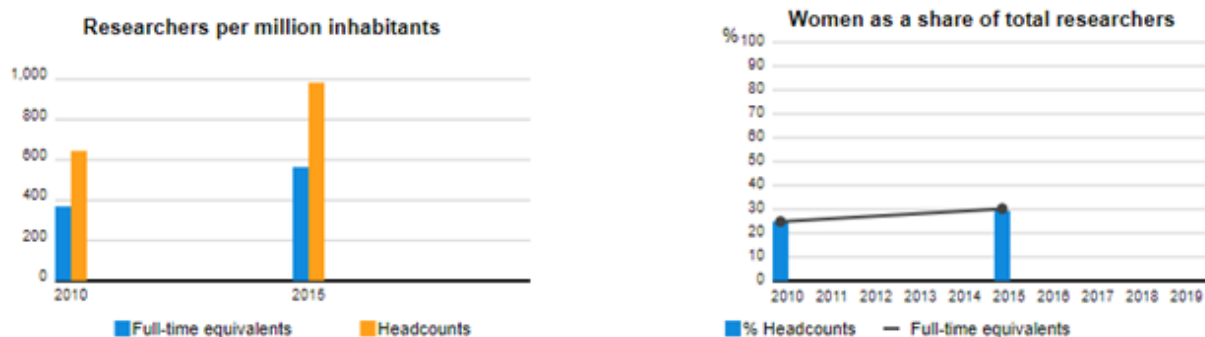


Figure 3: Number of researchers per million inhabitants and women participation in research activities in Senegal (UNESCO)

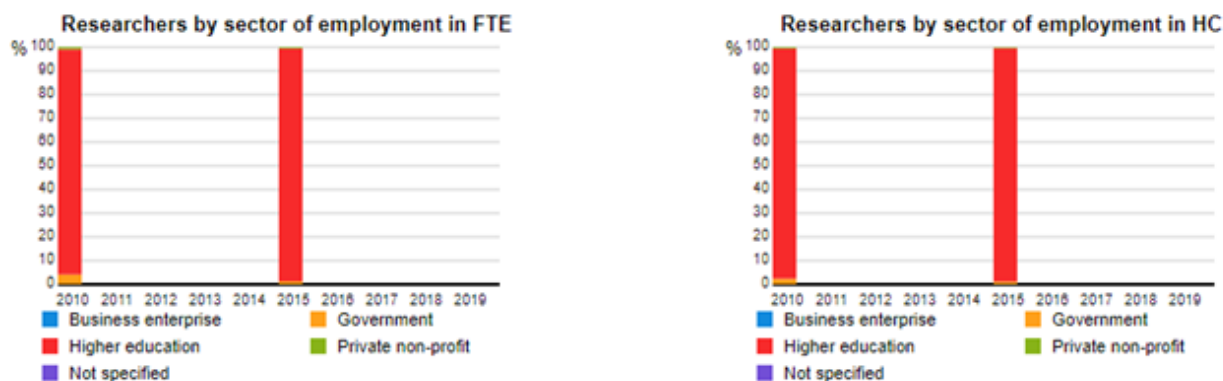


Figure 4: Researchers per sector of employment in Senegal (in full-time equivalents, left, and headcount, right) (UNESCO)

#### Policy Baseline

31. In Senegal, there are no policies or incentives specifically targeting the SME cleantech market sector. There are policies and an overall framework that applies to energy, RE, EE, and climate change mitigation and adaptation, and the Government has also established several incentives targeting all kinds of businesses ? with possible spill over benefits for cleantech SMEs. Nevertheless, in accordance with the information obtained from stakeholders during PPG stage, they either do not respond to the specific needs of the sector, their applicability is not fully clear, or they still need to be fully operationalised, as described previously in Table 3. The following sections will present the most relevant documents/plans identified.

32. The Emerging Senegal Plan 2014-2035 (PSE ? Plan S?n?gal Emergent) is the reference long-term framework for Senegal's economic and social policy to 2035. It is structured in 5-year phases with their associated Priority Action Plans (PAP) that include strategic axes, sectorial objectives and action lines of the main strategy. So far, two have been published: the PAP I from 2014-2018 and the PAP II

from 2019-2023 (which has been adjusted due to COVID-19 impacts in August 2020). The PSE focuses on economic growth based mainly on the intensification of activity in the primary and secondary sectors. The PSE reinforces the orientations of the Energy Sector Development Policy Letter (LDPSE, Letter politique de Développement du Secteur d'Énergie), validated in 2018, that sets the overall framework for the 2019-2023 period concerning the implementation of Senegal's energy policy, through 8 programmes (including 4 focused on RE and EE). In line with the Covid-19 crisis that is affecting economies and energy systems across the world, many international organisations such as the IEA are supporting African countries in their efforts to face the crisis. In that light, the IEA convened a virtual Ministerial Roundtable on 30 June 2020, co-chaired by the Minister of Petroleum and Energy of Senegal, to take stock of the effects of Covid-19 and its economic reverberations across Africa's energy sector. The roundtable discussed the nascent impacts across the energy sector in order to assess what actions can be taken to ensure that energy investments in Africa remain a priority towards economic recovery[38].

33. Another key document for the cleantech sector is the Nationally Determined Contribution (NDC) that was approved in December 2020. It contains specific commitments to reduce GHG emissions by 2025 and by 2030, against a business as usual (BAU) scenario, and is aligned with the forward-looking vision and strategies of the PSE. The main actions under the NDC encompass both mitigation and adaptation. Regarding the former, the commitment under the unconditional scenario is to reduce emissions by 5% and 7% compared to the BAU scenario by 2025 and 2030, respectively. Under the conditional scenario (i.e., receiving support), the emission reduction commitment is increased to 23% and 29% for 2025 and 2030, respectively. The mitigation objectives include the energy sector (electricity generation, domestic fuels, and EE), agricultural sector, forest sector, industry sector, transport sector, and waste sector. Priority interventions consist of market-based interventions in EE, utilization of waste, and electricity production from bioenergy, where the adoption of innovative technologies plays a critical role.

34. Additionally, the NDC includes adaptation actions, namely: (i) agriculture: early warning system, strengthening research on adapted varieties (short cycle and temperature), strengthening resilience by diversifying production systems (promoting an integrated system), irrigation technologies; (ii) fisheries: promotion of the development of sustainable aquaculture; and (iii) water resources: construction of retention basins, seawater desalination, water transfer. This is relevant as some actions targeting mitigation may also have a benefit towards adaptation.

35. Another piece of legislation that is relevant for the cleantech market development in Senegal is the 'Start-up Act' (Loi n°2020-01), dated January 2020. The legislation, which resulted from a bottom-up consultation process involving all actors in the tech start-up and digital innovation sector, seeks to promote innovation in the country's economy. In particular, it targets Senegalese start-ups based on creativity, innovation, the use of new technologies, the achievement of high added value as well as competitiveness at the national and international level. It consists of a governance framework containing recommendations for tax policies, financing, data collection and sharing for start-ups as well as a suitable legal condition for registering and labelling new start-ups in the country. This document is not only relatively recent but has also entered into effect shortly before the COVID-19 pandemic, whose impact has shaken the global economy and, with it, the Senegalese. It is, therefore, difficult to understand if it has yielded any benefits yet.

36. Alongside the PSE and in alignment with its guidelines, the Government developed the 'Digital Senegal 2016-2025 Strategy'. It embodies Senegal's ambition to maintain a position as an innovative leading country in Africa in the digital domain. It consists of three (3) prerequisites (the legal and institutional framework; the human capital; and the digital confidence) and four (4) priority axes (Axis 1: Open and affordable access to digital networks and services; Axis 2: A connected administration serving citizens and businesses; Axis 3: Promotion of an innovative digital industry that creates value; and Axis 4: The dissemination of digital technology in priority economic sectors) articulated around the slogan 'digital for all and for all uses by 2025 in Senegal with a dynamic and innovative private sector in a high-performance ecosystem'. One of the key sectors targeted under Axis 4 is the agricultural sector. Targets of interest are to increase e-banking, especially for rural women to commercialise products and have better access to public services. This goes in-hand with the aim of improving connectivity throughout the country. An example of the strong focus that the public

authorities attribute to digital innovation in Senegal, is the first digital forum that was held in Dakar in mid-2018. It promoted 'youth and the digital sector' - with the aim of financing projects in the Information and Communication Technologies (ICT) sector with 1 billion FCFA (USD 1.8 million). This fiscal support is being used to mobilize proper tools to promote talent amongst the young population who have the assets to exploit new technologies such as cloud computing, big data, the internet of things and artificial intelligence. Existing ICT incubators such as ICTC are focusing on boosting growth of young companies, providing technical advice, business plan training as well as networking and logistics services.

37. Other policies of relevance for the cleantech market are the National Energy Efficiency Action Plan and the National Renewable Energy Action Plan, both issued in 2015, under the ECOWAS policy framework for RE and EE. These two plans set targets and detail a path to better integrate RE and EE objectives to produce cleaner energy, reduce fossil fuels consumption as well as to save energy by using it more wisely and efficiently.

38. In line with the promotion of RE generation, the National Electricity Regulatory Commission issued in 2018 the 'Decision N°2018-09 relative aux prix d'achat du surplus d'énergie électrique d'origine renouvelable consommée d'une production pour consommation propre'. This policy document for distributed RE (solar PV and biogas) offers a direct cash payment ranging from USD cents 8.6 to 12.9 per kWh generated, making projects easier to finance. By offering to buy the surplus generation at specific rates, and differentiating these rates by technology and project size, Senegal's new policy is now among the most sophisticated policies to support distributed generation. The policy represents a hybrid between so-called 'net metering' and 'feed-in tariff' policies (NET-FIT)[39]<sup>27</sup>.

39. Some other documents and policies complete the climate change and environmental framework of the country, such as: (i) the Third National Communication dated 2015; (ii) the National Adaptation Plan (2019); (iii) the GCF Country Program 2018-2030 (mitigation, adaptation and climate and inclusive governance); (iv) the Environmental Code (2001), which constitutes the fundamental legal framework for the prevention and fight against pollution and waste as well as the protection of air, water and soil; and (v) the Forest Code (2005) that calls for the protection of natural resources and the need to decrease deforestation in the country.

#### Baseline projects

40. There are also a number of ongoing initiatives at local or international level, relevant for the Senegal Project. These are summarised in Table 6.

**Table 6: Relevant ongoing projects and initiatives**

Name of Project or Programme	Implementation Period	Brief description	Funding organisation	Relevance
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<p>Energy solutions ? made in Germany - with the Project Development Programme (PDP)</p>	<p>2018-2023</p>	<p>The objective is to assist German companies in entering new markets, which may pose some challenges due to political instability, difficult access to finance, or a shortage of skilled professionals. The activities focus on 16 countries in South-East Asia, south Asia, sub-Saharan Africa and the Middle East.</p> <p>The programme develops financially viable energy projects and raises capital from commercial banks and private investors. The focal points are renewable sources of energy, energy efficiency, smart grids and storage systems. New technologies, such as power-to-gas (a process in which green electricity is used to split water into hydrogen and oxygen by means of electrolysis) and fuel cells, are also increasingly coming into the picture. The support is aimed at small and medium-sized enterprises (SMEs) in particular and provides assistance with preparing, exploring, entering and securing the market.</p> <p>Information from:  <a href="https://www.giz.de/en/worldwide/68867.html">https://www.giz.de/en/worldwide/68867.html</a></p>	<p>GIZ, BMWi</p> <p>Supports private sector (SMEs) from Germany to enter other regions (inc. Senegal) focusing on RE and EE, smart grids and storage. This could lead to knowledge transfer to the local workforce and increase access to innovative cleantech applications from Germany. Synergies could be explored with the Senegal Project with regards to technology and knowledge transfer to the Senegal market.</p>
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<p>The Technical Centre for Agricultural and Rural Cooperation (CTA) and the ICT for Agriculture (ICT4Ag)?</p>	<p>CTA Ended in 2020 (after 35 years of implementation) ICT4Ag 2016-2020</p>	<p>The CTA has announced its closure by end 2020. It has provided information, capacity building and practical support to almost 80 countries over the past 35 years. The closure came as the Cotonou Agreement between the EU and African, Caribbean and Pacific group of states, which provided the legal and financial framework for CTA, ended in December 2020. Nevertheless, the CTA has transferred its assets to its key strategic partners in an effort to maintain the CTA legacy and not lose the progress made. The CTA has established a farmer's hub in late 2019, supporting 22 selected youths from Senegal and Mali in investing in agriculture. The project included training sessions in greenhouse farming and business management, and equipped the agripreneurs with 13 greenhouses, technical equipment such as seedling trays and machinery, and agricultural inputs and plants. In Senegal, this interest and the performance of the agripreneurs has resulted in ten hubs generating more than ?20,000 in revenue. Capacity building in ICTs for agriculture has the fundamental purpose of enhancing institutional and grassroots capacity to influence agriculture and rural development policy processes and support increased efficiency of agricultural value chains. The GIZ project, ICT4Agriculture, focuses on putting e-agriculture into practice based on cooperation between ICT specialists and farmers to develop innovative solutions for the local needs of the community, including the awareness raising of the youth towards business possibilities in agriculture through creating a network to link them with successful local start-ups and training services. Ultimately, this project will contribute towards the upswing of deprived agricultural sectors, such as the dairy sectors as well as seeking to provide farmers with adequate information on the use of organic fertilizers and products to grow fruits and vegetables. Information at: <a href="https://ict4ag.cta.int/">https://ict4ag.cta.int/</a></p>	<p>EU (CTA)</p>	<p>Learnings from the project can be of use in terms of what strategies and activities have yielded the most significant benefits for the agricultural sector and analyse their replicability and scalability. Also, it would be useful to understand how the youth was engaged in the design of innovative technologies or applications to improve sector growth.</p>
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<p>Green People's Energy (GPE)</p>	<p>2018-2022</p>	<p>The project supports the development of decentralised renewable energy systems in rural regions of Africa and the implementation of the Agenda 2030 with the involvement of local stakeholders and private investors. Particular emphasis is placed on the participation of municipalities, cooperatives and local companies. In addition, the project promotes local value creation and the productive use of energy and social institutions. Focus is also put on creating employment opportunities. There are five components in the project's implementation; amongst them is the creation of a small-scale project fund that provides up to 200,000 euros to promote projects by local stakeholders in Sub-Saharan Africa. A set of application criteria must be met by the applicant and the project proposed in order to receive support from the 'Small Projects Fund'. Information at: <a href="https://www.giz.de/en/worldwide/77417.html">https://www.giz.de/en/worldwide/77417.html</a></p>	<p>GIZ, BMZ</p> <p>It supports private sector investments in RE in rural areas (incl. productive uses of energy, which can be relevant to improve the agricultural sector yields, performance and access to energy). It has a strong focus on projects developed by local people. Synergies could be found with activities under the Senegal Project, such as capacity building, stakeholder engagement and marketing events. Depending on the applicability criteria, projects from the GPE looking for additional support may apply to the Senegal Project.</p>
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Higher Education Programme for Renewable Energy and Energy Efficiency	2015-2022	<p>The objective is to support Senegalese universities to offer practice and labour-market-oriented degree courses as well as further training courses for professionals in renewable energy and energy efficiency, with an eye on strengthen skills for business start-up in this field. One key component is the founding of new practice-oriented training institutions at the interface between vocational and university education, the so-called 'Instituts Supérieurs d'Enseignement Professionnel (ISEP)'. After two years of training, they lead to a university degree as high-level technician. The project operates in three fields of activity:</p> <ul style="list-style-type: none"> <li>• Supporting the ISEPs in: (i) developing practical degree courses on the productive use of renewable energy and energy efficiency, (ii) piloting short-term ISEP training courses relating to energy, also for people without university entrance qualifications, (iii) the construction of a new ISEP (with KfW) in Mbacké, and (iv) adapting the curricula to new courses. Since 2018 and 2020, three ISEPs have been offering degree courses for training high-level technicians in renewable energies.</li> <li>• Accompanying the Universities of Bambey, Saint-Louis, Ziguinchor; Engineering College in Thiès in the implementation of the newly designed inter-university master's programme in renewable energy (MIER). The universities are advised on how to improve the quality of their education and to expand cooperation with enterprises in the energy sector. In 2020, the first 50 students started the new MIER master's degree course.</li> <li>• The programme supports the partner universities and ISEPs in establishing business incubators and developing relevant offers. The programme equipped three university incubators technically and materially. These incubators have become contact points for students interested in starting a business. Awareness raising, training and coaching activities to strengthen business development skills reached more than 2,200 student participants. An inter-university competition for the best start-up idea in the field of renewable energy and energy efficiency has been created in all four universities. It includes various training and coaching formats and culminates in material and professional support for the winners. The third round was organised in January 2021. All four partner universities also fleshed out a project idea to particularly encourage women's entrepreneurship in renewable energies/energy efficiency.</li> </ul> <p>Information at: <a href="https://www.giz.de/en/worldwide/39287.html">https://www.giz.de/en/worldwide/39287.html</a></p>	GIZ, BMZ, KfW	This project is particularly focused on capacity building and knowledge sharing and creation. It develops not only the human resources capabilities but also the infrastructure that is needed for the knowledge transfer to take place. The Senegal Project could make use of the already created network and could also support the projects arising from the business incubators that have a climate change mitigation objective benefit from additional financial opportunities offered throughout this project.
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<p>PED: Program me Energie Durable</p>	<p>2017-2021</p>	<p>The Senegalese-German Program called 'Sustainable Energy Program (PED)' is funded by BMZ within the framework of bilateral cooperation with Senegal, for an amount of 13,760,000 euros. It is under the technical supervision of the Ministry of Petroleum and Energy (MPE) and has as an overall objective to improve the conditions for the implementation of sustainable energy services for climate protection. The PED, implemented by GIZ, intervenes at the strategic and operational level in the field of RE, vocational training, EE, the productive use of solar energy and rural electrification. Currently, activities have been planned and their implementation is underway with the collaboration of MPE partners (DEL, DSR, ANER, AEME, ASER). Information at: <a href="https://www.energie.gouv.sn/programme-energies-durables-ped/">https://www.energie.gouv.sn/programme-energies-durables-ped/</a> and <a href="https://www.giz.de/projektdaten/projects.action?request_locale=en_GB&amp;pn=201522176">https://www.giz.de/projektdaten/projects.action?request_locale=en_GB&amp;pn=201522176</a></p>	<p>BMZ/G IZ</p>	<p>The PED has an objective fully aligned with the present project. Learnings from this project implementation may be useful, since it is about to finish. Especially those related to technology and innovation gaps that need to be addressed yet and that the Senegal project could contribute to.</p>
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<p>PEEB: Program me Efficacit? Energ?tiq ue dans les B?timents</p>	<p>Under execution</p>	<p>Energy Efficiency in Buildings Program (AFD / GIZ): Supports Senegal in the development of energy efficiency in buildings with pilots in the sectors of health and education as well as training and support in regulatory aspects. Senegal is experiencing a period of strong construction activity, driven by its economic growth and rapid urbanization and is facing a demand for 322,000 new housing units, half of which (158,000) in Dakar alone. Senegal is pursuing ambitious construction projects, such as social housing, and a project for a new town in Diamniadio. This generates a high demand for energy. Already in 2007, it was estimated that a third of electricity consumption was due to air conditioning, due to the low energy efficiency of buildings. Information at: <a href="https://www.peeb.build/fr/countries/senegal">https://www.peeb.build/fr/countries/senegal</a></p>	<p>AFD, GIZ</p>	<p>EE applications in buildings as well as the use of innovative bioclimatic architecture techniques and technologies help save energy and thus reduce emissions. It is relevant to understand what opportunities for cleantech applications and innovations exist in the buildings sector, as well as to understand if the regulatory framework must be strengthened for this sector to include cleantech innovative ideas; these could be addressed through the Senegal Project.</p>
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<p>TYCCAO : Typha Fuel Construction Afrique de l'Ouest</p>	<p>2018- under execution</p>	<p>The Typha Fuel and Construction Project in West Africa (TyCCAO) aims to contribute to the ecological transition and the fight against climate change, by developing the use of renewable fuels and energy efficiency in buildings through the massification and dissemination of products made from Typha. This project is implemented by ADEME France. Information at: <a href="https://www.tyccao-typha.org/">https://www.tyccao-typha.org/</a></p>	<p>ADEME France</p>	<p>It is relevant to understand what innovative ideas can be derived from using Typha either as fuel resource or as a local product applied to bioclimatic architecture. This type of project could be eligible under the Senegal Project. Using biomass as energy source is one key priority of the NDC and helps mitigate emissions from the energy sector.</p>
<p>Sustainable Cities Project</p>	<p>Under execution</p>	<p>Sustainable Cities Project funded by GEF and implemented by the World Bank and UNIDO. The projects in Senegal (cities are Greater Dakar in Diamniadio Industrial Park and Saint Louis) aim to (1) integrate climate risks and other sustainability aspects in the planning and management process and (2) promote resource efficiency and cleaner production in industries, integrated waste management and sustainable energy use. Information at: <a href="https://www.thegpsc.org/country/senegal">https://www.thegpsc.org/country/senegal</a></p>	<p>GEF</p>	<p>This project could find synergies with the Senegal Project by putting in contact the start-ups accelerated with opportunities identified under the sustainable cities project.</p>

<p>ECOFRIDGES Senegal programme</p>	<p>2021-under execution</p>	<p>ECOFRIDGES Senegal (ECOWAS Refrigerators and Air Conditioners Initiative), is a new financing mechanism launched by the Agency for the Economy and Energy Management and the Department of the Environment and Classified Establishments in partnership with UNEP, BASE, Senelec, La Banque Agricole, Electronic Corp and SENFROID with the objective to ensure access to sustainable cooling. Energy efficient and environmentally friendly refrigerators and air conditioners will be widely accessible and more affordable in Senegal for households through a green credit refundable through WOYOFAL top-ups. In other words, the ECOFRIDGES Senegal is based on green consumer loans provided by La Banque Agricole to eligible SENELEC's Woyofal (pre-paid electricity service) customers and reimbursed through their electricity bills, in addition to their usual electricity consumption charges. Eligible customers will be able to choose a certified model of refrigerator or air conditioner through a partner vendor through the scheme. The project aims to leverage investment in energy efficient and environmentally friendly cooling solutions and to recycle existing devices. The initiative is financially supported by the Kigali Cooling Efficiency Program. Information at: <a href="https://energy-base.org/news/ecofridges-senegal/">https://energy-base.org/news/ecofridges-senegal/</a></p>	<p>UNEP, Kigali Cooling Efficiency Program</p>	<p>The ECOFRIDGES initiative has synergies with the present project as these cooling systems can be considered as a potential cleantech to be supported. They could be potentially applicable to SMEs as well, not only at domestic level.</p>
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<p>Universal Access to electricity ? SeforAll Senegal</p>	<p>Under execution</p>	<p>Operational Plan for Universal Access which aims to raise the electrification rate to 100% by 2025 (under PSE) with a call to private investors for the financing of mini solar power plants, particularly targeting rural areas which, as of 2019, have 48% access to electricity.  Information at: <a href="https://www.acces-universel-electricite.sn/vision-et-objectif.html?lang=fr">https://www.acces-universel-electricite.sn/vision-et-objectif.html?lang=fr</a></p>	<p>MPE, SEforAll</p>	<p>It directly promotes private sector investment in RE, therefore has clear links to the present project, in particular SMEs that offer solutions related to rural electrification. Projects identified could also be eligible to scale up or receive additional support under the Senegal Project, subject to meeting the applicability criteria.</p>
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<p>Green Secondary Cities Wastewater, Plastic Waste and WEEE Management: Innovative Business Model</p>	<p>2019-2022</p>	<p>Senegal already suffers from a chronic deficit of access to solid waste management services. The country produces over 2.4 million tons of solid waste per year, with a collection rate of 55%, below the sub-Saharan Africa average of 65%. To make pilot secondary cities (Touba, Tivaouane, and Dakar) greener and cleaner, the project will promote efficient and affordable waste recycling and valorisation business model. The project objective is thus to support Senegal's efforts to implement three of the guidelines for the development of green cities, to achieve integrated and environmentally sustainable waste management and the acceleration of green secondary city development. The project will bring lasting impact in the lives of populations in Dakar, Thiès and Diourbel through a range of interventions to improve efficiency in the whole cycle of waste management. The project will focus on three dimensions: (i) plastic waste; (ii) waste from electrical and electronic equipment (WEEE); and (iii) domestic wastewater.  Information at: <a href="https://gggi.org/project/project-reference-profiles-senegal2-green-secondary-cities-wastewater-plastic-waste-and-weee-management-innovative-business-model/">https://gggi.org/project/project-reference-profiles-senegal2-green-secondary-cities-wastewater-plastic-waste-and-weee-management-innovative-business-model/</a></p>	<p>Global Green Growth Institute (GGGI)</p>	<p>This project has an innovative approach to reduce waste and increase recycling or treatment by improving management processes. Learnings from the application of the business model proposed can be taken into account for the Senegal project, as well as what type of waste management projects are effective to address the problem and could find support through the Senegal Project.</p>
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<p>GCF Projects FP151 FP152 FP099</p>	<p>Under implementation</p>	<p>Green Climate Fund projects of interest include: FP151 and FP152 (essentially the same project but split in TA and Equity) focus on three main regions: Least Developed Countries, Small Island Developing States and African States. The mitigation target areas are (as per GCF classification): (i) buildings, cities, industries and appliances, (ii) energy generation and access, and (iii) forest and land use. The implementation periods are:</p> <ul style="list-style-type: none"> <li>●FP151 - Global Subnational Climate Fund (SnCF Global) ? Technical Assistance (TA) Facility (2020-2028)</li> <li>●FP152 - Global Subnational Climate Fund (SnCF Global) ? Equity (2020-2033)</li> </ul> <p>The goal of the Sub-national Climate Fund Global (SnCF Global or the ?Fund?) is to catalyse long-term climate investment at the sub-national level for mitigation and adaptation solutions through a transformative financing model. The SnCF Global?s business model is designed to attract primarily private institutional investment and to deliver certified climate and sustainable development impacts and nature-based solutions at global scale (SDGs, NbS). The subnational level is key: 70% of known climate solutions are located within the boundaries of subnational authorities. Significant additional investment is needed in this sector to achieve the climate goals of the Paris Agreement. The SnCF Global presents a positive disruptive solution on how subnational climate projects should be structured, de-risked, and funded by both private and public investors, while monitored and benchmarked at the highest level of rigor and quality. The Fund is designed to overcome project-level barriers and limitations in attracting private investment that leads to chronic underfunding of bankable mitigation and adaptation projects at the sub-national level, specifically at the deal size of USD 5 million to 75 million. Thousands of high merit sub-national projects are bypassed by commercial financing because investors prefer perceived safer and larger investments. The Fund firmly believes that GCF anchor funding and first-loss coverage will unlock both public investors and more importantly, private institutional investors. With GCF support, these investors have expressed willingness to co-invest. This is the first time an impact equity fund mobilizes public (20 %) and private sector (80%) funding at scale to de-risk sub-national middle-scale infrastructure projects.</p> <p>Link FP151: <a href="https://www.greenclimate.fund/project/fp151#overview">https://www.greenclimate.fund/project/fp151#overview</a>  Link FP152: <a href="https://www.greenclimate.fund/project/fp152">https://www.greenclimate.fund/project/fp152</a></p> <p>The FP099 Climate Investor One (2018-2039) aims at providing financing to develop renewable energy projects in regions with power deficits to reduce energy costs and CO2 emissions. The 11 countries in this initiative are identified as experiencing sizable energy deficits while also being overly reliant on fossil fuels. A major constraint in clean energy investment is a lack of early-stage project financing, combined with insufficient domestic and overseas financing to support the creation of domestic renewable energy markets at scale. Climate Investor One (CIO) is a blended finance facility. The first component of this programme is a development fund, which provides loans in the early stage of a project life cycle. The second component, a construction equity fund, will meet up to 75 percent of total construction costs in tandem with the project sponsor. Compared with conventional project financing, CIO removes the need for</p>	<p>GCF, Private sector</p>	<p>Of particular interest for the present project is the Sub-national Climate Fund which aims to catalyse investment for mitigation (and adaptation) which would not be financed by traditional commercial financing options due to the perceived risk and/or project size. This approach is similar to the one followed by the Senegal Project and complementarities and synergies could be explored between the two models. It includes projects based on RE for energy supply and access.</p>
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Water and Energy for Food (WE4F)	Under implementation	<p>This is a regional programme focused on West Africa that is aimed at supporting private sector SMEs that develop and distribute innovations that answer the local needs for climate-friendly, water- and energy-efficient technologies that enable improved agricultural production, as well as to strengthen the agriculture water and energy sectors resilience and adaptive capacity. WE4F will offer them the opportunity to scale up their businesses and develop their entrepreneurial capacity by strengthening their management and business skills, funding companies through PPPs, improve access to financing options, and training both private sector and financial actors. In addition, the enabling environment is improved by interventions on the policy-making processes. Pilot projects are also supported by this programme.</p> <p>Link: <a href="https://we4f.org/west-africa-regional-innovation-hub">https://we4f.org/west-africa-regional-innovation-hub</a></p>	Funding partners include German cooperation, the EU, Gov. of the Netherlands, Sweden and USAID	Synergies with this programme can be found to complement the financing opportunities for local SMEs and entrepreneurs of the agricultural sector
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41. The Private Financing Advisory Network (PFAN) is an initiative jointly hosted by UNIDO and the Renewable Energy and Energy Efficiency Partnership (REEEP); it consists of a global network of climate and clean energy financing experts that offer business coaching and investment facilitation to entrepreneurs developing climate projects in emerging markets. PFAN mobilizes private financing to reduce GHG emissions and build climate resilience ? contributing to Paris Agreement and SDGs i.e., SDGs 7 (Energy), 9 (Industry), 13 (Climate Action), and 17 (Partnership). A network of ninety-nine (99) in-country private sector experts in 39 countries are supported by a network of forty-five (45) investment partners globally to provide investment advisory services, investment facilitation and financing. Currently, a pipeline of hundreds of projects across the globe are supported by PFAN. In 2021, PFAN has facilitated at least 69 investment-ready projects. To date, PFAN-supported projects have leveraged more than 2 billion in investment. Further analysis shows that through this investment, 3.3 million tonnes of CO2 have been mitigated annually and an additional 975 MW of clean power installed.

42. The current project will seek to synergise and build linkages with the above-mentioned project and initiatives. In addition, as previously mentioned, strong synergies will be secured with the GCIP Programme ? i.e. the GEF-UNIDO Global Cleantech Innovation Programme (GCIP), GEF ID 10408. The Senegal Project, despite not being part of the programme, will take advantage of the knowledge created under its Global Child project, such as guidelines and methodology, and will be linked to certain activities offered under the programme, as detailed in the activities section. Finally, the Senegal Project will leverage lessons learnt and experience gained from previous GCIP experiences as mentioned above and as reflected in the Project Components, Outcomes and Outputs. The project design addresses the findings and recommendations of the Independent Evaluation Office (IEO) "Evaluation of the GEF-UNIDO Global Cleantech Innovation Programme 2018" (link: <https://www.geficio.org/evaluations/cleantech-programme-2018>).

43. In the absence of the proposed project, the STI policies in Senegal are likely to remain fragmented, and Senegal?s cleantech innovation ecosystem will lack the capacity to systematically identify and support innovative cleantech SMEs, products and solutions for market entry. In addition, the early-stage cleantech SMEs will not receive the business growth and investment facilitation support needed to increase their likelihood of transforming cleantech innovations into technically and commercially viable products ? thus reducing their potential to contribute towards CO2 emission reductions. What is more, without ecosystem develop support, local institutions will likely lack the capacity to adequately support cleantech SMEs. Overall, it will be more difficult for the country to take advantage of the opportunity to engage the private sector, especially cleantech SMEs, in leading the transformative change towards a sustainable and low-carbon development trajectory. This project will

help cleantech enterprises (SMEs and start-ups) in Senegal to develop and scale-up and will increase market adoption of cleantech innovations, thus leading to a reduction in emissions and resource consumption. Furthermore, it will facilitate increased investment, job creation and market development.

### **3) the proposed alternative scenario with a brief description of expected outcomes and components of the project;**

44. The proposed alternative scenario will entail the implementation of the project: "Promoting Cleantech Innovation for Climate Action in Senegal" (i.e., the Senegal Project), which aims at supporting cleantech enterprises (SMEs and start-ups) in Senegal to develop and scale-up, thereby increasing market adoption of cleantech innovations (products, business models and services) and ultimately leading to a reduction in carbon emissions in key sectors of the economy. Furthermore, it will facilitate increased investment in innovative technologies, job creation and market growth.

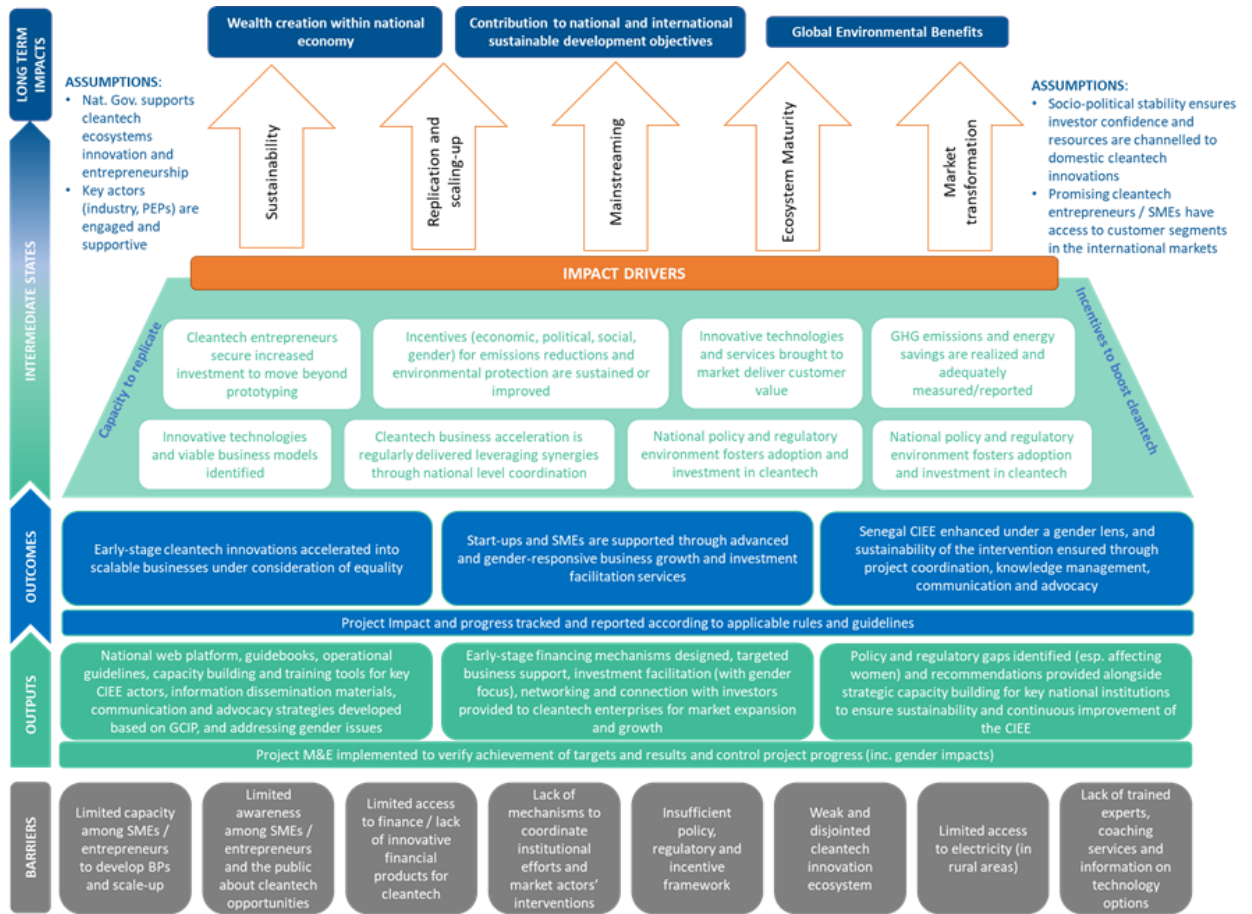
45. In terms of implementation arrangements, the DEEC (Direction de l'Environnement et des Etablissements Classés) within the MEDD (Ministère de l'Environnement et du Développement durable - Ministry of Environment and Sustainable Development) will have the role of national Project Executing Entity (PEE) and will host the Project Management Unit (PMU). Project Executing Partners (PEPs), identified and contracted following any applicable national rules when the project starts, will be engaged in some project activities.

#### **Project Approach**

46. The project seeks to strengthen and connect the CIEE in Senegal by: (i) identifying and nurturing early-stage cleantech innovations to turn them into fast-growing, scalable and investable enterprises; (ii) strengthening the capacities of national institutions and other ecosystem players and improving their interconnectivity; (iii) supporting and working with national policy makers to strengthen the policy framework to support cleantech SMEs.

47. In addition, through linkages with the GCIP, the project will give Senegalese cleantech SMEs the opportunity to connect with cleantech ecosystem actors regionally and globally, thereby promoting co-innovation, exchange of lessons, cross-fertilization of ideas and investment mobilisation. Indeed, the project will benefit from the coordination support, tools and training provided by the GCIP. In addition, for specific activities, the national executing entity could receive the aid of the service providers operating under the GCIP. This will ensure that the same level of assistance provided to the SMEs accelerated under the GCIP is offered to Senegalese entrepreneurs.

48. Through the GEF grant funding the project will catalyse investments to support and accelerate technologies, products and services by cleantech SMEs towards commercialization and mobilizing investment to scale-up. Accordingly, the project is structured into three components: PC1) Transforming early-stage innovative cleantech solutions into scalable enterprises; PC2) Cleantech innovation and entrepreneurship ecosystems (CIEE) strengthening and connectivity; and PC3) Knowledge management and project coordination. These components' outcomes and outputs interconnections with the barriers they intend to address as well as with the expected impacts the project aims at generating are depicted in the Theory of Change in Figure 5 below.



**Figure 5: Theory of change**

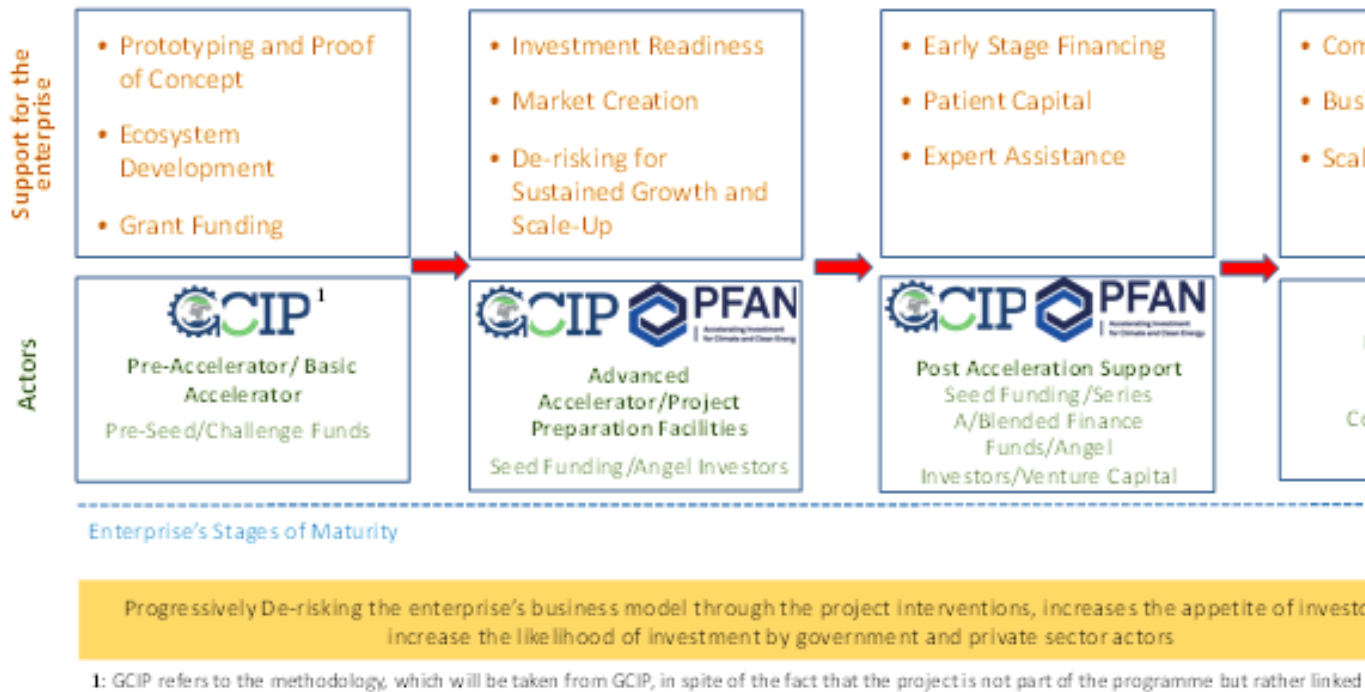
The entrepreneurs (start-ups and SMEs) in Senegal face several barriers, as described in the section a) ?the global environmental and/or adaptation problems, root causes and barriers that need to be addressed?. These barriers include: limited enabling policy and regulatory framework, limited access to early-stage finance, limited public awareness of the potential for cleantech, shortage of entrepreneurial skills as well as of coaching and training services, and lack of strategic coordination among key CIEE players, as pictured on the bottom of the graph above. Limited access to electricity may also be a barrier for the rural areas to innovate.

In order to alleviate the above-mentioned barriers, the Senegal Project focuses on the following lines of intervention (outputs): 1) adaptation of GCIP guidebooks; training and certification of a pool of cleantech innovation and entrepreneurship experts (trainers, mentors, judges); organization of five cycles of the annual competition-based Senegal Cleantech Accelerator; 2) provision of targeted business growth support services to selected cleantech enterprises; connection of enterprises to financing opportunities and provision of tipping-point investment facilitation support; provision of mentoring and partnership support to cleantech enterprises for global market expansion; provision of investment mobilization support; 3) institutional capacity building of the CIEE actors; development of cleantech innovation and entrepreneurship policies, regulations and recommendations; promotion of linkages, collaboration, and synergies across CIEEs; 4) adaptation and implementation of the guidelines for project management teams developed under the GCIP; adaptation and implementation of the programme-level knowledge management, communication and advocacy strategy; creation of the Senegal Project web platform; adaptation and application of the GCIP methodology for impact assessment; tracking and reporting of project activities based on the GCIP monitoring and evaluation (M&E) framework; and external mid-term and terminal evaluation.

IF the above listed outputs are successfully realized; THEN: innovative cleantech is brought to market to deliver customer value, GHG emissions mitigation and energy savings are realized and adequately measured/reported, cleantech entrepreneurs secure increased investment to move beyond prototyping, incentives (economic, political, social) for emission reductions and environmental protection are sustained or improved, innovative technologies and viable business models are identified, cleantech business acceleration is regularly delivered in a context leveraging synergies through national-level coordination, and national policy and regulatory environment fosters cleantech investment and adoption; BECAUSE: cleantech solutions with high-impact potential are supported to reach commercialization, start-ups and SMEs are supported through advanced and gender-responsive business growth and investment facilitation services, the CIEE in Senegal is strengthened and interconnected, and the efficiency and sustainability is ensured through coordination and coherence with other similar projects (GCIP Child projects and other GCIP-linked projects), as well as impacts and progress are tracked and reported.

Ultimately, the project will deliver multifaceted environmental and socio-economic high-level impacts (benefits), including job and wealth creation, energy savings, and GHG emissions reductions.

49. For Component 1, the approach that the project will adopt, in line with the GCIP framework, is to accelerate innovations that have highest GHG emissions reduction potential and have highest chances of going to the market through a number of phases and together with its partners like PFAN, continually de-risks the enterprise's business model in order to increase the likelihood of investor interest. This is important to note since the sources of investment that the GCIP start-ups are able to mobilize depend on the alignment of the institutions' priorities that have shown interest in investing.



**Figure 6: Start to Scale-up Journey, De-risking for Investment Readiness**

50. The objective underpinning the linkages established between GCIP and PFAN is to offer the ventures supported by the child projects a continuum of support services as they mature towards commercial viability and scaling up. GCIP combines a top-down (policy support) with a bottom-up (support for home-grown innovation) approach. It is technology-neutral, and its TOC is grounded in sustainability (incl. energy) transition theories and as such, the type of innovations that are supported are not pre-determined. The final investment decisions are made between the start-up and the investor once they find common value. A start-up may have several investors mixing public and private financing. The connection between the country child project and the Global project enables investors at a global level to also access start-ups from each country i.e., through activities like Investor Connect, National Forums and the Global forums.

51. The Senegal Project will adopt an inter-disciplinary and holistic approach by engaging several stakeholders such as start-ups, SMEs, national ministries and institutions, academia and research centres, business associations, financing institutions, foundations, venture capitalists and utilities within and beyond West Africa. The project will closely coordinate with GCIP, as well as other similar national and international efforts, as it is critical to maximize synergies and share knowledge and best practices that can help in enhancing entrepreneurs' contributions towards climate change mitigation, while increasing productivity and generating growth and wealth. UNIDO's extensive experience in implementing GCIP country projects over the years ensures investors' confidence in the quality and chances of success of the cleantech enterprises supported. This is in light of almost 10 years of experience and proven track records, as well as a brand that is recognized and trusted internationally by investors. Moreover, the project will ensure an immediate integration of the Senegal's CIEE and the supported entrepreneurs in a global network of cleantech developers and investors.

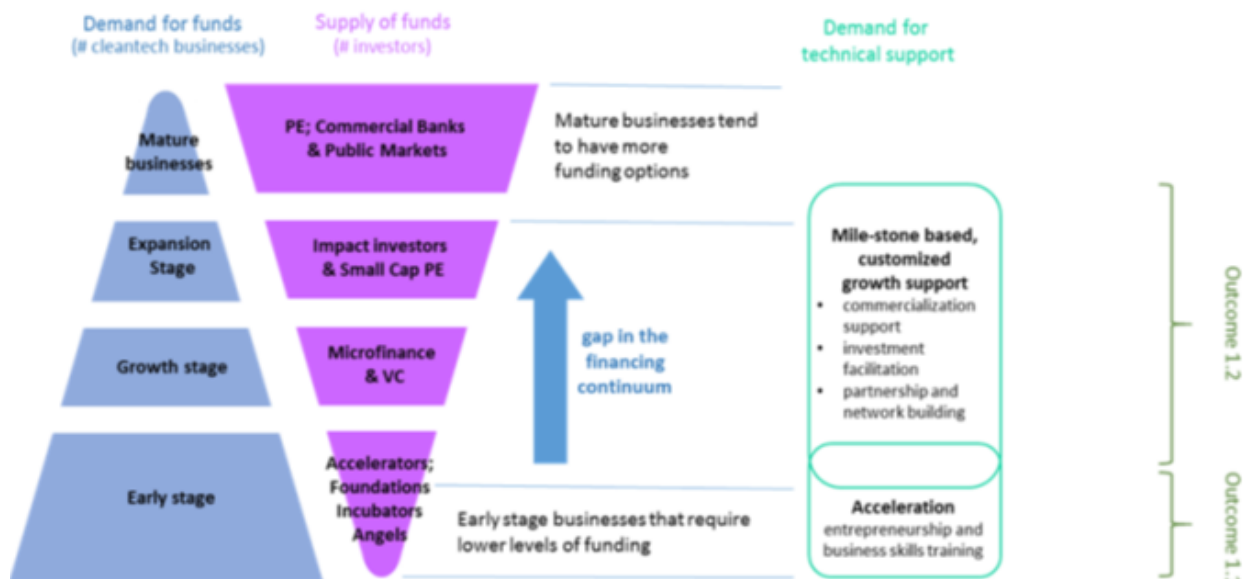
### Project Description

**COMPONENT 1:** Transforming early-stage innovative cleantech solutions into scalable enterprises

52. Component 1 aims at identifying innovative cleantech solutions and business model ideas, providing direct support to early-stage enterprises to enhance their capacity and competitiveness, and to



leverage market opportunities. More specifically, Outcome 1.1 focuses on entrepreneurial training and business acceleration support for early-stage businesses, while Outcome 1.2 focuses on providing technical assistance for cleantech SMEs at a growth stage that demonstrate market traction and sales evidence, to access investment facilitation services and can therefore benefit from specialized support. Investment facilitation and mentoring services will be targeted towards financing, piloting and commercialization. The diagram below (Figure 6) shows the types of assistance required by cleantech enterprises, depending on their stage of growth.



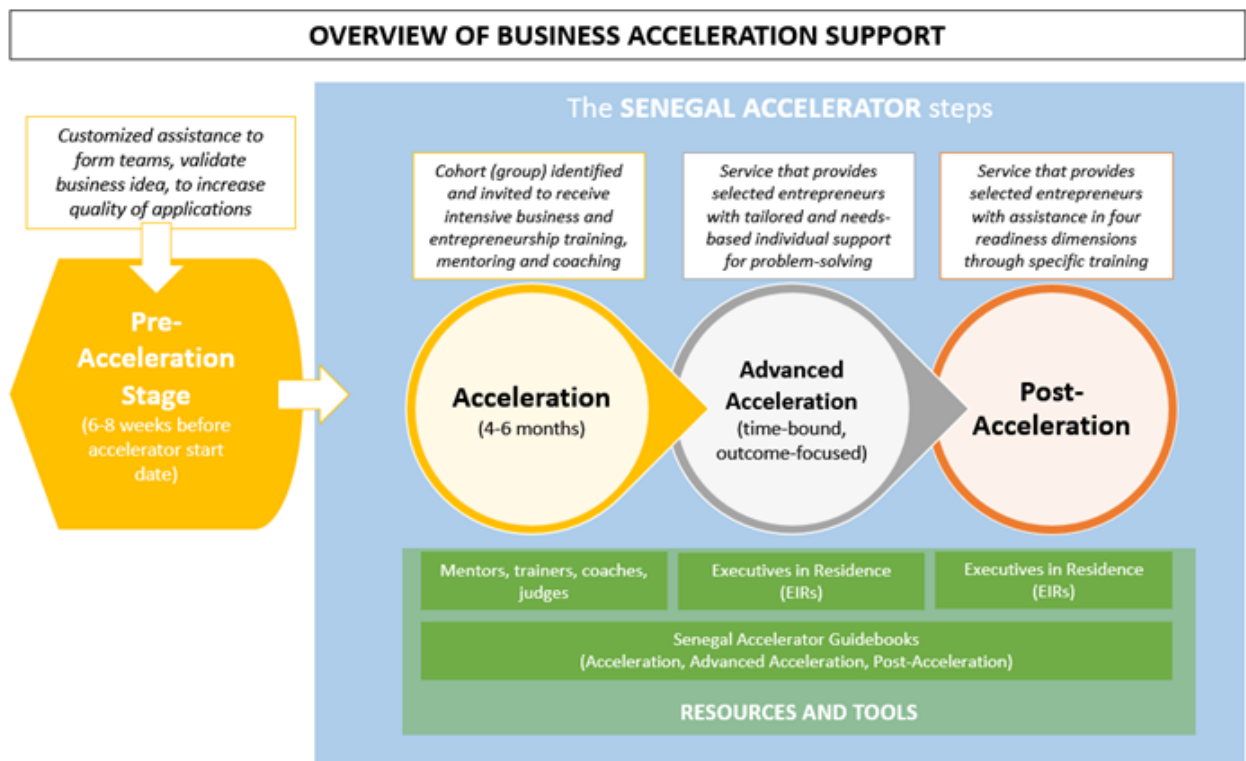
**Figure 7: SMEs Demand for funds and technical support depending on their stage of development**

53. The PEE will collaborate with other entities to conduct the activities under this C1:
- An accelerator hub which would run the activities related to acceleration, depending on the capacity of the PEE and the PEP;
  - A fund manager, to manage the funds disbursement to the accelerated companies;
  - University incubators to ensure project pipelines targeting cleantech are included (to be defined but interest from several universities has been identified during PPG);
  - An International Consulting Company (ICC), to be contracted by the PEE to ensure quality and consistency of the Senegal Project with the GCIP.
54. The Acceleration process will follow a stepwise approach that will consist of the following steps, summarised in **Figure 8**:
- The Pre-Acceleration stage consists of activities that enable the formation of early-stage teams and help them in developing/validating initial concepts (i.e., proof of concept). This type of support includes workshops, hackathons, start-up camps, and mini-competitions. The Pre-Accelerator takes place before the launch of the main Accelerator, leading to an increased number of high-quality applications.
  - The Accelerator is a four to six-month curriculum designed specifically to support cleantech innovators to develop viable business models and transform their ideas into fast-growing scalable and investable enterprises. Through the Senegal Cleantech Accelerator, a cohort of cleantech innovators with a high-impact potential is identified and invited to receive intensive business and entrepreneurship training (as a group training), mentoring, and coaching based on the state-of-the-art international

expertise, in particular with the aim to a) improve their business skills and investor pitch, b) connect them to potential business partners, financiers, and investors, and c) maximize the expected net climate benefits of their solutions.

c. The Advanced Accelerator is a service primarily offered to selected entrepreneurs that have participated in the Accelerator but is also open to SMEs or entrepreneurs that already have an established business but are looking for further support. It is focused on providing tailored and needs-based individual support rather than a group training, mentoring, and coaching. The Advanced Accelerator is time-bound and outcome-focused, i.e., there are concrete milestones that need to be achieved within a specific timeframe. The support is provided by one or several Executives in Residence (EIR) that are senior practitioners (executives or entrepreneurs) with hands-on experience in scaling up cleantech enterprises, and it is focused on problem-solving, i.e., tackling very specific operational, financial, and strategic issues.

d. The Post-Accelerator provides entrepreneurs with assistance in four related but not necessarily linear dimensions: advanced business growth and commercialization, investment readiness, market readiness, and technology readiness. More specifically, a series of trainings (on corporate partnerships and government relationships, international market entry, mergers and acquisitions, exit strategy, challenges specific for selected industry sectors, etc.), needs-based activities, and support in technology verification, product development, and testing facility are offered. As in the previous step, these could be SMEs or entrepreneurs they have gone through all the acceleration process or not.



**Figure 8: Overview of the Senegal Cleantech Accelerator steps**

Outcome 1.1 Early-stage cleantech innovations are accelerated under consideration of equality

55. Early-stage cleantech innovations with high impact potential (in terms of climate change mitigation potential and other environmental and social benefits, such as for the benefit of women and gender equality) will receive business acceleration support for increased market and investment readiness. To enable this, a set of guidebooks and tools will be developed for the Senegal project, based on the GCIP Global Project guidelines (GEF Project ID 10408), for operation and management of the



accelerator at a national level (the 'Senegal Cleantech Accelerator') and its complementary activities, which will provide the reference framework for conducting the accelerator.

56. The selection criteria for cleantech innovations to receive support will be determined in alignment with the national priorities outlined in the Plan Senegal Emergent (PSE), the Nationally Determined Contributions (NDC) targets, and any other key policies and strategic documents identified in consultation with key stakeholders. It will be also aligned with GEF 7 programming directions.

Output 1.1.1 Based on GCIP, guidebooks are developed for Senegal (including mapping of cleantech solutions, identification and prioritization of actions in accordance with national strategies for climate change and energy)

57. Accelerator guidebooks, consisting of practical tools and guidelines for the operation and management of the national Accelerator in Senegal, will be developed. These will be based on the GCIP guidebooks that are to be elaborated under the GCIP Global Project, which are comprehensive documents that articulate the GCIP approach to promoting cleantech innovation and entrepreneurship in developing countries. The GCIP guidebooks will be adapted for the local context of Senegal's cleantech ecosystem including market conditions, policy environment, development priorities, technology priorities, local examples etc., which can be, a priori, taken from the following reference documents:

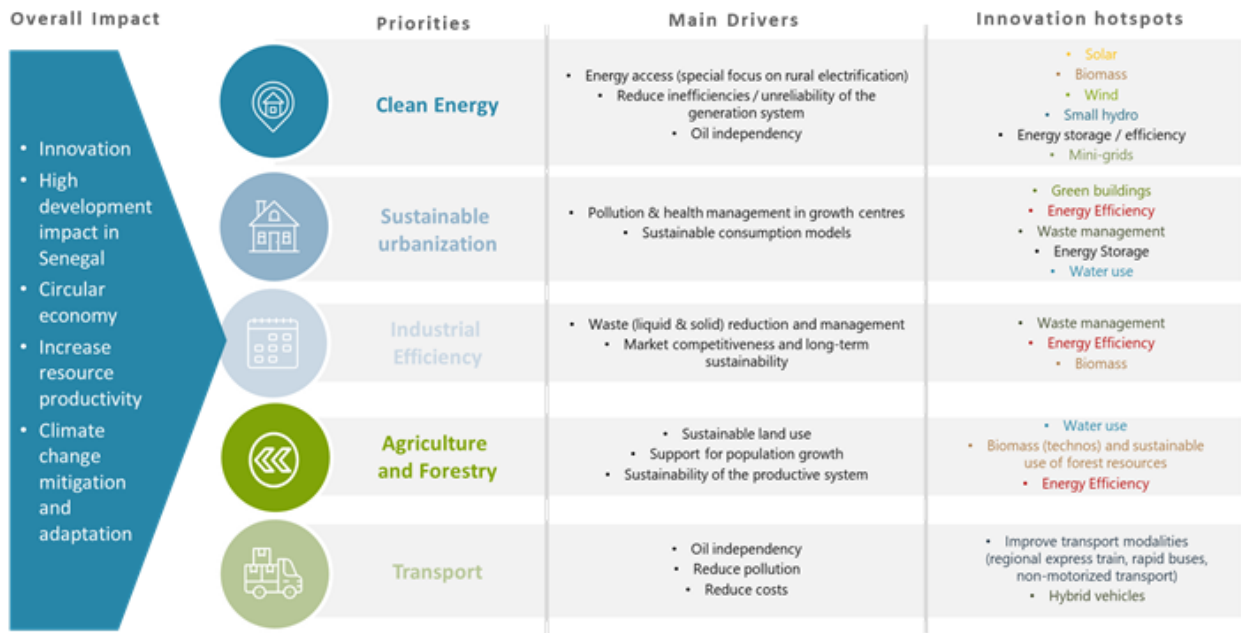
- a. the Start-up Act, which was issued in Jan. 2020 with the aim of promoting start-ups in Senegal based on creativity, innovation, the use of new technologies, the achievement of high added value as well as competitiveness at the national and international level. The Act offers a set of incentives and benefits for new companies to be established in Senegal.
- b. the national objectives set in the PSE (plus its corresponding Priority Action Plan), which provides the overall framework, vision and targets for the sustainable development of the country until 2035, with specific emphasis on key sectors of the Senegalese economy (agriculture, energy, and others).
- c. the NDC, the National Renewable Energy Action Plan (NREAP) and the National Energy Efficiency Action Plan (NEEAP), the Energy Sector Policy Letter 2019-2023 and the Decision N°2018-09 for distributed RE NET-FIT scheme.

58. In total, three (3) Senegal Cleantech Accelerator Guidebooks will be developed, guiding the operation and management of i) Accelerator; ii) Advanced Accelerator; and iii) Post-Accelerator. These guidebooks will define the scope, criteria and awards categories of the acceleration support. In addition, the guidebooks will indicate schedule and timeframe for the Accelerator cycles and include any other eligibility requirement and selection criteria for the participants (e.g., incentives to encourage women-led start-ups participation), competition rules, training curricula and handbooks for the applicants and experts (mentors, trainers, judges) and Executives in Residence (EIRs).

59. The PEE will adapt the GCIP Global Project Guidebooks with support from an ICC (which will provide training on their use) to reflect the cleantech innovation and entrepreneurship ecosystem (CIEE) context of Senegal, including and taking into consideration the previously described aspects, for each acceleration stage (as mentioned above). The guidebooks will be finalized in consultation with the government, business and civil society organizations, and other relevant stakeholders in the CIEE to guarantee their alignment with their priorities and in line with the country's innovation potential. The entity responsible for the development of the Senegal Cleantech Accelerator Guidebooks will make sure that they are gender responsive, avoid gender stereotypes and provide recommendation to enhance and ensure gender equality in the accelerator programmes. The PEE will be in charge of maintaining the guidebooks up to date for the remaining implementation period.

60. In the first phase (i.e. the first 1 or 2 cycles), the technology focus is expected to be mostly placed on cleantech ideas and initiatives that tackle two key critical sectors of the Senegalese economy: (i) agriculture sector, enabling adoption and development of cleantech solutions to increase productivity and reduce carbon emissions; and (ii) energy sector, developing innovative solutions to improve energy efficiency, reduce energy consumption, and broaden energy access through renewable sources. The scope may be amended depending on: (i) results of the first cycle, (ii) actual demand and

potential of the sectors, and (iii) changes to the national strategic objectives and targets. In the baseline assessment, opportunities (?innovation hotspots?) have been identified not only in the agriculture and energy sectors but also in other relevant sectors of the Senegalese economy, as captured below in Figure 8. Innovative solutions applicable to other sectors in addition to the agricultural and energy sectors will be also taken into account and evaluated and will be prioritised following the criteria and rules set for the Senegal Cleantech Accelerator.



**Figure 9: Identified innovation hotspots in Senegal in different sectors**

61. The achievement of the highest possible impact potential of the Senegal project is conditional on the appropriate assessment of the CIEE's strengths and weaknesses, followed by an optimal design of the Senegal Cleantech Accelerator, Advanced Accelerator, and Post-Accelerator, in line with national gaps/needs and advantages identified. While a thorough analysis of the CIEE in Senegal will be carried out under Output 2.1.1, a focused assessment of the landscape and capacities of potential applicants (start-ups, SMEs), expert (mentors, trainers, judges), and other accelerators? alumni will be conducted under this Output by the PEE.

62. In addition, in the first year of the Senegal project, the possibility of incorporating a National Innovation Challenge into the Senegal Cleantech Accelerator, as from the second year, will be investigated by the PEE by partnering with private sector corporations. The goal is to design targeted and immediately deployable solutions to challenges faced by the private sector.

Output 1.1.2 A pool of cleantech innovation and entrepreneurship experts (trainers, mentors and judges) is trained and certified to support the Senegalese cleantech innovation and entrepreneurship accelerator (15-30 experts accredited, at least 35% women)

63. Developing a pool of cleantech innovation and entrepreneurship experts to act as trainers, mentors (generalists and specialists), and judges is critical for ensuring the effectiveness of the Senegal Pre-Accelerator, Accelerator, Advanced Accelerator, and Post-Accelerator. The delivery of the accelerator curriculum and the facilitation of connections to financing strongly depends on the capacity of these actors. The experts are also key stakeholders in the Senegalese CIEE, and they are expected to positively influence the cleantech innovation and entrepreneurship initiatives at the global level. Furthermore, they will ensure the long-term sustainability of the Senegal Project.

64. The cleantech innovation and entrepreneurship expert training and certification system to be developed under the GCIP Global project will be taken as reference to develop the one for Senegal.

The system will include training curricula/materials, guidance on the training delivery methods, as well as certification requirements, all of which will be tailored to the needs of the different expert groups (trainers, mentors, judges). Also, through the connections to be established with the GCIP Global Project, the system will encourage increased participation of the GCIP alumni as experts that already have past experience in GCIP projects in other countries.

65. The cleantech innovation and entrepreneurship expert training and certification system will be reviewed by the entity responsible for running the Accelerator and feedback will be provided. Similarly to the acceleration guidebooks, the PEE, in collaboration with an ICC, will adapt the training system for the Senegal Cleantech Accelerator in year 1, so that it reflects the market, business, policy and investment climates. This will be done with a view to address specific national needs and ensure synergies with other existing training and certification systems. The PEE will be responsible for maintaining the documents up to date.

66. For the operationalization of the training and certification system, the experience and learnings from the GCIP Global project will be taken into consideration. An ICC will support the PEE in the first year of operationalisation, including webinars and guidance on the provision of the first cycle (with potential follow-up in the second year). A total of 15-30 experts (trainers, mentors, judges) will be trained and certified, with at least 35% being women (a strategy to promote and encourage gender mainstreaming will be designed).

67. The training of the experts will take into consideration a gender-responsive approach and they will be asked to complete a capacity building webinar on gender topics. The suggestion is to do the 'I know gender?' UN Women online training. If this is not available at the time of project execution, a similar training will be identified.

Output 1.1.3. Five (5) annual cycles of the national competition-based cleantech innovation and entrepreneurship accelerator conducted

68. Five annual cycles of the competition-based cleantech innovation and entrepreneurship accelerator will be conducted in Senegal at national level, following the guidebooks and tools developed under Output 1.1.1. The Senegal Cleantech Accelerator will follow a similar timeline to the GCIP accelerator in the countries under the GCIP. The Senegal Cleantech Accelerator will be a 4-to-6-month curriculum designed specifically to support cleantech innovations from Senegal to develop viable business models and grow into solid cleantech enterprises. The Senegal Cleantech Accelerator is expected to support approximately 25 enterprises/start-ups per cycle (i.e., 125 in total over the 5 cycles). Through the Senegal Cleantech Accelerator, a cohort of cleantech SMEs with high-impact potential will be identified and invited to receive intensive business and entrepreneurship mentoring and coaching to accelerate their growth as businesses. Support is provided to improve their business skills and investor pitch and in connecting them to potential business partners, financiers or investors. The goal is for participating enterprises/start-ups to validate, among others, their market, product and technology, therefore facilitating investment and scale-up. The tailored mentoring programme combines international and national expertise with carefully chosen mentors to support the entrepreneur teams. Specific guidance will be provided to help the enterprises maximize their potential climate benefits and to minimize any negative environmental or social impacts identified, particularly relating to local climate risks.

69. The timeline for the national Accelerator cycles of Senegal will be guided by a general timeline recommended by UNIDO that aims to leverage the ongoing cycles across the global programme and allow Senegal to align with some GCIP-wide activities (e.g., online webinars, participation at the global forum, etc.) that could be of benefit for the implementation of the Senegal project.

70. Before running the Accelerator cycles, there will be a Pre-Acceleration phase where customized assistance will be delivered in order to develop a pool of potential applications prior to the launch of the Accelerator. This phase enables the early-stage teams in their pipeline to develop their initial concepts, team and communication. Pre-Accelerator support will be provided to around 50 entrepreneurs each year that would normally not qualify for the Accelerator, so that a pipeline of suitable high-quality projects is generated. The Pre-Accelerator will be, a priori, a 10-day virtual

programme held each year, 6-8 weeks prior to the Senegal Cleantech Accelerator application deadline. Depending on the context (in particular, regarding the COVID-19 pandemic), it will be evaluated whether part of the activities will be conducted in-person.

71. An ICC will support the PEE in establishing and conducting the first cycle of the Senegal Pre-Accelerator, Accelerator, Advanced Accelerator, and Post-Accelerator. The assistance will be phased out in the second and third cycles, as it is expected that the relevant national institutions will be capacitated and skilled to be fully independent in the next years.

72. Throughout the project, the PEE will have access to a helpline established by UNIDO for queries on the GCIP accelerators and/or general troubleshooting. The help line will combine online tools (wiki, forums, knowledge base, FAQs, etc.) and live calls or chats with an experienced global team member. UNIDO will aid and coordinate with GCIP for the provision of such support.

73. The outreach and communication activities related to the launch of and calls for applications for the annual Senegal Cleantech Accelerator cycles will be led by the PEE, with involvement of local business associations (especially those dedicated to encouraging women-led businesses and entrepreneurship) and Universities? incubators that would like to get involved, to enlarge and improve the potential project pipeline. The Universities that have been reached during PPG phase and that showed interest are Gaston Berger University (Saint-Louis), Alioune DIOP University of Bambey (Bambey), Assane SECK University of Ziguinchor (Ziguinchor), Ecole Polytechnique de Thi?s (Thi?s), ESP - Ecole Superieur Polytechnique, University of Dakar (Dakar). It is expected that each Senegal Cleantech Accelerator cycle will generate around 25-30 semi-finalists and 5-8 finalists will be selected to receive post-accelerator support each year, and ultimately, winners and runners-up will be identified. The selection of winners, runners-up, finalists, and semi-finalists will be made by judging panels based on their evaluation of the business plans and/or pitches delivered by entrepreneurs with the support from their trainers and/or mentors. The 5-8 finalists will make it to the Senegal GCIP Forum, and during that event, 2-3 winners will be awarded a prize.

74. As previously mentioned, as energy and agriculture have been identified as key sectors responsible for more than two thirds of GHG emissions in the country, and at the same time as sectors with potential to contribute the most to economic growth of the country, the Senegal Cleantech Accelerator will initially place emphasis on SMEs/start-ups with innovations that fall under one of those two focus areas. Clean energy and agriculture technology categories are in line with GEF-7 priorities.

75. In the second and third year, the Senegal Cleantech Accelerator might be expanded thematically to other cleantech categories (see Figure 8). However, the potential benefit of the thematic extension of the accelerator will need to be counterbalanced with the need for standardization and benchmarking. In addition, in the first year of the Senegal Cleantech Accelerator different prize categories will be considered, e.g., for overall sustainability, circularity, or gender (the latter, gender, must be a prize category).

76. In general terms, priority will be given to innovations with significant GHG reduction potential, which will be determined through the reduction potential of the innovation (technology or business model) itself, and the estimated market and business potential which will determine the uptake of the innovation. Accordingly, selection criteria of the Accelerator will include a threshold for the projected environmental impact per USD for supported technologies.

77. Women (and youth) empowerment and entrepreneurship will also be a key consideration in the selection process into the Accelerator. Throughout all cycles of the Senegal Cleantech Accelerator, special attention will be paid to gender mainstreaming activities, as outlined in the Draft Gender Mainstreaming Action Plan (Annex I). These include: (i) recruitment of women trainers, mentors, judges; (ii) efforts to ensure that women and men are given equal opportunity to lead, access, participate in and benefit from the project; and (iii) awareness raising on the relevance of ensuring gender equality. The project will also seek to ensure women empowerment through (i) specific training and mentoring to promote women innovators, entrepreneurs, start-ups, cleantech experts; and (ii) design of specific prizes and follow-up support programmes for innovative start-ups that have a significant impact on women?s entrepreneurial development and gender responsive employment

creation. What is more, the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP) will be strictly followed.

78. There will be an annual Senegal Cleantech Forum conducted with appropriate guidance provided by the GCIP on its successful execution and integration with the annual GCIP Global Forum, including themes and private sector participation.

**Table 7 Outcome 1.1 Activities and responsibilities**

Activity	Detail	Responsibility	Budget (in USD)
Output 1.1.1: Based on GCIP, guidebooks are developed for Senegal (including mapping of cleantech solutions, identification and prioritization of actions in accordance with national strategies for climate change and energy)			
1.1.1a	to review the GCIP guidebook for Accelerator, Advanced Accelerator and Post-Accelerator; to share suggestions (5-10) for improvement of the GCIP guidebooks (feedback loop)	PEE (supported by ICC)	3,259
1.1.1b	to adapt the GCIP guidebooks (3: 1 for Accelerator, 1 for Advanced Accelerator, 1 for Post-Accelerator) based on the revision done in 1.1.1a, to reflect the context of Senegal's CIEE, including market conditions, policy environment, development priorities, technology focus, local examples, etc.	PEE (supported by ICC)	11,134
1.1.1c	to organize information dissemination events and consultation sessions with relevant CIEE stakeholders; to disseminate the Senegal Guidebooks among relevant CIEE stakeholders (800-1200 people)	PEE	8,109
1.1.1d	to conduct an assessment of the landscape and capacities of potential applicants (start-ups, SMEs) to the Senegal Cleantech Accelerator and experts (mentors, trainers, judges, including those that have participated in the GCIP countries)	PEE	8,109
1.1.1e	to develop a calendar of all planned events and investigate the possibility (with 3-7 corporate partners) of incorporating a National Innovation Challenge into the Senegal Cleantech Accelerator (as from second year)	PEE	3,609
In light of the fact that the Senegal Project is linked to the GCIP, it will have access to a number of services provided under GCIP Global Child Project. These are: 1) GCIP guidebooks for Accelerator, Advanced Accelerator, and Post-Accelerator, including e.g., proposed schedules; eligibility requirements and selection criteria for the participants; competition rules; training curricula and handbooks for applicants, experts (mentors, trainers, judges), and EIRs; 2) tools for a) assessment of needs of Senegalese entrepreneurs (applicants, participants, and alumni), b) planning and monitoring of key Senegal events; 3) the developed (including the identification of interested corporate partners) and piloted the Global Innovation Challenge as part of the GCIP Global Accelerator (as from 2022).			
Output 1.1.2: A pool of cleantech innovation and entrepreneurship experts (both women and men trainers, mentors and judges) is trained and certified to support the Senegalese cleantech innovation and entrepreneurship accelerator (15-30 experts accredited, at least 35% women)			
1.1.2a	to revise the GCIP cleantech innovation and entrepreneurship expert training and certification system;	PEE	7,381

1.1.2b	to adapt the GCIP cleantech innovation and entrepreneurship expert training and certification system to the national circumstances (i.e., to develop the Senegal cleantech innovation and entrepreneurship expert training and certification system)	PEE (supported by ICC)	8,068
1.1.2c	to operationalize the training and certification system	PEE	11,730
1.1.2d	to provide support to PEE with the GCIP certification of national experts	PEE (supported by ICC)	5,076
1.1.2e	to provide training and certification for 15-30 experts (trainers, mentors, judges) with at least 35% being women (i.e., at least 3 trainings with approx. 10 experts), as well as to conduct the evaluation of experts and to support the accreditation of at least 15 experts	PEE	30,730
<p>In light of the fact that the Senegal Project is linked to the GCIP, it will have access to a number of services provided under GCIP Global Child Project. These are: 1) the GCIP cleantech innovation and entrepreneurship expert training and certification system for the experts (trainers, mentors, judges), including training curricula/materials, guidance on the training delivery methods, and certification requirements; 2) an assessment framework for evaluation of experts (trainers, mentors, judges), as well as to facilitate the expert accreditation at global institutions/initiatives; 3) continuous improvement of the GCIP cleantech innovation and entrepreneurship expert training and certification system, based on recommendations provided by Senegalese experts (trainers, mentors, judges)</p>			
<p>Output 1.1.3: Five (5) annual cycles of the national competition-based cleantech innovation and entrepreneurship accelerator conducted</p>			
1.1.3a	to deliver the Senegal Pre-Accelerator as a 10-day (7 days virtual/3 day in-person) programme for around 50 participants annually, around 6-8 weeks prior to the Senegal Cleantech Accelerator application deadline	PEE (supported by ICC)	34,176
1.1.3b	to deliver five (5) annual cycles of the Senegal Cleantech Accelerator (each year for around 25-30 semi-finalists and 5-8 finalists selected from a pool of at least 50 applicants)	PEE (supported by ICC)	268,176
1.1.3c	to support the PEE in the delivery of the Senegal Cleantech Accelerator (incl. facilitation national academies, development of participating national teams, and capacitation of national mentors and trainers - includes travel costs for two trainers)	PEE (supported by ICC)	27,516
1.1.3d	to organize the annual Senegal Cleantech Forum (5 in total, 1 per cycle)	PEE (supported by ICC)	487,613
1.1.3e	to provide guidance to the PEE on Senegal Cleantech Forum and integration with the annual Global Forum, including themes and private sector participation	PEE (supported by ICC)	4,718

1.1.3f	to establish a helpline for queries on the Accelerator and troubleshooting, combining online tools (wiki, forums, knowledge base, FAQs, etc.) and live calls or chats with GCIP.	PEE (supported by external consultant)	25,426
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Outcome 1.2: Start-ups and SMEs are supported through advanced and gender-responsive business growth and investment facilitation services

79. Experience from GCIP interventions has shown that start-ups and SMEs require further assistance beyond the Accelerator to be able to scale up. In addition, the needs of women and men entrepreneurs are sometimes different. Therefore, building on activities conducted under the Output 1.1.3, additional support will be provided to selected enterprises under Outcome 1.2. At the same time, the emphasis will be placed away from the competition aspect and efforts will focus on individual case-by-case assistance. Outputs and Activities under this Outcome will also have a myriad of synergy points with Outcome 2.1, as engagement of the investor community and customers is crucial for the ultimate success of the project in Senegal.

Output 1.2.1 Targeted business growth support services provided to selected cleantech enterprises towards commercialization in a gender-responsive manner

80. The Advanced Accelerator and Post-Acceleration Guidebooks developed for Senegal's CIEE (under output 1.1.1) will be the basis for the execution of this output. The advanced and Post-acceleration support will be tailored to the specific alumni's needs (considering also gendered needs), to support them in overcoming product related market barriers and scale up. This may include technology verification, prototyping and product development, piloting, legal and administrative support, IT services, tax registration, protection of intellectual property (IP), product life cycle assessment, environmental and social risks assessment, additional mentoring/courses on cleantech entrepreneurship, special mentoring for women entrepreneurs, etc. Additional business model validation may also be necessary to reflect the developments in technology/product readiness, business, market and manufacturing readiness. Market conditions and market demand created by national policies and development priorities of Senegal will be an integral part of the business model development and market potential of the innovations, and innovations supported under this output will further contribute to the national development priorities of Senegal.

81. As each innovation and enterprise is different and will require customized support, extensive consultations will take place as part of the selection criteria and process to ensure that the needs and expectations of the alumni are fully understood and agreed on at entry into advanced and post acceleration support. A milestone-based approach will be employed to measure progress of each enterprise. The Advanced Accelerator service offered to selected entrepreneurs participating in the Senegal Cleantech Accelerator will be focused on providing tailored and needs-based individual support including some group training, mentoring, and coaching.

82. The Advanced Accelerator is time-bound and outcome-focused, i.e., there are concrete milestones that need to be achieved within a specific timeframe. The support is provided by one or several Executives in Residence (EIR) that are senior practitioners (executives or entrepreneurs) with hands-on experience in scaling up cleantech enterprises, and it is focused on problem-solving, i.e., tackling very specific operational, financial, and strategic issues.

83. The Senegal Cleantech Accelerator alumni will be eligible for the Senegal Post-Accelerator support (provided in four related, but not necessarily linear, dimensions: advanced business growth and commercialization support, investment readiness, market readiness, and technology readiness) if they meet requirements set out in the Senegal Guidebook for the Post-Accelerator (developed under Output 1.1.1). It is foreseen that after the second cycle of the Senegal Cleantech Accelerator, the Post-Accelerator support will be offered to a minimum of 10 enterprises. After the third cycle of the Accelerator, the Post-Accelerator services will be provided to a minimum of 15 entrepreneurs. More specifically, a series of trainings (in the form of webinars) will be organized. These will cover topics such as: 1) corporate partnerships and government relationships (3-4 virtual training modules of 1-2 hours each); 2) international market entry, mergers and acquisitions, and exit strategy (3-4 virtual

training modules of 1-2 hours each); 3) challenges specific for selected industry sectors (3-4 virtual training modules of 1-2 hours each). The trainings will be based on the state-of-the-art international knowledge and best practices. A part of the Post-Accelerator conducted under GCIP will be targeted to alumni from all child projects and will therefore not be country-specific (and the Senegal project will be able to access it). Another part will be tailored to Senegal and will be conducted by the EIRs under the responsibility of the PEE and support from an ICC.

84. In addition to trainings, selected enterprises will also receive needs-based support in accessing additional sources of finance, market entry, identifying networking opportunities, dealing with technical and administrative issues, accessing IT services, and tax registration, as well as they will be provided with specialized mentoring and courses on cleantech, entrepreneurship, and innovation. The project will leverage on the facilities and expertise already available in Senegal.

85. Moreover, for selected Senegal Cleantech Accelerator alumni with high impact potential (minimum 5 enterprises), there will be technology verification, product development, and testing facility support, facilitated by the PEE (in coordination with EIRs) This may encompass collaboration with research institutions and universities that house relevant expertise, as well as with the industrial sector. In addition, partnerships will be explored with national agencies responsible for standardization and appraisal of product quality. The project will also provide support in overcoming product related market entry barriers, including protection of intellectual property and product life cycle assessments.

Output 1.2.2 Enterprises (up to 15) are connected to financing opportunities and provided with tipping-point investment facilitation support

86. Mobilizing investment for cleantech products and services is a lengthy and iterative process. In many instances, high-impact and high-market potential cleantech innovations/businesses fail due to lack of access to financial resources. Recognizing this need, under Output 1.2.2 support will be provided to early-stage enterprises in addressing the financing gap. Therefore, alumni enterprises with high replication and scaling up potential that participated in the Accelerator will benefit from tipping-point investment facilitation support. The intention is to assist as many Senegal Cleantech Accelerator alumni as possible to raise funding, find customers, and build partners within 12 months of completing the Senegal Cleantech Accelerator.

87. Taking advantage of various investment and promotion opportunities in Senegal, direct support for the Senegal Cleantech Accelerator alumni will allow them to connect with potential investors, financiers, and tech scouts of large corporations. To this end, half-day Investor Connect events will be co-organized regularly (at least 1 event after each cycle) with partners including corporations and government agencies to highlight opportunities for investment, loans, grants, technology adoption and partnerships. The project will also explore targeted investment/financing vehicles and connect them with selected Senegal Cleantech Accelerator alumni as appropriate.

88. In addition to support services designed to benefit enterprises, specific activities to engage the investment community (e.g., venture capital funds, angel investor networks, impact investors, etc.) will also be conducted. The PEE will establish a robust network with national financial institutions and funds to raise the awareness of financiers representing them, as well as to train them and sensitize on the opportunities and risks associated with cleantech products and market trends. For example, communication efforts tailored for investors will be made to promote the profitability and impact potential of the cleantech businesses, thereby influencing the investment landscape for the cleantech sector. The intention is to broaden the engagement of impact investors in the country, both in terms of number of investors, as well as scope of their interest. Therefore, awareness raising events and trainings will be provided to the local investor community by specialist financiers with in-depth experience in the cleantech sector (at least 1 event/training after each cycle). Therefore, in addition to increasing the competitiveness of the enterprises with the investment readiness, the project will support the establishment of a robust network of financial institutions, funds and investors to raise awareness and sensitize various stakeholders on the opportunities and risks associated with cleantech products and market trends. Examples of alumni may be presented to demonstrate possible returns on investments and success stories.



89. Trainings will also be conducted for local financial experts. An entity, such as PFAN or similar to it, would be approached to conduct this training. More specifically, workshops structured as half-day events, covering a traditional project development journey, gender lens investment principles, and successful examples of enterprises that were supported by acceleration programmes similar to this. The goal of this activity is also to facilitate cross-fertilization between the Senegal Project and such an entity, in that its advisors might support the training of experts (trainers, judges, and mentors) selected by the project on the one hand, and the project-selected experts, after provided with project sourcing and investment facilitation skills and tools, may be invited to join the entity. The PEE will support the entity in delivering such training. The entity will also launch open calls for Senegal Cleantech Accelerator alumni applications. Selected enterprises with high-growth potential will be supported for scale-up through PFAN (or similar).

90. In addition, in order to encourage the participation of seed funding providers from the national, regional and global stages in the Senegal project and to leverage on the experience and knowledge of the GCIP interventions in the programme's target countries, a number of suitable regional and international events will be attended by a representative of the Senegal Project. Finally, awareness on unconscious bias will be enhanced to bridge the financing gap for women e.g. through enhancing capacity of mentors, judges, investors and entrepreneurs on gender-lens investing.

Output 1.2.3 Mentoring and partnership support provided to cleantech enterprises for global market expansion

91. Many cleantech innovations have potential for replication in other developing countries. In particular, cleantech SMEs in Senegal will have huge potential to expand their businesses and introduce their products in the ECOWAS region, as ECOWAS member states share similar environmental challenges, market conditions and industry structures especially in the energy and agricultural sectors. This is highlighted by the fact that ECOWAS region employs a consolidated approach in addressing energy challenges through the ECOWAS Renewable Energy Policy (EREP) and the ECOWAS Energy Efficiency Policy (EEEP), which provides strong policy signals to the region's energy markets and cleantech solutions therein.

92. Therefore, under this output, the project will provide dedicated support to Senegal's cleantech enterprises to explore expansion opportunities in other ECOWAS countries. In addition, Senegal is considered a regional economic hub, and there is migration and market connectivity between Senegal and other Francophone countries like Mali, Mauritania, Guinea, as well as the Gambia. Oolu Solar (<https://oolusolar.com>) is an example of a successful cleantech company headquartered in Senegal that demonstrates regional replication potential of cleantech solutions in the ECOWAS region. Oolu provides off-grid solar solutions and scaled-up pay-as-you-go technology in the West African market. To date, the company raised 3.2 mil USD in series A funding and are currently closing their series B, and now operates in Mali, Burkina Faso, Niger and Nigeria.

93. In addition to regional expansion opportunities, taking advantage of connections made to the GCIP, SMEs in Senegal will also be introduced to international mentors through the GCIP network of mentors on a needs-basis, in their respective target country of expansion to facilitate building of connections and networks for expansion into a new market. Through the web platform to be developed for the Senegal Cleantech Accelerator, enterprises will be given peer networking opportunities with GCIP enterprises, as well as cleantech enterprises within UNIDO's partner network. Through peer networking, the enterprises will explore opportunities for technology collaboration, product co-development, joint venture for market expansion, etc. in a business-to-business to context.

94. On an ad-hoc basis, as opportunities arise, matchmaking services for the Senegal Cleantech Accelerator enterprises will be provided with interested corporations, investors, and governments. Furthermore, opportunities to showcase cleantech innovations at high-level national and international events, such as the UN Climate Summit, UNFCCC Conference of Parties (COP), Vienna Energy Forum, etc. will be offered to successful alumni. Such high-profile events will be instrumental in enabling the Senegal alumni to build their global presence and extend their partnerships and networks. Possibilities of linking the Senegal project to other wider networks (e.g. the Network for Global Innovation) will be sought. In addition, PEE will encourage the participation of a few alumni in other

international financing opportunities or accelerators (in particular in the GCIP Global Accelerator). UNIDO will encourage application of Senegalese alumni for PFAN support.

95. Under the GCIP, there will be an annual GCIP Forum organized as an integral part of the efforts to ensure connectivity between CIEEs. The GCIP Forum will bring selected finalists of the global and national Accelerators together for recognition and awards, and for opportunities to be connected with potential partners, customers, technology scouts and investors from around the world. Importantly, the GCIP Forum will also serve as a platform for innovation showcasing, and investment matching, and will be an important annual milestone for networking, advocacy, and knowledge exchange among CIEE players. The GCIP Forum will not be a stand-alone event, but it will be organized on the margins of highly visible global gatherings, such as for example the UNFCCC COP, Cleantech Group forums, etc. At least 2 finalists of the Senegal Cleantech Accelerator will be identified to represent the Senegal Project experience in the annual GCIP Forum, and the PEE will be responsible for coordinating this along with UNIDO. Special needs of women entrepreneurs will be considered and addressed to address their barriers, for instance through connecting them with women role models as well as providing additional tailored partnership support and mentoring.

Output 1.2.4 Innovative early-stage financing mechanism designed and established to support the deployment and scale-up of cleantech solutions

96. Early-stage investment funds and impact investment funds are required to support early-stage cleantech SMEs during and post acceleration. Under this output, the critical funding gaps within the early-stage cleantech SME journey will be identified, based on which a sustainable funding mechanism will be designed, and resource mobilization will be conducted for its establishment and operation.

97. Stakeholder consultations in Senegal confirmed that a special focus must be put on the agricultural sector and the energy sector. Within the project framework special focus will be put on these. In particular, a financial mechanism that would enable de-risking and leveraging of public and private investment towards these cleantech initiatives will be designed or adapted to an existing mechanism that responds to the project needs, by the PEE in collaboration with a Fund Manager (to be identified during project implementation by the PEE). Moreover, the project will make sure to include gender dimensions and make the fund gender-responsive. The Fund Manager will be responsible for operating this early-stage development fund with the aim of supporting (by e.g., dispersing grants) the accelerated SMEs whose solutions help improve the emissions profile of the country at the same as increasing agricultural businesses performance, improving energy access, promoting cleaner generation means, reducing energy and resource consumption, among other. In the first year of project implementation, the details of the financial mechanism will be designed in a gender-responsive manner.

98. The design or adaptation of the financial mechanism foresees the active involvement and participation of domestic financial institutions as well as possible interaction with multilateral/regional development banks. There are several projects in Senegal financed by the African Development Bank, such as the South Agro-Industrial Processing Zone Project (PZTA-SUD), and Agropole Sud. National financial institutions including as micro-finance institutions will be consulted and involved in the design of the financing mechanisms as to include on the ground knowledge and networks. Such microfinance institutions may include Groupe Baobab, CMS Cr?dit Mutuel du S?n?gal, U-IMCEC (Union des institutions mutualistes communautaires d'epargne et de credit), CAURIE-MF (Coop?rative Autonome pour le Renforcement des Initiatives Economiques par la Microfinance), PAMECAS (Partenariat pour la Mobilisation de l'Epargne et le Cr?dit Au S?n?gal), and ACEP (Alliance de Cr?dit et d'Epargne pour la Production) (identified during stakeholders consultations at PPG stage). Additional financing institutions may be suggested by the PEE, based on their extensive network and knowledge of the local banking sector. Depending on local needs identified, GEF funding will be leveraged for co-financing and investments.

99. Once designed, the financial mechanism supporting local SMEs will be operationalized. Its main purpose will be to facilitate the disbursement of funds (e.g., run calls for applicants for pre-seed/seed funding or grants and conduct their technical evaluation). A minimum of 4 enterprises will be targeted annually (from second year). Special attention will be put on women-led enterprises and the mechanism will be designed in a way that ensures that women can equally access the financial support.

**Table 8: Outcome 1.2 Activities and responsibilities**

Activity	Detail	Responsibility	Budget (in USD)
Output 1.2.1: Targeted business growth support services provided to selected cleantech enterprises towards commercialization			
1.2.1a	to identify (15-25) Accelerator participants (alumni) that would benefit from the Advanced Accelerator support to tackle specific operational, financial, and strategic issues; and to facilitate this support	PEE	3,464
1.2.1b	to conduct at least three (3) cycles of the Senegal Advanced-Accelerator focused on advanced business growth and commercialization support, investment readiness, market readiness, and technology readiness (based on the Senegal Cleantech Accelerator Guidebooks developed under Output 1.1.1) to benefit 10-15 Senegal Cleantech Accelerator graduates.	PEE (supported by ICC)	62,464
1.2.1c	to provide needs-based support to the Senegal Post-Accelerator enterprises (20-25 in total) in accessing additional sources of finance, market entry, identifying networking opportunities, dealing with technical and administrative issues, accessing IT services, and tax registration, etc.	PEE	44,864
1.2.1d	to provide technology verification, product development and testing facility support to enterprises with high impact potential (minimum 5 enterprises, up to 25)	PEE (supported by ICC)	79,264
In light of the fact that the Senegal Project is linked to the GCIP, it will have access to a number of services provided under GCIP Global Child Project. These are: 1) a series of trainings/webinars (in the framework of the Senegal Advanced and Post-Accelerator) on (a) corporate partnerships and government relationships (3-4 virtual training modules of 1-2 hours each); (b) international market entry, mergers and acquisitions, and exit strategy (3-4 virtual training modules of 1-2 hours each); (c) challenges specific for selected industry sectors (3-4 virtual training modules of 1-2 hours each); 2) a report on best practices for acceleration based on state-of-the art international knowledge.			
Output 1.2.2 Enterprises (up to 15) are connected to financing opportunities and provided with tipping-point investment facilitation support			
1.2.2a	to organize national investment facilitation events (Investor Connect) for the Senegal Cleantech Accelerator alumni (at least 1 event after each cycle)	PEE	103,716
1.2.2b	to establish a robust network with 10-15 national financial institutions and funds, and to manage related communication and outreach activities, including awareness raising events for the local investor community to increase investor confidence and ensure accurate risk perception with regard to cleantech solutions (at least 1 event after each cycle)	PEE	30,716

1.2.2c	to support PFAN or a similar entity engaged in training, in providing 3-5 workshops for local financial experts	PEE	12,716
1.2.2d	to attend 3-5 suitable events in order to encourage the participation of seed funding providers from the national, regional and global stages in the Senegal Project and to leverage on the experience and knowledge of other GCIP countries	PEE	19,716
1.2.2e	to support selected enterprises scale up through PFAN support	PEE	42,716
Output 1.2.3 Mentoring and partnership support provided to cleantech enterprises for global market expansion			
1.2.3a	to encourage participation of 5-10 Senegal Cleantech Accelerator alumni for other international Accelerators and financing opportunities and to support them with their application	PEE	17,208
1.2.3b	to nominate and support the participation of a group (at least 2 people) representing Senegal at the GCIP Global Forum	PEE	32,208
In light of the fact that the Senegal Project is linked to the GCIP, it will have access to a number of services provided under GCIP Global Child Project. These are: 1) cross-border networking and matchmaking opportunities facilitation for start-ups/SMEs supported by the Senegal project with internationally recognized mentors, GCIP alumni enterprises, corporations, investors, and governments; 2) Senegalese enterprises will be able to showcase their cleantech innovations at high-level national and international events (including GCIP Global Forum and other major international events); 3) to organize the Global Forum;			
Output 1.2.4: Innovative early-stage financing mechanism designed and established to support the deployment and scale-up of cleantech solutions			
1.2.4a	to identify a Fund Manager; to conceptualise, design or adapt a financial mechanism with the purpose of improving access to financial resources (operated by Fund Manager in the form of an early-stage development fund providing pre-seed and seed funding; or disbursement of grants) that would enable de-risking and leveraging of public and private investment, including the process of application for the pre-seed/seed financing or grants	PEE	9,083
1.2.4b	to operationalise the financial mechanism designed under the Output 1.2.4 and to facilitate the disbursement of funds (e.g., run for calls for applicants for pre-seed/seed funding or grants and conduct their technical evaluation) to minimum 4 enterprises (annually from second year onwards)	PEE	954,083

**COMPONENT 2:** Cleantech innovation and entrepreneurship ecosystems (CIEE) strengthening and connectivity

100. The policy framework and institutional capacity are integral parts of the 'ecosystems approach', and also of strategic relevance in ensuring that the outputs and outcomes of the project are contributing to the national priorities and are sustained after the project closure. Therefore, the objective of the Component 2 is to build capacity of key CIEE stakeholders in Senegal to engage in cleantech acceleration and commercialization. Further, the Senegal project will assist the government in improving national policies and regulations that are conducive to cleantech innovation and commercialization.

101. The GCIP Global will make available a series of tools (Global Cleantech Innovation Ecosystem Benchmark; cleantech innovation capacity building framework) for CIEE strengthening and connectivity. In addition, other policy best practices and roadmaps identified by the GCIP can also be taken as reference for the Senegal project to improve the local ecosystem and enable a more active adoption of cleantech in key sectors.

Outcome 2.1 Cleantech innovation and entrepreneurship ecosystems (CIEE) in Senegal strengthened

102. As mentioned, the proposed project will assist Senegal in building on and developing suitable national policies and regulations that create an enabling business environment for cleantech innovation and commercialization. This will be an iterative process where analysis is conducted, and recommendations made. This Outcome is focused on complementing national policies and processes, such as the 2019 Senegal Start-up Act, to establish an incentive framework for the creation and development of start-ups in Senegal based on creativity, innovation, the use of new technologies, the achievement of high added value as well as national and international competitiveness, ensuring that the policies are designed in a manner to enhance gender equality and women's empowerment in specific policy areas.

103. This component will also benefit from GCIP frameworks, guidelines and tools, as identified under the GEF project ID 10408 (GCIP), for strengthening national cleantech ecosystems, which will be reviewed and adapted by Senegal. These will include recommendations for enhancing capacity of national institutions to support cleantech innovation and entrepreneurship, and a set of tools such as a framework for cleantech ecosystem mapping and analysis, strategies for facilitating meaningful interaction and collaboration among ecosystem players, and training material.

Output 2.1.1 National cleantech innovation and entrepreneurship support institutions (i.e., funding agencies and industry associations etc.) are trained to promote cleantech innovations and entrepreneurship

104. A CIEE assessment will be conducted by an ICC in close consultation with the PEE to analyse the strengths and weaknesses of Senegal's CIEE. This will be instrumental in identifying the capacity building needs and optimal set of national interventions. This assessment will apply a gender-responsive approach to identify specific needs of women for training. This assessment will apply a gender approach to identify women specific needs for training. The further aim will be to ensure that national ecosystem players are supported to understand and contribute to their roles as part of the ecosystem in an inclusive manner and will have the capacity to continue promoting national cleantech innovations and enterprises towards commercialization beyond the project. This output will also serve as a structured stakeholder consultation and engagement process at the start of project implementation. The CIEE assessment will be updated at least once during the project period as a means to measure impact achieved through project activities on Senegal's CIEE. This should be done towards the third year of project implementation period in order to allow time for changes to take effect and be able to measure some degree of actual impact. This update should be done by the PEE.

105. Findings from the baseline assessment during PPG stage development show that the majority of the organizations have a good vision of what cleantech is, but they show interest in capacity building in both human resources and training in order to better support SMEs and Start-ups in this sector. This fact should be further explored when studying the CIEE mentioned in the previous paragraph.

106. A kick-off workshop will be held with relevant CIEE stakeholders to discuss drivers and challenges of cleantech innovation in Senegal. The stakeholders to be engaged should include at least Government sector actors (ministries, agencies, delegations, etc.), entrepreneurs and SMEs

representing the private sector in addition to chambers of commerce and business associations, financing institutions and organisations (including accelerators, banks, etc.), academia (universities where incubators are present). Special attention should be put on including local businesswomen associations (e.g., UFCE[40]<sup>28</sup>, AFAO[41]<sup>29</sup>) and women-led SMEs and entrepreneurs (e.g., E-Cover[42]<sup>30</sup>, Set-TIC[43]<sup>31</sup>).

107. In addition, a national stakeholder engagement strategy and a cleantech innovation cluster strategy will be drafted, and they will also both encompass an action plan and a progress measurement framework. Subsequently, 2 engagement workshops (kick-off and a follow-up) will be organized to train up to 10 national facilitators (>35% women) to act as agents of change and support the implementation of both strategies. The workshops will be convened and organised by the PEE.

108. Additionally, there will be tailored training materials developed and capacity building events organized for selected CIEE stakeholders, including national institutions, industry associations, and business platforms on how to support cleantech innovations. The capacity building events will encompass, among others, on-the-job training, as well as workshops on knowledge management, technology benchmarking, and coordination mechanisms. Appropriate efforts will be made to promote gender equality and women's empowerment in the framework of the capacity building events, in that the participation of women will be encouraged; gender balance of the training participants will be sought, as well as trainers and other experts will be secured; and training materials will be gender-responsive. The training materials will also incorporate elements relevant in the context of the UNIDO's Environmental and Social Safeguards Policies and Procedures (ESSPP). It is envisaged that 3 capacity building events will be conducted to include a total of 75 people approximately.

109. The universities in Senegal are a potential source of cleantech innovations. In fact, during baseline assessment it was found that there are several universities who actually host incubators and have an interesting project pipeline, some of them focusing on clean technologies. The network of incubators from the universities of Thiès, Bambey, EPT and Saint-Louis support many energy efficiency and renewable energy projects. At least 40 projects per year are selected in university incubators. Therefore, universities will be approached and engaged since the very beginning after project start. This will have four main advantages or benefits:

- a. Creating awareness among the network of universities incubators, encouraging the participation of the youth, and particularly young women in the Senegal Cleantech Accelerator;
- b. Providing capacity building and 'Train-the-trainers' courses for the professors and teachers that lead the teams of students, particularly with regards to more specific business-related topics (they referred during consultations at PPG stage, that this topic would be of their particular interest to improve the connection of their initiatives to the market);
- c. Improving the national footprint of the project and inclusion of other regions since the universities are located throughout the country. This would encourage participation of youth and women from other areas of the country apart from Dakar.

110. Therefore, under the Senegal Project, one important activity will be to perform at least one (1) cycle of the Entrepreneurship Train-the-Trainer Programme on cleantech entrepreneurship and innovation organized for university professors and teachers, which need additional tools to improve their coaching techniques and their knowledge of cleantech applications to provide better advice to the students. As a result, they will be well equipped to promote cleantech entrepreneurship among their students and to encourage them to engage in innovative activities, to form teams, and subsequently to submit their ideas to the university incubator and to the Senegal Cleantech Accelerator project. Also, the professors and teachers will be engaged in the development of case studies and co-hosting of

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student outreach events. Universities that currently do not have an incubator or entrepreneurship centre will be engaged in order to create awareness about how they may contribute to improving the CIEE by hosting an incubator and helping with the creation of a pipeline of innovative business ideas. Universities that currently have an incubator could share their experience as example. This Train-the-Trainers programme should take as reference the GCIP Guidelines.

111. Also, a tailor-made workshop on cleantech innovation policy and strategy development will be held by an ICC (to be identified during project implementation) for a cohort of: PEE representatives, other key Ministries and PEPs involved in the project. The experience gained by those people will enable the sustainability of the Senegal Project beyond the project closure, as it is envisaged that the management of the project will be taken forward by the DECC/MEDD post-GEF funding. Necessary financial resources to sustain the Senegal Project activities could be mobilized from the private sector companies interested in corporate social responsibility involvement.

Output 2.1.2. Recommendations on policies and regulations to promote cleantech innovation and entrepreneurship developed (gender-responsive)

112. This Output will aim at identifying recommendations on policies and regulations that would make sense for the Senegal scenario. The baseline assessment has shown that, although a framework that supports entrepreneurship exists (mainly through the Start-up Act, and through several benefits that are provided for local companies that are established in Senegal, e.g., some VAT and import tax exemption), it is still incipient, its operationalisation has to be completed, and it is not particularly focused on cleantech. The latter point is of particular relevance for the project. As referred to in paragraph 31 of the baseline description, the current policy/regulatory framework does not fully respond to the cleantech sector SMEs' needs; its applicability is not fully clear to this sector, and the operationalisation of some pieces of legislation is not yet complete. In addition, as previously mentioned, the Start-up Act was passed by Congress in January 2020; therefore, experiences are relatively limited. Therefore, this output will focus on identifying recommendations needed to strengthen the policy and regulatory framework for cleantech SMEs based, with particular attention to complementing/building on the Start-up Act (or other relevant legislation). In addition, gender dimensions will be considered during the policy review and the formulation of the policies and regulations will be gender-responsive, i.e. they will include specific measures to enhance gender equality and women's empowerment.

113. Policy remains a key determinant that influences cleantech market and investment behaviour. In the project, multi-stakeholder policy dialogues will be facilitated to prompt discussion and collaboration among policy-makers and other cleantech ecosystem actors, and to influence the policy that can create a conducive environment for the commercialization of cleantech solutions. The dialogues will be captured as policy briefs and presented to relevant government ministries and agencies. Priority will be given to assisting the national government in developing policies, regulations and incentives required to promote cleantech innovations.

114. The project, with support from an ICC, will assist in reviewing the existing policies and regulations relating to the promotion of clean technologies, innovation and entrepreneurship, and prepare a gap analysis report that also provides policy requirements and recommendations. This analysis and recommendations will form the basis of policy dialogues and consultations, which will discuss the operationalization of the recommendations, and also strategies on how the government can adopt selected recommendations into enforceable action plans that are fully aligned and integrated with Senegal's climate change, energy and agriculture policies and strategies such as the PSE, the renewable energy plan and the major agricultural strategies such as the Programme d'accélération de la cadence de l'agriculture Senegalaise PRACAS (recently finished, run from 2014 to 2017). Stakeholder mapping will be conducted to ensure that all key ministries, financial institutions and civil society organizations are engaged in such discussions so that the recommendations have a higher chance of influencing and being adopted into policy frameworks and action plans.

115. It is of utmost importance that recommendations and suggestions to improve policies and regulations take gender perspectives into account and are formulated in a gender-responsive manner. This is of relevance, particularly for the agriculture sector where many women are involved, most of them work informally which puts them in a vulnerable position. Therefore, NGOs and CSOs involved



in the promotion of women rights and gender equality should be consulted as well to ensure the national cleantech innovation policies are gender-responsive.

116. Any policies that are inhibiting innovation will also be identified as part of the assessment and recommendations on how to improve them will be provided. The policy analysis document and recommendations will be presented to relevant stakeholders during a dedicated workshop. Following a stakeholder discussion, both documents will be amended in line with feedback received. A roadmap will be developed including a long-term strategy for the adoption of the recommendations. This roadmap should be aligned with the national vision and strategy under the PSE and other relevant policy documents such as the NDC, the NREAP, the NEEAP and any other that has linkages to cleantech development, implementation and adoption. The Roadmap should be validated by key national Government entities and representatives of women and vulnerable groups' interests. Building on the stakeholder engagement and workshop(s), the roadmap will promote the creation of a platform, which will serve as a long-term channel for discussion on cleantech policy, thereby facilitating adherence to the roadmap.

117. In the context of this project, vulnerable groups should include not only women and the youth (especially from rural areas) but also ethnic minorities and indigenous people. In Senegal, minority-based and advocacy organisations include<sup>[44]</sup><sup>32</sup>, for example:

- a. AFEE (Association Femme Enfant Environnement)
- b. African Institute of Human Rights
- c. African League of Human Rights and the Rights of People
- d. Amnesty International
- e. ANAFA (Association Nationale pour l'Alphabétisation et la Formation des Adultes)
- f. ASED (Espace d'Aides Spécialisées aux Éléves en Difficultés)
- g. CAEDHU (Centre africain pour l'éducation aux droits humains)
- h. GRA-REDEP (Groupe Agora pour l'éducation aux droits de l'enfant et ? la paix)
- i. Institute for Human Rights and Peace
- j. Organisation nationale des droits de l'homme (ONDH)
- k. RADII (Réseau africain pour le développement intégré)
- l. Rencontre Africaine pour la Défense des Droits de l'Homme

118. In addition to CSOs and NGOs, public and government agencies that take care of addressing the needs of the rural population should also be consulted and engaged to provide support for the effective inclusion of minorities, vulnerable groups and local communities. The National Agency for Agriculture Integration and Development (ANIDA, Agence Nationale d'Insertion et de Développement Agricole) has been implementing since 2008 a programme to encourage and provide support for the development of farms throughout the country (targeting youth and women) to reduce migration to urban centres and increase local productivity. This is achieved by creating sustainable jobs, diversifying productive systems, using underground water resources for irrigation (with solar PV) and modernising family farms<sup>[45]</sup><sup>33</sup>.

119. Learnings and best practices from the GCIP on how other policy frameworks in other CIEEs were improved will be taken into account as examples to improve the Senegal framework.

Output 2.1.3 Platform for ecosystem players established to promote linkages, collaboration and to facilitate the generation, exchange and dissemination of knowledge products



120. National Investor Forums and awards events will be organized in conjunction with Outcome 1.2 of the project to encourage linkages, collaboration and synergies across the CIEE.

121. Key stakeholders will be invited to the Senegal Cleantech Forum to be organized annually, to further facilitate ecosystem connectivity. It will be an opportunity for the project representatives and top-performing enterprises to be connected with potential partners, customers, technology scouts and investors. At the regional and global levels, Senegalese cleantech SMEs and key ecosystem players will be invited to participate in GCIP-wide events (including the global GCIP Forum) which is organized in and for GCIP partner countries around the world. This provides alumni enterprises with exposure to the global community, and the opportunity to forge new partnerships for co-innovations and joint ventures. The global GCIP Forum is further a culmination of innovation showcasing, investment matching, and networking among national counterpart institutions, and will continue to be an important annual milestone for networking, advocacy, and knowledge exchange among cleantech innovation ecosystem players. The global GCIP Forum will not be a stand-alone event, but it will be organized on the margins of highly visible global gatherings, such as the UNFCCC COP, Cleantech Group forums, etc.

122. In addition to international connections (in particular through the GCIP), national and regional (sub-national) level partnerships will be promoted and developed between national leading institutions, agencies and universities. This will be promoted by means of the Senegal Cleantech Forum to be held every year after the Acceleration process is finished. Synergies will be secured between the project and other ongoing initiatives related to the CIEE.

**Table 9: Outcome 2.1 Activities and responsibilities**

Activity	Detail	Responsibility	Budget (in USD)
Output 2.1.1 National cleantech innovation and entrepreneurship support institutions (i.e., funding agencies and industry associations etc.) are trained to promote cleantech innovations and entrepreneurship			
2.1.1a	to conduct an analysis of Senegal's CIEE (including consultations with relevant CIEE stakeholders); to identify capacity building needs at start of the project, and an to update at mid-term implementation period of the project.	PEE	25,883
2.1.1b	to develop relevant tools for CIEE strengthening and connectivity, including a stakeholder engagement strategy and a cleantech innovation cluster strategy (in consultation with relevant CIEE stakeholders); as well as to conduct 2 engagement workshops (kick-off and follow-up) to train up to 10 national facilitators	PEE	34,883
2.1.1c	to conduct 1-3 capacity building events (based on the cleantech innovation capacity building framework developed for the GCIP, if available) for selected CIEE stakeholders (75 in total), including national institutions, industry associations, and business platforms on how to support cleantech innovations	PEE	26,883
2.1.1d	to deliver at least 1 cycle of the Entrepreneurship Train-the-Trainer Programme, based on GCIP Guidelines	PEE	54,883
2.1.1e	to deliver 1 tailor-made workshop on cleantech policy and strategy development for 20 people from selected key stakeholders involved in policy-making	PEE	6,883

In light of the fact that the Senegal Project is linked to the GCIP, it will have access to a number of services provided under GCIP Global Child Project. These are: 1) a workshop on cleantech innovation policy and strategy for a cohort of all national PEE representatives; 2) the Global Cleantech Innovation Ecosystem Benchmark which will enable comparisons of the Senegalese CIEE with other countries? CIEEs; 3) a cleantech innovation capacity building framework.			
Output 2.1.2. Recommendations on policies and regulations to promote cleantech innovation and entrepreneurship developed (gender-responsive)			
2.1.2a	to review existing policy and regulations relating to the promotion of cleantech, innovation, and entrepreneurship (gap report), and to develop a gender-responsive localisation document and develop recommendations (10-20) to improve cleantech innovation and entrepreneurship policy	PEE (with ICC support)	34,709
2.1.2b	Conduct 2 stakeholders engagement workshops to discuss and validate the gap analysis report and the policy recommendations; to prepare and consult (with relevant national CIEE stakeholders) a roadmap guiding a long-term implementation of the policy recommendations; <b>the establishment of a long-term platform is promoted</b>	PEE	47,709
Output 2.1.3 Platform for ecosystem players established to promote linkages, collaboration and to facilitate the generation, exchange and dissemination of knowledge products			
2.1.3a	Promotion of cooperation and collaboration activities to facilitate the dissemination of knowledge products during the Forums (estimated at creating 1-3 collaborations)	PEE	27,023
2.1.3b	Participation of Senegal Project representatives in GCIP-wide events (1 representative participating in 1 event/year) or other relevant events to promote the project	PEE	22,023

### COMPONENT 3: Knowledge management and project coordination

123. Under Outcome 3.1, Component 3 brings value added to the implementation and execution of this project in coordination with the GCIP (benefit from enhanced coherence and synergies). The activities will ensure that the successes and achievements in Senegal are captured and communicated. Strategies, standards and systems, along with networking opportunities developed globally, will benefit the national PEE and PEPs. The activities within this component are necessarily interlinked and the PEE is responsible for ensuring that the locally developed guidelines and methodologies, are in line with the ones produced under the GCIP.

124. Component 3 includes Outcome 3.2 (formerly presented as Component 4 at PIF stage), whose aim is to design and ensure that a proper Monitoring and Evaluation (M&E) system is in place and thoroughly implemented throughout project execution. This will ensure that indicators are properly tracked, and that the achievement of milestones is verified. The M&E plan will use the GCIP M&E Framework as a blueprint. During project implementation, it is of utmost importance to raise awareness amongst the involved parties about the impact of conducting monitoring activities properly and recording information/data in an organized way. This is vital to reach the Mid-Term review and the Terminal Evaluation stages with enough information for these to be conducted.

Outcome 3.1 Efficiency and sustainability of the project ensured through project coordination, knowledge management, communication and advocacy

Output 3.1.1 Technical operational guidelines developed (based on GCIP) and implemented

125. As previously mentioned, the Senegal project will benefit from coordination with the GCIP. It is therefore important for the Senegal project to adopt similar technical operational guidelines for project management teams developed and disseminated by UNIDO under the GCIP. The guidelines developed under the GCIP will be adapted to Senegal.

126. The Technical Operational Guidelines will include:

a. General technical operational guidelines to be established within the national PEE. The technical operational guidelines will cover: a general introduction to the GCIP Framework, including an explanation of organizational roles within it (e.g. of Global Advisory Board and Project Steering Committees); description of communication channels between GCIP countries and the GCIP Global; information on risk management and data protection; a list of foreseen support activities to be available from the GCIP Global; introduction to the IT management of the GCIP web platform; environmental/social management principles, as well as gender mainstreaming and ESSPP principles to be taken into consideration during the management of the project. In addition, annual meetings for national PEE representatives and key PEPs involved in the execution of the different Components will be organized to offer a platform for training and exchange of experiences/insights related to the implementation of the GCIP technical operational guidelines.

b. A Sustainability and Exit Strategy framework (to be developed in the first year of project implementation) to ensure provisions are included for the intervention to continue after GEF funding is finished.

127. It is worth noting that, although it may seem similar to this Output, the scope of Output 1.1.1 is of a technical nature, that focuses on the best approach and methodology for supporting early-stage cleantech enterprises in developing countries. The tools and guidelines provided for review and adaptation to Senegal will be specific to knowledge expertise and skills concerning the execution of the national cleantech business accelerator (output 1.1.3), and to the execution of post-acceleration support (outcome 1.2). Output 3.1.1 is broader in scope, with emphasis on maximizing efficiency and synergies among projects benefiting from the GCIP's programmatic approach and will contribute to coordination and coherence with it. Tools and guidelines provided under 3.1.1 aim to support the PEE with project execution and operationalization.

Output 3.1.2 Project knowledge management, communication and advocacy strategy is developed (based on GCIP) and applied

128. The experience so far has shown that an exchange of learnings among national PEEs and PMUs is key for their successful operation. To facilitate this exchange, a knowledge management, communication, and advocacy strategy framework will be developed by UNIDO with a particular focus on: (i) promoting visibility of GCIP and communicating its impacts achieved at national and global levels; (ii) increasing awareness of the catalytic role of cleantech in addressing climate change and environmental issues; (iii) showcasing cleantech innovations from the GCIP alumni and enhancing their visibility and credibility. This will be a continuous process whereby takeaways from one of the child projects feeds into the others so that constant improvement and finetuning can be ensured.

129. The above-mentioned GCIP knowledge management, communication and advocacy strategy will be made available to the Senegalese PEE in order for it to review it and adapt it to the country context for operationalization as appropriate. As a result, the Senegal project knowledge management, communication, and advocacy strategy will be developed.

130. The communication strategy will include the development of awareness raising and marketing material, for the public, for entrepreneurs and for officials. This will include briefing sessions, press releases, social media activity, attendance at events, etc. The PEE (and/or their subcontractors) are expected to provide briefing sessions, press releases, social media presence and advertising, all of which will be targeted at different audience groups, with a special attention to the needs of women and youth. These activities will be supported by partners, including local entrepreneurs, celebrities, Accelerator cycles' alumni, relevant service providers (e.g., patent attorneys, accountants), university departments and societies (e.g., engineering, entrepreneurship and energy clubs), organizations that are in frequent contact with cleantech entrepreneurs (e.g., trade groups, entrepreneur groups), and investors (e.g., venture capital funds, angel networks), etc.

Output 3.1.3 The Senegalese web platform is developed and operated to connect national ecosystem players, and linked to the GCIP web platform

131. A web-platform will be established and maintained, as a tool for four key functions:
- Firstly, as an internal management and operations tool for the PEE, the PEPs and UNIDO. Guidelines, tools and other knowledge products (videos, tutorials, manuals, etc.) developed through the project will be disseminated and accessible through the web platform.
  - Secondly, as a tool for execution of annual accelerators to be used from the beginning of the accelerator cycle (call for applications and receipt of applications), and during the accelerator (webinars, submission of assignments, etc.).
  - Thirdly, for connecting national ecosystem players. All alumni enterprises, as well as certified mentors and coaches will be invited to join the online community as a networking tool. Profiles and impact potential of each supported cleantech solution will be showcased through the web platform. Therefore, it will serve as a gateway for potential investors and customers to collect information on alumni enterprises.
  - Fourthly, the website will be linked to (or directly part of) the global web platform to connect Senegal to the broader GCIP community globally.
132. The web platform for Senegal will be designed, developed and aligned with the GCIP guidelines and templates, to reap benefits of the plug-and-play approach of GCIP and to maximize synergies and efficiencies of linking with GCIP partner countries and more GCIP-linked projects.
133. The Senegal web platform will be used from the beginning of the Accelerator cycle (call for applications and receipt of applications), during the Accelerator cycle (e.g., for webinars/trainings, submission of assignments), as well as after it (e.g., by alumni companies and potential investors for the purpose of matching, progress tracking).
134. To maximise synergies and take advantage of already made connections, the Senegal web platform will be connected to already developed websites/platform. An example is the web-platform managed by DER (<https://financement.der.sn/user/inscription>).
135. On the Global GCIP web platform there will be affinity/interest fora created to spur interactions, such as for example self-directed introductions, in specialized groups and to facilitate collaboration with the individual GCIP countries web platforms. Since Senegal will be linked to the GCIP, it is expected that interactions between various enterprises from different Senegal cohorts, between alumni and the currently supported entrepreneurs, or between entrepreneurs and investors will take place. Also, there will be a Senegal alumni network created, gathering Accelerator entrants, and assigned a special section on the web platform.

**Table 10: Outcome 3.1 Activities and responsibilities**

Activity	Detail	Responsibility	Budget (in USD)
Output 3.1.1 Technical operational guidelines developed (based on GCIP) and implemented			
3.1.1a	to review and adapt GCIP guidelines to develop the Senegal technical Operational Guidelines for the project management teams.	PEE	4,064
3.1.1b	to develop the Sustainability and Exit strategy framework for Senegal	PEE	12,064

In light of the fact that the Senegal Project is linked to the GCIP, it will have access to a number of services provided under GCIP Global Child Project. These are: 1) UNIDO will organize annual meetings for national PEE representatives (including DEEC/MEDD) to provide a platform for training and exchange of experiences/insights.			
Output 3.1.2. Project knowledge management, communication and advocacy strategy is developed (based on GCIP) and applied			
3.1.2a	to review and adapt the knowledge management, communication, and advocacy strategy framework, i.e., to develop the Senegal knowledge management, communication, and advocacy strategy	PEE	2,954
3.1.2b	to materialize the communication strategy by developing and disseminating 100-200 items including: policy briefs, impact reports, brochures, webinars, and other types of promotional materials, and to disseminate this knowledge through briefing sessions, press releases, social media presence and advertising, etc.	PEE	16,954
3.1.2c	to seek 20-30 partnerships that would support the implementation of the Senegal knowledge management, communication, and advocacy strategy (e.g., with local entrepreneurs, celebrities, GCIP alumni, Senegal Cleantech Accelerator alumni, relevant service providers, university departments and societies, organizations that are in frequent contact with cleantech entrepreneurs, investors, etc.)	PEE	2,954
In light of the fact that the Senegal Project is linked to the GCIP, it will have access to a number of services provided under GCIP Global Child Project. These are: 1) UNIDO will develop a knowledge management, communication, and advocacy strategy framework.			
Output 3.1.3 The Senegalese web platform is developed and operated to connect national ecosystem players, and linked to the GCIP web platform			
3.1.3a	to develop and maintain a Senegal project web-platform	PEE	1,428 <sup>1</sup>
3.1.3b	to launch the Senegal alumni network (incl. 80-100 participants) and create a special section on the Senegal web platform to maintain it	PEE	6,428
In light of the fact that the Senegal Project is linked to the GCIP, it will have access to a number of services provided under GCIP Global Child Project. These are: 1) UNIDO will launch the GCIP web platform and will support the Senegalese PEE on its use/linking			

### Outcome 3.2 Impact and progress of the project tracked and reported

#### Output 3.2.1 Environmental and social impacts of the project estimated, tracked and reported

136. The project will collect information on outcomes and higher-level impacts/ results. At a minimum, tracking will include global environmental benefits (GEBs), job creation and investment leveraged. Data will be gender disaggregated where appropriate and data on youth participation will also be recorded.

137. The GCIP methodology for impact assessment will be developed as part of the GCIP and taken as reference by the Senegal project to develop an adapted methodology for local application. This

will ensure a common understanding of estimation, tracking, and reporting approaches amongst all involved stakeholders, and will allow for data aggregation, comparisons, and extrapolation, both at a national and global level. The methodology will enable assessment of social, economic, and environmental impacts. It will account for global environmental benefits (GEBs) such as carbon emissions reductions, in addition to energy saved, increased renewable energy capacity installed, number of green jobs created (entrepreneurs/SMEs) and investment leveraged. The data will be sex-disaggregated and gender-sensitive wherever possible, and youth participation will also be recorded. The national PEE, the PMU and PEPs will receive an online training on the GCIP methodology for impact assessment from UNIDO and, subsequently, the PEE, or a PEP appointed by it, will train (online or in person) all Senegal Cleantech Accelerator semi-finalists. The PEE may request further support to provide a training on the GCIP methodology for impact assessment also to other enterprises supported by the Accelerator.

138. Dedicated resources will be assigned to track and monitor the business growth, social and environmental impact of the alumni enterprises in Senegal. The Senegal accelerated enterprises will be expected to periodically provide relevant impact data to the PEE for validation, recording and consolidation. The enterprise impact data will then be used to develop and publish an impact report, as well as to create other promotion and advocacy materials (news articles, social media posts, brochure and leaflets, videos, etc.) that are tailored to diverse types of audiences (investors, national government agencies, donors, students, etc.). This will benefit the Senegal enterprises by providing increased credibility and visibility. The impact data will also be shared with the GCIP for consolidation on the programme level, if needed. A gender impact assessment will be conducted at the end of the project to identify the impact of the project on women's livelihoods and lives. This will include analysing the progress and results of the gender mainstreaming action plan.

Output 3.2.2 Capacity enhancements of the Project Executing Entity to ensure long-term sustainability, retention of institutional knowledge and ability to engage funding partners in a more harmonized and consistent manner.

139. In order to ensure the knowledge transferred through the project is retained at a national level and therefore long-term sustainability, there needs to be a capacity building aspect to complement the project activities. Accordingly, under this component, the project will identify enhancement areas where the PEE can benefit from, and receive support to increase their institutional capacities. A needs enhancement assessment study will be conducted in year one and monitored during the duration of the project. This will help identify the improvement needs in the PEE processes and regulations relevant for project execution (e.g. financial accounting, procurement, reporting tools, M&E systems). The results of the assessment will be utilised to design and perform up to 3 capacity building training sessions on the areas needing improvements as identified in the study. A very critical element will be to support the deployment of a platform/system to support the monitoring and evaluation needs in line with best business practices. This will help the PEE (and ultimately the Senegalese Government) with transfer of institutional knowledge, retention of that knowledge and ensure sustainability, through data and document management. This will serve as a basis for this project as well as the execution of future projects, including those funded by other sources. Indeed, this platform/system will help build local capacity and ownership, by enabling harmonisation of the reporting across different projects (in aspects such as technical reports, financial reports, auditing, etc.).

Output 3.2.3 Project progress monitoring and reporting as per UNIDO and GEF guidelines conducted

140. The monitoring of project progress is essential for the adequate and timely delivery of results. This project output covers project monitoring and oversight by UNIDO in close coordination with other relevant stakeholders. A detailed monitoring plan for tracking and reporting on project time-bound milestones will be prepared by UNIDO in collaboration with the national PEE and project partners at the beginning of project implementation and then periodically updated every 6 months (these progress reports will be used mainly for informing the PSC before the scheduled meetings). GCIP M&E framework will be adapted for this project as appropriate, including time-bound milestones and deliverables.

141. Regular progress reports and Project Implementation Report (PIRs) will be developed as per the applicable GEF and UNIDO rules. The ESSPP considerations, GEBs, energy saved and increase in

installed renewable energy capacity, (green) job creation, and investment leveraged as well as gender-responsive targets, indicators and baseline for gender related targets will be appropriately captured in the Senegal M&E plan, in the progress review reports, and the PIRs. The regular monitoring and reporting will be also including mentoring of the gender mainstreaming strategy and action plan. If necessary, measures will be defined to reach the gender targets as defined in the project document and gender mainstreaming strategy and action plan.

#### Output 3.2.4 Independent mid-term review and terminal evaluation conducted

142. A mid-term review of the project will be conducted halfway through the project implementation period (UNIDO will be responsible for it). The ESSPP considerations, GEBs, energy saved and increase in installed renewable energy capacity, (green) job creation, and investment leveraged as well as gender-responsive targets, indicators and baseline for gender related targets will be appropriately reviewed in the external mid-term review report, as well as in the collection and assessment of relevant data.

143. An independent terminal evaluation will be conducted three months prior to the terminal review meeting. The terminal evaluation will look at the impact and sustainability of results, including the contribution to the capacity development and the achievement of global environmental benefits. The final evaluation will also provide recommendations for follow-up activities.

**Table 11: Outcome 3.2 Activities and responsibilities**

Activity	Detail	Responsibility	Budget (in USD)
Output 3.2.1 Environmental and social impacts of the project estimated, tracked and reported			
3.2.1a	to review the GCIP methodology for impact assessment (including the accompanying tools) and to participate in the training on its use provided by UNIDO (3 trainings)	PEE	2,462
3.2.1b	to develop a local Senegal methodology for impact assessment based on the 3.2.1a	PEE	2,462
3.2.1c	to provide 3 trainings on the Senegal methodology for impact assessment developed in 3.2.1b to the Senegal Cleantech Accelerator semi-finalists (30-75 in total)	PEE	7,462
3.2.1d	to validate and consolidate the Senegal enterprise impact data, and to develop and publish 4-5 Senegal impact reports	PEE	2,462
Output 3.2.2 Capacity enhancements of the Project Executing Entity to ensure long-term sustainability, retention of institutional knowledge and ability to engage funding partners in a more harmonized and consistent manner			
3.2.2a	to conduct a needs assessment study to identify potential improvements areas	PEE	20,367
3.2.2b	to perform up to 3 capacity building trainings on the areas needing improvements identified in the needs assessment study	PEE	55,367



3.2.2c	to create a platform to support the monitoring and evaluation needs	PEE	85,367
Output 3.2.3 Project progress monitoring and reporting as per UNIDO and GEF guidelines conducted			
3.2.3a	to prepare the Senegal M&E plan and regular (every six months) progress review reports including the status of operationalization of gender mainstreaming action plan, mainly to inform the PSC before meetings.	PEE	25,000
Output 3.2.4 Independent mid-term review and terminal evaluation conducted			
3.2.4a	to conduct an external mid-term review (1) toward mid-implementation period (i.e., after approx. 2.5 years of commencement date)	UNIDO	30,000
3.2.4b	to conduct an external terminal evaluation (1) three months prior to project closure	UNIDO	45,000

#### 4) alignment with GEF focal area and/or Impact Program strategies;

144. This project is fully aligned with the objectives of GEF-7 Climate Change Focal Area Strategy CCM 1-4, "Promoting innovation and technology transfer for sustainable energy breakthrough". The GEF-7 Climate Change Focal Area Strategy aims to support developing countries in making transformational shifts towards low emission and climate-resilient development pathways. This project seeks to foster private sector engagement in accelerating the uptake of and investments in innovative cleantech solutions at scale to not only foster sustainable economic development but also to mitigate GHG emissions of the most relevant emitting sectors of the country (energy and agriculture). The project prioritizes cleantech innovations in the domains that are fully aligned with GEF 7 priorities i.e., accelerating energy efficiency, decentralized renewable energy power, reduction of waste through recycling, and cleantech innovations related sustainable development of rural areas and agri-businesses. In particular, the project supports cleantech innovation and entrepreneurship by providing catalytic support to early-stage cleantech innovation SMEs so that they commercialize and scale-up their operations thereby delivering climate and sustainable energy solutions that reduce GHG emissions.

145. On the other hand, this project contemplates advantageous linkages and seeks collaboration and learning opportunities with the GCIP, which is a transversal intervention that supports all priorities of GEF 7's Climate change focal area. The GCIP provides much needed and best available catalytic technical assistance to cleantech SMEs so that they commercialize and scale-up globally and in the process create new industries and green jobs. In line with GEF strategy on private sector engagement, the Senegal project also capitalizes on the growing interest by national and international private actors in the sustainability agenda and creates the conditions for SMEs driven creation and transformation of cleantech markets. This ultimately harnesses the ingenuity and creativity of SMEs and "crowds-in" private sector investments to deliver environmental benefits beyond business as usual. Furthermore, the Senegal project will also exchange knowledge and lessons on opportunities for technology and business model innovations with other ongoing projects in the country as well as with the GCIP.

#### 5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;

146. Although Senegal has clearly prioritized the creation of green industries and jobs in its national development strategies (mainly through the PSE, the Start-up Act, and with focus in specific



areas detailed in the NDC), significant barriers still exist as cleantech SMEs with breakthrough cleantech innovations have a very low success rate. Barriers include a lack of key skills and capacities to transform their business ideas into viable, scalable and fast-growing enterprises and a lack of linkages and coordination between the support services required to facilitate innovation and entrepreneurship, in addition to a policy and regulatory framework that still needs to be strengthened in key aspects related to cleantech. In essence the innovation and entrepreneurship ecosystem in Senegal is weak and will continue to be so unless barriers are addressed.

147. The project proposes to go beyond the baseline and will coordinate and create synergies with associated baseline activities and the existing innovation infrastructure, such as the existing accelerators, hubs and incubators, which have already conducted some acceleration schemes and provided support to start-ups and SMEs helping young business leaders in Senegal to develop technical skills needed to grow successful and sustainable businesses ? this project will further build on the lessons learned and experiences made from them.

148. SMEs remain disjointed and uncoordinated. This project has been designed to also learn from the experiences of the GCIP countries that were supported under GEF 5 & 6, and to use the knowledge and training materials that was developed to create opportunities for greater impact through providing greater commercialization support and investment facilitation services to expand opportunities for market expansion. This project is designed to provide catalytic and effective interventions that galvanise private sector interest and investments in the cleantech innovation and entrepreneurship space and also strengthen the national cleantech innovation and entrepreneurship ecosystem and connect it at a global level. These interventions, create a critical mass of interest in the cleantech sector, drive the transformation cleantech markets and result in more cleantech SMEs contributing to climate change mitigation and low-emission development.

149. Building on the baseline and including learnings from previous GCIP experiences, the project will:

- a. Adapt and institutionalise methodologies, guidelines, tools and training systems for accelerator, advanced acceleration and post-accelerator support and for mentors, judges, trainers to be trained and certified in Senegal. This will ensure that the country will continue to run the accelerators long after the GEF project has ended.
- b. Provide post acceleration support and investment facilitation services so that cleantech innovators will be able to commercialise their innovation and mobilise funding for scaling-up.
- c. Support the design and establishment of early-stage financing mechanism to ensure that the accelerators? alumni can have the chance to access finance support.
- d. Increase focus on developing policy and regulations to operationalize the current framework or improve it, on cleantech innovations at national level.
- e. Participate in global events around the global competition-based accelerator such as dialogues, investor networks to promote networking and learning (invited as guests by the GCIP).
- f. Create bigger market opportunities for cleantech innovators to expand their businesses and, hence, increase their success rates and, consequently, achieve more extensive GHG emissions reduction.

150. The GEF funding of 3.2 million US\$ is estimated to catalyze co-financing of 12 million US\$ from both public and private sectors with the mandate and interest to invest in cleantech solutions. So far 9.2 million have been leveraged. This achieves cost-effectiveness of approximately 3 US\$ mobilized per 1 US\$ of GEF grant funding. A higher ratio is expected to be achieved during project implementation. Co-financing will be mobilized from public and private financial institutions, investors and corporations interested in investing in or purchase solutions for GHG emissions reduction will consider the project activities as risk mitigation measures when considering the enterprises and their cleantech solutions that received support from the Accelerator. The project is essentially providing a pipeline of cleantech solutions that have been pre-selected and nurtured for increased competitiveness in the market. In addition, through national ecosystem strengthening activities, the project will enhance

awareness and visibility of business and investment opportunities in the cleantech sector, thereby prompting further interest and financial flows.

151. It is expected that, through the linkages to the GCIP, the Senegal project will be able to take advantage of accessing global investors by participating in some of the events and activities conducted by the GCIP. As an estimate, evidence from GCIP under GEF 5&6 shows that some GCIP alumni were able to mobilise global funding and expand their operations. From Turkey, Epissime Biotech (2017 semi-finalist) raised \$1.7 million in investment through 3 rounds from Diffusion Capital Partners based in The Netherlands; Seyisco raised USD 100,000 and B-Preg and Solter Vision also raised foreign capital. Actual figures are not yet available as to the level of increased GHG emission reductions achieved as a result of the international funding, but the global funding allowed B-Preg (bio-composite parcel shelves) to expand internationally and they now estimate annual emission reductions of 4,180 tCO<sub>2</sub>e/year and growing. Similarly, Solter Vision (remote PV plant analysis) now estimates annual emission reductions of 15,300 tCO<sub>2</sub>/yr and Seyisco (efficient pot-hole filling) already estimates 826k tCO<sub>2</sub>e per year saved. Epissime (biotech) has the potential to reduce GHG emissions by 40 million tonnes CO<sub>2</sub>e/year once expanded globally. Therefore, SMEs with innovative cleantech solution can rapidly expand their businesses by accessing international financing opportunities and simultaneously rapidly expand global environmental benefits.

152. The differential is further enhanced through the inclusion of more opportunities for networking and investments, support to expand cleantech business in other countries, development of policies and regulation to support cleantech innovators, and building and strengthening ecosystems. For example:

- a. The project ensures that GCIP alumni are able to truly mature and to harness local and global market opportunities brought about by dedicated support and ecosystems connectivity provided by this project.
- b. GCIP alumni will have higher chances of commercializing their innovations and of getting connected to investors and the private sector through the national project and global innovations challenges, international mentoring for global expansions and linkages to other sources of financing (which include impact investors and crowd funding platforms).

153. Since these interventions ensure sustainability of the project, they result in more GHG emission reductions beyond the baseline. Without GEF funds there will be lost opportunities to nurture entrepreneurs to scale, to further reduce emissions and to strengthen private sector partnerships. With approximately 125 new cleantech enterprises supported and each saving between 1,800 and 3,600 tCO<sub>2</sub>e by 2030, the cost effectiveness of the GEF funds is between 5 to 10 USD/tCO<sub>2</sub>e (see the following section for more detail on reduced GHG emissions).

154. Regarding co-financing, the project will receive in-kind and cash support from different public and private institutions highlighting the high level of ownership and interest from national stakeholders. Even though the GEF contribution will act as the trigger for the technology innovation and entrepreneurship in Senegal, the additional co-financing is essential to successfully reach the project objectives. GEF assistance is essential to encourage and ensure the required stable co-financing particularly by attracting foreign and domestic investments for employing advanced technologies with all related benefits.

#### **6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and**

155. The long-term lifetime of cleantech innovations introduced in the market and the strengthened and interconnected CIEE will be reflected in multiple GEBs including, primarily, GHG emission reductions. The GEBs achieved through the implementation of this project will be identified and quantified on the basis of the innovations marketed and their uptake. Given the nature of the project, the low-carbon products and services developed and commercialized will contribute to the GEBs beyond the project life and scope. As stated above, the Senegal Project will benefit from linkage with the GCIP. It will therefore align with the Programme approach to calculating GEBs, in particular GHG emission reductions. The section below details the approach the GCIP will be taking.

- i. Background on GCIP's target for avoided GHG emission for the GCIP Framework (GEF ID: 10408)

156. In order to ensure that GCIP supports innovative cleantech solutions with high impact potential, and delivery of GEBs at the programme level, a target approach is applied. To achieve cost effectiveness of GEF funding for GEBs, a value of 5 to 10USD/tCO<sub>2</sub>e avoided is targeted (corresponding to an overall cost per tonne at programme level of USD38-76/tCO<sub>2</sub>e). This means that, with GEF funding of almost USD 18 million, GCIP Framework aims to deliver between 1.8 million and 3.6 million tonnes CO<sub>2</sub>e by 2030. As 10 countries will be a part of the overall GCIP Framework, almost 1000 semi-finalists are expected to be supported through the accelerators in all countries across the programme. Therefore, the target for the minimum projected potential of avoided GHG emissions per enterprise is between 1,800 to 3,600 tCO<sub>2</sub>e by 2030.

157. To put this minimum target approach in context, a review of previous GCIP alumni GHG reductions was carried out. The review, looking at three sources of information, shows that the proposed avoided emission target is plausible and quite conservative. It also demonstrates the huge likely variety of emission reductions due to the different country contexts and technology innovations. The review also shows that where an innovation has real market potential, the avoided GHG emissions are very significant and that the GCIP approach has experience in successfully identifying and accelerating such companies.

a. Firstly, a survey carried out by UNIDO of 14 of its GCIP alumni showed that these companies had already generated 600,000 tCO<sub>2</sub>e savings by 2017 and projected to generate over 4.8 million tonnes of GHG emission savings by 2020 (or 340,000 tCO<sub>2</sub>e/year per company).

b. Secondly, the Independent Evaluation Office (IEO) report of eight GCIP projects included a sample of alumni in its annex with projected avoided emissions between zero (either they had not been estimated yet or the cleantech was not related to CCM) and 5 million tCO<sub>2</sub>e per year. A median for emission reductions that were reported (which occurred only for a small proportion of the total alumni, namely 60 out of 900) is 88 tCO<sub>2</sub> per year. If alumni with estimated reduction are included (34) in the calculations, then the median increases to 12,200 tCO<sub>2</sub>/year with the interquartile range from 350 tCO<sub>2</sub> to 81,000 tCO<sub>2</sub>/year.

c. Thirdly, the Mission Innovation Framework for Assessing Avoided Emissions, in which a number of GCIP alumni (selected as part of Mission Innovation's 100 innovative clean energy solutions in 2019) were included, shows for example that Atomberg Technologies (which manufactures an energy efficient fan) is estimated to avoid 5 million tCO<sub>2</sub>e/year by 2030. In turn BEAD, an energy management AI optimization enterprise, is estimated to avoid 319 million tCO<sub>2</sub>e/year by 2030. These two companies were also covered by the IEO report mentioned above, but Atomberg had not provided an estimate (so was assumed zero) and BEAD's estimate was 5 million tCO<sub>2</sub>e/year.

158. A ten-year horizon was selected for estimating the GHG emission savings. However, assessing a priori the GHG reduction potential of cleantech solutions (products, services) to be identified through GCIP has proven to be difficult, as by definition GCIP encourages open innovation, and the types and categories of cleantech products and services that will be supported can only be determined after the selection of semi-finalists as part of the GCIP Accelerators. Also, expected difficulties include attribution of the incremental GEBs of the cleantech solutions to the GCIP support. However, the design of past GCIP assumed abatement costs (for GEF funding) of between 0.68 USD/tonne CO<sub>2</sub>e in Turkey to 29.77 USD/tonne CO<sub>2</sub>e in Armenia. As the targets were exceeded in those countries, and as the proposed benchmarks are within the same range, they are considered realistic and conservative.

159. The target of between 5 to 10 USD/tCO<sub>2</sub>e avoided, that is set for the GCIP Framework, translates into avoided GHG emissions per enterprise of between 1,800 to 3,600 tCO<sub>2</sub>e. The provided target range will enable the GCIP country child projects to support a mix of technologies with different CO<sub>2</sub> emission reduction potentials, and in particular allow innovations into the GCIP Accelerators that a) have a relatively low CO<sub>2</sub> reduction potential, but a considerable demand and market growth potential (that can lead to amplification of GEBs), as well as b) that create multiple benefits (including socioeconomic, such as job creation, gender mainstreaming, etc.).

160. In addition, indirect GEBs facilitated through the CIEE strengthening are also expected. In particular, indirect GHG emission reductions could result from: strengthened capacity of institutions

and human resources to support commercialization and uptake of cleantech solutions at large; investments mobilized for cleantech solutions at large due to reduced risk perceptions; as well as longer-term emission reductions from behavioural change. An estimated factor of 5 is chosen to provide a projection for indirect GEBs. Where possible, efforts will be made to verify the indirect GHG emission reductions achieved at national and global levels through terminal evaluations.

161. This target-based approach for the estimation of GHG emission reductions will be applied across all 10 child projects under the GCIP Framework (GEF ID: 10408) and to further GCIP-linked project, such as the Senegal project. A GCIP methodology for the calculation and monitoring of GHG reduction potential will be developed by the GCIP Global (GEF ID: 10461) in the first year of the project implementation, as well as it will be shared with all GCIP partner countries to enable coherent approach. In order to ensure that the desired GEBs are cumulatively delivered by the GCIP Framework, appropriate measures will be applied across the programme. They will entail placing a benchmark for the estimated GEB to be delivered by the cleantech innovations at the GCIP Accelerator application stage, so that only solutions with sufficient impact potential are supported. If the projected GHG emission reduction does not meet the minimum requirement set, the innovation will not be accepted into the GCIP Accelerators.

ii) Estimation of Global Environmental Benefits of the Senegal project.

162. The five cycles of the Senegal Cleantech Accelerator are expected to support 125 enterprises (approx., 25 semi-finalists per cycle, for a total of 5 cycles), as a result of which the avoided direct GHG emissions over a ten-year horizon are estimated as described in the table below (Table 12). The lower range has been used as input to the GEF corporate core GHG indicator target (indicator 6) as a conservative estimation.

**Table 12: Estimate of GHG emissions reductions**

Target range per innovation (in tCO <sub>2</sub> e over 10-year horizon)	No. of innovations expected to be supported through the accelerator	Target range for GHG emissions reductions (in tCO <sub>2</sub> e over 10-year horizon) throughout the project	
		Direct	Indirect (factor of 5)
1,800-3,600	125	225,000-450,000	1,125,000-2,250,000

163. To facilitate the achievement of GEBs, there will be awareness raising and promotional activities during the call for applications to the Senegal Cleantech Accelerator, and also the applicants will be supported in calculating GHG emission reduction potential of their innovations. Additional training on GHG monitoring and calculation will be provided to all semi-finalists.

164. In addition to the substantial mitigation of CO<sub>2</sub> emissions, it is expected that other environmental co-benefits will result from this project. These are likely to include reduction in waste, material use, air pollutants (e.g. NO<sub>x</sub>, SO<sub>x</sub>, PM and CO), improved water quality, and reduced forest degradation among others. Some of these benefits will be delivered by the support of clean cooking solutions. Improvements in air quality and overall environmental quality may trigger improvements in e.g., human health and living conditions due to better water, air and soil quality.

## 7) innovativeness, sustainability and potential for scaling up

### Innovativeness

165. This project is unique in its approach of fostering the expansion of cleantech SMEs into cleantech products and markets. From the assessment of the current policy framework and the identification of innovative technologies to their development and commercialization, the project supports entrepreneurs across the whole innovation value chain to develop demand-driven and investment-ready climate solutions that will have a real impact in Senegal and global markets. The Senegal project does not only focus on enterprises, but also on strengthening the entire CIEE by

building capacity in national institutions, creating strong linkages between the most relevant ecosystem players, and by raising awareness of the society at large. In contrast to other accelerators and incubator programmes, this project not only promotes innovation per se but also addressed a gap that was identified during the baseline assessment at PPG stage: the connection to the market and the business approach. Although university incubators do focus on generating a pipeline of business ideas there is a need to build capacity of both the entrepreneurs and the trainers (and strengthen the overall CIEE) for those ideas to actually become successful and scalable businesses that can succeed once they enter the market. Apart from building capacities, creating strong linkages between the most relevant ecosystem players and raising awareness among them is vital.

166. In particular, this 'value chain' approach brings innovation to Senegal as there is currently no coordinated effort to increase the competitiveness of the SME sector in Senegal to develop and commercialize cleantech solutions and introduce them to the market successfully.

#### Sustainability

167. The Senegal project is designed with the view to ensuring self-sufficiency and long-term sustainability of the acceleration and coordination mechanisms established in its framework through 1) Enhancing the capacity of the PEE/PEP for C1 to provide the Pre-Accelerator, Accelerator, Advanced Accelerator, and Post-Accelerator services in a self-reliant manner after year 1. More specifically, the assistance will be gradually phased out in the subsequent years – therefore, the PEE/PEP for C1 is expected to run all activities and coordinate with relevant stakeholders fully autonomously by the end of the project; 2) Building capacity of local experts (trainers, mentors, judges), so that they are able to offer their services on market terms (independently from this project) to entrepreneurs not supported by the project. Collaboration with Government stakeholders is particularly important; 3) Linking the Senegal CIEEs with the GCIP Global project and creating communication channels that would enable Senegal cleantech start-ups/SMEs, policy makers, industry associations, etc. to connect with international fund providers; 4) Providing several tools that can be referred to and used by different CIEE stakeholders beyond the lifetime of the Senegal project, such as guidebooks, systems, tools, guidelines, website, etc.; 5) Guiding entrepreneurs to incorporate sustainability considerations in their business models, such as meeting the needs of the present generation without compromising the ability of the future generations to meet their own needs; as well as ensuring business resilience to external shocks and stable growth potential (through a thorough analysis of the demand, competition, etc.); 6) Facilitating early-stage investment, and thus enabling the entrepreneurs to bridge the valley of death in their scale-up journey, which in turn mitigates risks for future investors and increases chances for further rounds of finance, including commercial lending (this would be further enhanced if the local commercial banks and financial sector is engaged in the project); 7) Creating linkages to the global GCIP web platform to be used also after the project lifetime (as a market place, where entrepreneurs will continue to showcase their solutions, investors will continue to scout for new innovations, policy makers and regulators will continue to interact). In fact, the web platform will catalyse connectivity between different stakeholders in the long term; 8) Working closely together with the GCIP Global project and partner countries, and thus enabling the Senegal project to be part of a global and recognized brand that is expected to last in the future.

168. A Senegal project sustainability and exit strategy will be developed based on a framework delivered by the GCIP Global, and it will among other, include specific considerations related to a formal project handover process and the point in time when UNIDO's exit takes place (based on targets achieved by the project). In addition, an advocacy and communication strategy, with the intention to support the creation of strong networks and effective communication channels among the cleantech ecosystem actors, will be developed in order to ensure post-project closure sustained interactions and networking. The role of knowledge management is crucial: it underpins GCIP's sustainability through building capacity, publishing and sharing standards, methodologies, practices and resources and providing the platform for ongoing communication.

#### Potential for scaling-up

169. The Senegal project bears a considerable potential for local and regional expansion in terms of cooperation and networking, as well as sectoral expansion through inclusion of additional cleantech

categories. For example, at global/regional level, through close relationship with the GCIP, the stakeholders are enabled to form international partnerships and to enter foreign markets. Furthermore, through continuous extension of GCIP into additional countries, these opportunities are continuously augmenting. Knowledge management, integral to GCIP, will assist in the scaling up by providing the models and resources to easily replicate in different sectors and regions.

170. Also, the success already achieved through cooperation within the ECOWAS region in promoting energy efficiency and harnessing renewable energy resources indicates the potential experience-sharing and collaboration that could occur at regional level.

171. Furthermore, at local/national scale, the experience gained by the PEE and the PEPs during the implementation of the proposed project will be used to identify other geographical areas that need specific support or to expand the technological scope where the project could be replicated.

172. The post-acceleration support including investment facilitation and commercialization services (in combination with awareness raising and enabling environment creation) will increase the scale-up potential of the innovations identified by the accelerator. By continuously providing support to alumni enterprises and other eligible cleantech innovators, the project is expected to effectively increase job creation, competitiveness, wealth generation and GHG emission reductions. Showcasing success stories that demonstrate that economic growth can be driven by the adoption of cleantech, and sustainable production practices will also raise awareness and increase demand for this type of businesses. It is also expected that the project will serve as a catalytic force to advance the cleantech innovation and entrepreneurship ecosystem in Senegal as well as to coordinate and maximize the synergies with national and international relevant players.

173. The sustainability and exit strategy that will be developed based on GCIP model will include a set of interventions that will also ensure future scale-up of the project, such as:

- a. identify and work with institutions that will retain the knowledge and skills developed under the project;
- b. pursue country ownership through engagement of relevant public and private sector actors;
- c. build local capacities (trainers, mentors, judges) to sustain the ongoing organization of the accelerator;
- d. ensure access to training materials and infrastructure to manage applications (whether local, international, or centrally-shared);
- e. provide clarity about the point at which exit will take place, based on targets and outcomes; and
- f. engage in a handover process and transition where UNIDO support is phased out.

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[1] <https://www.worldbank.org/en/country/senegal/overview>

[2] <https://www.iea.org/countries/Senegal>

[3] [https://www.climatewatchdata.org/ghg-emissions?breakBy=regions-ABSOLUTE\\_VALUE?ions=SEN](https://www.climatewatchdata.org/ghg-emissions?breakBy=regions-ABSOLUTE_VALUE?ions=SEN)

[4] [https://www.climatelinks.org/sites/default/files/asset/document/2016\\_USAID\\_Senegal%20GHG%20Emissions%20Fact%20Sheet.pdf](https://www.climatelinks.org/sites/default/files/asset/document/2016_USAID_Senegal%20GHG%20Emissions%20Fact%20Sheet.pdf)

[5] <https://cgspace.cgiar.org/bitstream/handle/10568/21195/Samari%202011%20Mali%20-%20State%20of%20climate%20change%20adaptation%20and%20mitigation%20efforts.pdf>

[6] [https://iea.blob.core.windows.net/assets/1d996108-18cc-41d7-9da3-55496ccc6310/AEO2019\\_SENEGAL.pdf](https://iea.blob.core.windows.net/assets/1d996108-18cc-41d7-9da3-55496ccc6310/AEO2019_SENEGAL.pdf)

[7] SMEs in the document are defined to mean entrepreneurs, start-ups, micro, medium and small scale enterprises

[8] <http://www.tipconsortium.net/resource/developing-a-transformative-innovation-policy-approach-the-case-of-senegal>

[9] *ibid.*

[10] Mathews, J. A. (2017). Global trade and promotion of cleantech industry: A post-Paris agenda. *Climate Policy*, 17(1), 102-110. <https://doi.org/10.1080/14693062.2016.1215286>

[11] <https://data.worldbank.org/country/Senegal>

[12] From PIF

[13] GNI per capita, Atlas method, current USD.

<https://data.worldbank.org/indicator/NY.GNP.PCAP.CD?locations=SN>

[14] [https://www.irena.org/IRENADocuments/Statistical\\_Profiles/Africa/Senegal\\_Africa\\_RE\\_SP.pdf](https://www.irena.org/IRENADocuments/Statistical_Profiles/Africa/Senegal_Africa_RE_SP.pdf)

[15] <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Senegal%20First/CDNSenegal%20approuv%C3%A9e-pdf-.pdf>

[16] <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=SN>

[17] <https://data.worldbank.org/indicator/EG.ELC.ACCS.RU.ZS?locations=SN>

[18] [https://www.irena.org/IRENADocuments/Statistical\\_Profiles/Africa/Senegal\\_Africa\\_RE\\_SP.pdf](https://www.irena.org/IRENADocuments/Statistical_Profiles/Africa/Senegal_Africa_RE_SP.pdf)

[19] [https://pdf.usaid.gov/pdf\\_docs/PA00X884.pdf](https://pdf.usaid.gov/pdf_docs/PA00X884.pdf)

[20] [https://pdf.usaid.gov/pdf\\_docs/PA00X884.pdf](https://pdf.usaid.gov/pdf_docs/PA00X884.pdf)

[21] <https://www.se4all-africa.org/seforall-in-africa/country-data/senegal/>

[22] [https://www.climatewatchdata.org/ghg-emissions?breakBy=sector&end\\_year=2018&regions=SEN&source=CAIT&start\\_year=1990](https://www.climatewatchdata.org/ghg-emissions?breakBy=sector&end_year=2018&regions=SEN&source=CAIT&start_year=1990)

[23] [https://www.climatelinks.org/sites/default/files/asset/document/2016\\_USAID\\_Senegal%20GHG%20Emissions%20Fact%20Sheet.pdf](https://www.climatelinks.org/sites/default/files/asset/document/2016_USAID_Senegal%20GHG%20Emissions%20Fact%20Sheet.pdf)

[24] Clean Energy Transitions in North Africa, International Energy Agency, Revised version, October 2020 [https://iea.blob.core.windows.net/assets/b9c395df-97f1-4982-8839-](https://iea.blob.core.windows.net/assets/b9c395df-97f1-4982-8839-79f0fdc8c1c3/Clean_Energy_Transitions_in_North_Africa.pdf)

[79f0fdc8c1c3/Clean\\_Energy\\_Transitions\\_in\\_North\\_Africa.pdf](https://iea.blob.core.windows.net/assets/b9c395df-97f1-4982-8839-79f0fdc8c1c3/Clean_Energy_Transitions_in_North_Africa.pdf)

[25] [https://www.climatelinks.org/sites/default/files/asset/document/2017\\_USAID%20ATLAS\\_Climate%20Change%20Risk%20Profile%20-%20Senegal.pdf](https://www.climatelinks.org/sites/default/files/asset/document/2017_USAID%20ATLAS_Climate%20Change%20Risk%20Profile%20-%20Senegal.pdf)

[26] [https://climateknowledgeportal.worldbank.org/sites/default/files/2018-10/wb\\_gfdr climate\\_change\\_country\\_profile\\_for\\_SEN.pdf](https://climateknowledgeportal.worldbank.org/sites/default/files/2018-10/wb_gfdr climate_change_country_profile_for_SEN.pdf)

[27] Commerce: Trade / Industries textiles : textile industries / Autres industries : Other industries / Services personnels divers : Miscellaneous personal services / Agriculture, ?levage et p?che :

agriculture, cattle breeding and fishing / Hôtels, bars et restaurants : Hotels, bars and restaurants / Industries alimentaires: Food industries / Services fournis aux entreprises: Services provided to other businesses / Transport et télécommunications: Transport and telecommunication / BTP (bâtiment et travaux publics): construction and public works.

[28] Note that large companies/enterprises are not included in this list of definitions since they are not part of the targeted stakeholders under this project. For a definition of large companies, you may refer to the Baseline Report included as Annex L.

[29] Rapport global du recensement général des entreprises, Agence nationale de la Statistique et de la Démographie, 2017

[30] <https://www.bmz.de/en/countries/senegal>

[31] Rapport global du recensement général des entreprises, Agence nationale de la Statistique et de la Démographie, 2017

[32] <https://www.doingbusiness.org/en/rankings>

[33] Tontines are an ancient savings system of Africa where a group of people (the subscribers to the common fund) contribute a fixed sum to a common pot and take turns collecting the money after an agreed period. In Senegal, it is often used to fund businesses or large-scale projects.

[34] Industries included in this branch are mining, chemical, mechanical, wood industries, etc.

[35] ECOWAS Policy on STI: <http://www.esc.comm.ecowas.int/wp-content/uploads/2016/04/ECOWAS-Directive-on-STI-Eng.pdf>

[36] See Senegal UNESCO profile here: <http://uis.unesco.org/en/country/sn?theme=science-technology-and-innovation>

[37] Gross Domestic Expenditure on R&D (GERD).

[38] Clean Energy Transitions in North Africa, International Energy Agency, Revised version, October 2020 [https://iea.blob.core.windows.net/assets/b9c395df-97f1-4982-8839-79f0fdc8c1c3/Clean\\_Energy\\_Transitions\\_in\\_North\\_Africa.pdf](https://iea.blob.core.windows.net/assets/b9c395df-97f1-4982-8839-79f0fdc8c1c3/Clean_Energy_Transitions_in_North_Africa.pdf)

[39] <https://www.crse.sn/sites/default/files/2018-11/D%3%a9cision%20n%2%b02018-09.pdf> and <https://www.linkedin.com/pulse/senegal-launches-breakthrough-policy-solar-pv-toby-d-couture/>

[40] UFCE Union Des Femmes Chefs D'entreprise Du Sénégal (Dakar, Sénégal)

[41] AFAO Association des Femmes de l'Afrique de l'Ouest (Dakar, Sénégal)

[42] <https://e-cover.co/>

[43] <https://settic.sn/>



[44] <https://minorityrights.org/country/senegal/>

[45] <https://anida.sn/assets/brochure-10-ans-anida-version-electronique-v211118-version-finale.pdf>

## **1b. Project Map and Coordinates**

**Please provide geo-referenced information and map where the project interventions will take place.**

174. The project will take place in Senegal. Most of the activities will occur in Dakar, where the main stakeholders are located (particularly the Government ones, and more specifically the PEE and potential PEPs). This is due to benefits resulting from a relatively dense concentration of relevant stakeholders there, and well-developed infrastructure. However, the project proposes to conduct engagement activities, trainings and events outside Dakar, to improve the national footprint of the intervention. There will be regional technology brokerage, training and capacity building events, and Investor Connect events organized in other major cities. The specific list will be defined during project implementation but, initially, the cities that would be included, apart from Dakar, should be Saint-Louis (through cooperation with the University Gaston Berger), Thiès (through cooperation through the University of Thiès, and Ecole Polytechnique de Thiès), Bambey (through cooperation through the Alioune DIOP University of Bambey), Ziguinchor (through cooperation with the University Assane Seck).

175. Also, details on the specific regions to focus on will be determined during Year 1, especially taking into consideration for example those regions where agricultural activities are more concentrated.

176. The SMEs that were interviewed at this PPG stage are located in Dakar (E-Cover, Set-TIC), except Proplast Industrie which is in Thiès. Most of their businesses occur in Dakar city and neighbouring area because they are focused on waste collection and recycling (waste generation and management is of great concern in populated cities like Dakar).



Figure 10. Map of Senegal

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

Not applicable.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations

Indigenous Peoples and Local Communities

Private Sector Entities

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

177. UNIDO is the implementing agency of the project and, as such, it is accountable to GEF and other funding sources to be provided by the public and private sector. Inclusive stakeholder consultations, that took place during the project design period (e.g., see Annex N - Evidence of Stakeholder Engagements), paved the way for strong involvement and commitment from all relevant actors. This will continue throughout the project, as the facilitation of coordination between all CIEE stakeholders is a key objective of the Senegal project. A Stakeholder Engagement Plan (SEP) was developed (Annex K) to outline the strategy for engaging with stakeholders, including a range of activities and approaches, from information sharing and consultation, to participation, negotiation, and partnerships. The SEP also sets out resources and responsibilities as well as any related monitoring and reporting requirements.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

178. An overview of the stakeholders as well as their foreseen roles in the project is included below. All the stakeholders will be consulted during project execution by the relevant national executing entity, or whoever this appoints. Depending on the COVID-19 situation and the location of the various stakeholders, the engagement will be either virtual (email, Skype, Zoom) or in-person. The exact modality and timeline of engagement as well as the best way of disseminating information will be identified during project implementation.

**Table 13: Overview of stakeholders in Senegal Project**

Stakeholder	Current role in the country	Envisaged role in the Senegal Project
DEEC (Directorate of Environment and Classified Establishments) within the MEDD (Ministry of Environment and Sustainable Development)	The DEEC/MEDD develops and implements the policy defined by the Head of State in terms of environmental monitoring, the fight against pollution and the protection of nature, fauna and flora.	The Directorate of Environment and Classified Establishments (DEEC), within the Ministry of Environment and Sustainable Development (MEDD), is nominated as the PEE, and chair of the PSC. The DEEC/MEDD will host the PMU.
UNIDO (United Nations Industrial Development Organisation)	It is a UN specialised agency that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. It has a Field Office in Dakar, Senegal and have conducted several projects and programmes in the country.	UNIDO, as a GEF Agency, is responsible for the implementation of the project, which entails oversight of project execution to ensure that the project is carried out in accordance with agreed standards and requirements. UNIDO will also be in the PSC.

<p>DER ? Delegation for Rapid Entrepreneurship of Women and Youth</p>	<p>DER?s missions are: (i) the definition and implementation of strategies to promote the self-employment of young people and women; (ii) the mobilization of resources and the financing of business creation projects and income-generating activities; (iii) strengthening the technical and managerial capacities of beneficiaries; (iv) supervision and monitoring and evaluation of funded projects and activities.</p>	<p>DER would be a strategic stakeholder to be engaged as part of the PSC and also to get involved in some activities of the project, particularly under Component 1.</p>
<p>ADEPME (SME Development Agency, Agence de D?veloppement et d?Encadrement des Petites et Moyennes Entreprises) and BMN (Industry Upgrading Agency, Bureau de Mise ? Niveau)</p>	<p>ADEPME and BMN are agencies of the Ministry of Trade and Small and Medium Enterprises (Ministre du Commerce et des Petites et Moyennes Entreprises)</p>	<p>Potential PSC member, representing the Ministry of SMEs</p>

<p>ANIDA - Agency for Employment and Agriculture Development</p>	<p>ANIDA is an agency dependent from the Ministry of Agriculture and Rural Development (Ministre de l'Agriculture et de l'Équipement Rural). It was created to promote the integration and employment in the agricultural sector. Its aim is to promote the development of a modern, diversified agriculture, based on water management and providing sustainable jobs for young people. It has two main missions: i) Ensure the creation and development of modern integrated agricultural farms to promote sustainable jobs in the agricultural professions and thus fight against youth unemployment, poverty, rural exodus and illegal immigration; ii) Support private initiatives in the agroforestry-pastoral area. In order to carry out its missions and optimize the impact of its intervention, the Agency has strategically opted for the valorisation of groundwater for irrigation and the development of mixed farming (production in off-season and in wintering) and integrated (plant and animal).</p>	<p>Potential PSC member, representing the Ministry of Agriculture and Rural Development.</p>
<p>ANER - National Agency for Renewable Energy  AEME - National Agency for Energy Efficiency</p>	<p>ANER and AEME are agencies of the Ministry of Petroleum and Energy (Ministère du Pétrole et des Énergies)</p>	<p>Potential PSC member, representing the Ministry of Petroleum and Energy</p>

<p>Universities in several cities throughout the country:</p> <ul style="list-style-type: none"> <li>? Gaston Berger University (Saint-Louis)</li> <li>? Alioune DIOP University of Bambey (Bambey)</li> <li>? Assane SECK University of Ziguinchor (Ziguinchor)</li> <li>? Ecole Polytechnique de Thiès (Thiès)</li> <li>? ESP - Ecole Supérieure Polytechnique, University of Dakar (Dakar)</li> </ul>	<p>Higher education institutions. Some of them have incubators and programmes focusing on innovation and clean technologies.</p>	<p>They would be engaged in the 'Train-the-Trainers' and capacity building activities and events by hosting some of those in their premises to allow for a wider geographical footprint of the project and engagement of neighbouring stakeholders, mostly the youth and women. They would also be engaged to conduct stakeholders' engagement events or dissemination activities.</p>
<p>CSOs / NGOs</p> <ul style="list-style-type: none"> <li>? AFAO WAWA</li> <li>? FAWE,</li> <li>? Enda Energie</li> </ul>	<p>CSO/NGOs are a key piece of the local CIEE since they have access to local communities and, in the case of AFAO-WAWA and FAWE, with a special focus on women. Some like Enda Energie also work substantially in rural areas and with local communities.</p>	<p>CSO/NGOs are key stakeholders that should be approached during consultative processes to be undertaken during project execution. These types of organisations ease the connection with local communities or women communities and also have an understanding of the most common barriers and needs they face; thus, they could provide key insights to ensure that the project appropriately mainstreams and addresses both gender and vulnerable population needs.</p>
<p>Private sector / Investors</p>	<p>N.A.</p>	<p>The private sector will provide the financial resources required to support innovative technology into a product and market entry through the investors connect events that would be organized during implementation. Local banks would also be approached to assess the possibility of providing financing for start-ups and SMEs.</p>

<p>ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)</p>	<p>The ECREEE was established in July 2010 with technical support from UNIDO and funding from the Austrian Development Cooperation (ADC) and the Spanish Agency for International Development Cooperation (AECID). Now an independent legally established entity, ECREEE's objectives are to assist the ECOWAS countries to improve energy access, energy security and climate change mitigation by promoting an enabling environment for RE&amp;EE investment and industry.</p>	<p>Within the Senegal Project, ECREEE will support activities that have clear synergies with their ongoing regional projects portfolio, that may include for example awareness-raising, capacity development, investment and business opportunities for local industries and businesses, among other.</p>
<p>Associations promoting gender equality and women's empowerment, Gender Focal Points and Gender Experts. An example is:</p> <p>UFCE (Union des Femmes Chefs d'Entreprises du S?n?gal)</p> <p>AFAO (Association des Femmes de l'Afrique de l'Ouest)</p>	<p>To contribute to women empowerment and development, promote women's rights, contribute to mainstreaming gender and encouraging women economic independence.</p> <p>UFCE group women entrepreneurs and is present in the 14 regions. Currently has 700 members who work mainly in the processing of food products, particularly in cereals, fruits and vegetables, and fishing.</p> <p>The general objective of AFAO-WAWA is to mobilize women from the 16 countries of the ECOWAS region around the issue of economic integration in Africa.</p>	<p>Relevant women entrepreneurs, gender experts, associations that promote gender equality and empowerment of women, and gender focal points will be involved in all activities of the project. The project will deliberately mobilize interest from women entrepreneurs by targeting the involvement of their associations in the project process. This will be done by taking into consideration the cultural context that exists in Senegal. That way, the project would adequately address the gender imbalances in SMEs and provide a solid basis for gender mainstreaming in cleantech innovation.</p>
<p>Youth Associations, Student Groups and Networks</p>	<p>e.g. Student Energy, SDG7 Youth Constituency, YOUNGO</p>	

**Table 14: Overview of stakeholder groups and engagement details**

Stakeholder Group		Purpose of engagement	Means of engagement	Responsibility	Frequency
Stakeholders to be affected directly by the results of project implementation	Entrepreneurs and SMEs applying to the accelerator	To be encouraged to participate in the Senegal Project and encourage others, to provide feedback and thus contribute to cleantech market growth	Project website, training, webinars, workshops, acceleration support, contact with mentors/coaches, investment facilitation, networking, project reports and flyers, e-newsletter	PEE	Continuous
	PSC members	To perform their role effectively and efficiently as guiding entity during project implementation	Project website, training, webinars, capacity building and policy workshops, policy support, links with the GCIP, project reports and flyers, e-newsletter, PSC Meetings scheduled as required by the project management needs	PEE	Continuous (with PSC Meeting scheduled once a year or as required by the project management needs)
	Potential investors: WIC Capital, Teranga Capital?	To consider investing in start-ups and SMEs supported by the project	Project website, training, webinars, Investor Connect, events, curated introductions, project reports	PEE	Continuous



	Universities (as mentioned in the previous list)	To participate in the Entrepreneurship Train-the-Trainer Programme and to promote Senegal Project among students and youth To co-host training events	Project website, training, webinars, workshops, networking, project reports and flyers, e-newsletter	PEE	At least two cycles of the Entrepreneurship Train-the-Trainer Programme, continuous promotion, and co-hosted events according to project implementation schedule
Stakeholders to be affected indirectly by the results of project implementation	Business associations and chambers: UFCE, APBEF	To provide feedback and advice, to promote the Senegal Project among their members, and to support outreach activities	Project website, stakeholder consultation workshops, e-newsletters, meetings, reporting	PEE	Continuous
	Civil Society / NGOs: Women: AFAO WAWA FAWE, Enda Energie Indigenous/local communities	To provide feedback on the design and results of the project, including its environmental and socio-economic impacts (including gender-related) and effectiveness of mitigation measures			Twice a year

Stakeholders that participate in the project management, including MEDD (PMU), UNIDO, as well as other PEPs	To provide feedback on project implementation (including suggestions for improvement)	Meetings, trainings, emails, phone calls, exchange of minutes, memos and official letters, project website; Two-way interaction between GCIP and the Senegal Project on development of guidebooks and guidelines, training material and capacity building, global advocacy, coordination and coherence, international forums, knowledge products, etc.	PEE	Continuous
Stakeholders involved in the project implementation as contractors, mentors, judges, policy makers, financiers, and knowledge partners	Ministries and government agencies	To be informed and to inform, to be offered capacity building activities, to develop conducive policy and regulations, to communicate impacts of the Senegal Project	PEE	Continuous

	Business associations: UFCE, CNES, Maison des Start-ups, APBEF  Accelerators & Incubators (identified in the baseline report) / R&D institutions / clusters / hubs: Incubators located in the Universities of Thi?s, Bambej, Gaston Berger, ESP (Dakar), other.	To support the identification of and outreach to potential entrepreneurs and forum & workshop participants To provide feedback on project implementation, to identify synergies and investment opportunities	Meetings, workshops, email, website, e-newsletter	PEE	Continuous
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**Select what role civil society will play in the project:**

**Consulted only; Yes**

**Member of Advisory Body; Contractor;**

**Co-financier;**

**Member of project steering committee or equivalent decision-making body;**

**Executor or co-executor;**

**Other (Please explain)**

### **3. Gender Equality and Women's Empowerment**

**Provide the gender analysis or equivalent socio-economic assesment.**

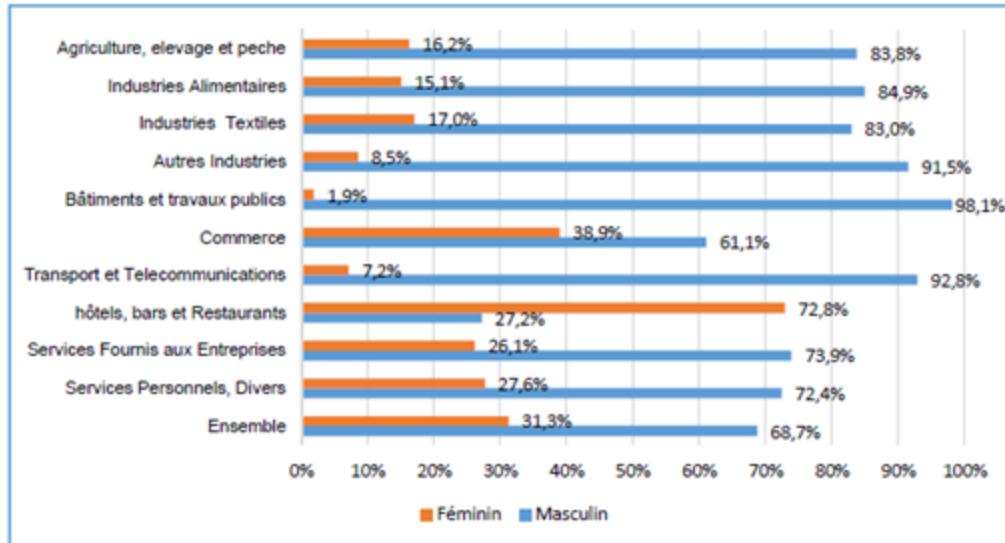
179. The following paragraphs contain a summary of the Gender Analysis Report contained in Annex I to this project document. Please refer to Annex I for a more detailed analysis of how this project envisages to contribute to gender equality and address gender mainstreaming through project execution.

180. Gender equality is a fundamental human right. While some progress has been achieved towards gender equality and women's empowerment globally, women continue to suffer from discrimination and violence in some parts of the world. Gender issues need to be addressed by creating equal employment and capacity building opportunities, as well as social infrastructure and safe working conditions responding to the specific needs of women. The importance of gender equality and women's empowerment, particularly women's economic empowerment, is at the core of UNIDO's mandate. Commitment of UNIDO towards gender equality and women's empowerment is demonstrated in its policy on Gender Equality and the Empowerment of Women (2019), and the UNIDO Strategy for Gender Equality and the Empowerment of Women (2020-2023). UNIDO has also developed an operational energy-gender guide to support gender mainstreaming within its sustainable energy initiatives.

181. Gender equality enhances economic growth, reduces household poverty, and enables human development. Women's entrepreneurship can directly contribute to the economic empowerment of women and is often seen as crucial for increasing the quality of life of women in the developing world, as well as a trigger for changes of the status-quo of women and for re-addressing the balance of power within the family.

182. The focus of dialogue on gender and cleantech is shifting from women being identified as part of the vulnerable groups to them becoming key agents of change as consumers, entrepreneurs, distributors and decision makers across the value chain. Women and their organizations have the potential to play a critical role in contributing to the SDGs. A large number of women are engaged in SMEs with a total number of formal women-owned SMEs, with at least one women owner, of approximately 8 - 10 million which is about 31 - 38 percent of all SMEs across 140 countries as estimated by IFC[1]. Looking at the figures of the IFC report for Sub-Saharan Africa, only 24% of the SMEs are owned by women. Moreover, they are often very energy-intensive, rely on biomass fuels and have disproportionately low rates of return compared to the activities undertaken by men.

183. Senegal's economy is dominated by micro and small enterprises as well as entrepreneurs, of which 90% are estimated to belong to the informal sector, with the majority of the population working in agriculture or fisheries sectors (80% of the population). The Government of Senegal has conducted a general survey to the enterprises (a census) in 2016 (results issued in 2017) where it was identified that the breakdown by sex of turnover of natural persons, shows that men hold 82.2% of the turnover, and women only 17.8%. This could imply that there are less women involved in business activities. This is even reinforced by the fact that women own only 31,3% of individual businesses, as seen below in Figure 1. Even if their participation is low, it is relevant to highlight the predominance of women-led businesses in the hotels, bars and restaurants branch (72,8%).



**Figure 11: Distribution of business ownership by branch of activity according to gender in Senegal[2]**

184. The GDI is calculated as the ratio of female to male HDI values, and it is a useful indicator to understand development disparities between genders. In Senegal the GDI is lower than the average value for the Sub-Saharan Africa region: 0.894 (2019), and the world average (0.943). The same occurs with the HDI for both women and men. Although it has improved in the past 20 years, Senegal still ranks low at position 168 out of 189 countries in terms of overall HDI.

185. The Global Gender Gap Index 2020 (GGGI) published by the World Economic Forum (WEF) enables a cross-country comparison of gender equality. It measures gender-based gaps in resources and opportunities independently from a country's level of development. The GGGI takes into consideration four basic categories: economic participation and opportunity, educational attainment, health and survival, and political empowerment. In 2020, Senegal received a score of 0.684[3], resulting in a ranking of 99th out of 153 countries globally, and in the regional SSA rank, Senegal ranks 18th out of the 34 countries included in the SSA list.

186. According to the WEF, among SSA countries, Senegal is the lowest performer in terms of labour participation of women with at least 36% of women in the labour market. However, Senegal performs better than the average in terms of political empowerment with 0.320 score in that sub-index (average is 0.239) driven by an increased participation of women in ministerial positions and in parliament.

187. It is worth noting the difference in access to education between primary and secondary school, with 79.6% of girls enrolled in primary school, but only 39.4% of them continue their way to secondary school and just 10.3% follow to tertiary education. Male enrolment follows approximately the same trend in Senegal, which means that there is an education access gap to be solved for both[4].

188. The Government of Senegal made significant progress for the promotion of a gender-sensitive environment, through the adoption of the Gender Parity Law (in 2010), the Standard Operating Procedures on Gender-Based Violence (GBV), a National Action Plan on GBV/Human Rights and the Empowerment of Women, and the validation of the new National Strategy for Gender

Equality and Equity[5] (SNEEG) which has been developed with the support of UN Women Senegal Program Presence to run from 2005-2015, and later updated in 2016 in order to align it with the PSE.

189. In general, in Senegal, both women and men entrepreneurs tend to face the same kind of barriers and face the same shortcomings in order to start a business, which is linked to the existing ?ecosystem obstacles?. However, according to gender gap analyses it was found that women generally take care of the family and are traditionally expected to do domestic chores. This results in a higher rate of illiteracy among women due to less time dedicated to education, lower representation in decision-making bodies and processes, social acceptance that women are also capable of leading a business, which inhibits an equal participation of women in the labour market in general, as well as their engagement as owners and leaders of SMEs in Senegal.

190. Access to financing and to insurance or guarantee mechanisms has also been highlighted through the online questionnaire that was done as part of the stakeholders? consultation process as a barrier affecting women more than men. Land ownership also impacts their possibility of accessing to financing since it is generally a requirement of financing institutions (particularly in agricultural businesses). This reflects a wider problem of financial inclusion of women. Only 38.5% of women have an account at a financial institution or use mobile money.

191. According to UN Women, in Senegal, women living in rural areas are highly active in the processing and marketing of agricultural, livestock and fishery products but they are confronted with several hurdles of various natures, including a number of constraints that are yet to be overcome[6]: Access to land and land tenure security; Access to financing mechanisms; Access to factors of production and extension services; Effects of climate change; Access to markets. This fact is verified also through a USAID study that found that in business, women have less than 30% of MSMEs[7] and are often forced into basic, informal and low-value business activities. Women have more difficulty obtaining credit than men because they do not have collateral such as land titles, real estate, etc. Women entrepreneurs also face significant time constraints due to the persistence of traditionally gender roles that require more work than men in the household (this is an issue of awareness and gender roles.)

192. Gender organisations and gender mainstreaming actions are present in Senegal. Responses to the online questionnaire showed a solid engagement of, mainly, Government-led organisations / actions that foster the inclusion of women particularly in the energy sector (since this is the topic of the Senegal Project). As per the questionnaire results, 65% of the responding organisations (including all types of organisations) claim to represent women interests and/or directly promote gender equality as area of action. For example, the DER (the Rapid Entrepreneurship Delegation for Women and the Youth) is a Government agency that has a fund specifically designed to provide financing for women entrepreneurs (with no age limit) and young entrepreneurs (up to 40 years old) to engage in innovative businesses in Senegal. There is also for example WIC Capital in the private sector, who is the first investment fund dedicated to women-led businesses. In terms of NGOs, one that is relevant in the Senegal environment is the Union Des Femmes Chefs D'entreprise Du Senegal (UFCE, Union of Women Entrepreneurs of Senegal) who groups women entrepreneurs (MSME) from all sectors of activity (food processing, agriculture, artisanal textiles, commerce, cosmetics, publishing, etc.). The UFCE promotes the development of female entrepreneurship, and female leadership in order to create a patronage. Globally, Goldman Sachs 10,000 Women is an initiative that fosters economic growth by

providing women entrepreneurs around the world with a business and management education, mentoring and networking, and access to capital. At Regional level, there is also the ECOWAS Program on Gender Mainstreaming in Energy Access (ECOWGEN) established back in 2012 with the aim of meeting the Sustainable Energy for All (SE4ALL) goals in West Africa, under a gender approach, and the African Women in Energy and Power (AWEaP) ? It is a Non-profit company established to accelerate African women entrepreneurs' participation in the Power and Energy sector by enabling Access to market for women and youth; finance for women and youth; credible market information; and skills development.

193. Gender mainstreaming will be central in the Senegal Project. A guiding principle of the project is to ensure that both women and men can equally lead, participate in and benefit from the project (UNIDO Gender Policy 2019). Particularly, in the Senegal Pre-Accelerator, Accelerator, Advanced Accelerator, and Post-Accelerator, gender-responsive activities will be streamlined to ensure the achievement of this goal. Special efforts will be made to promote equal participation of women and men, both at managerial and technical levels, as consultants, participants, entrepreneurs, mentors, etc. in all stages of project implementation. Under the GCIP, some projects have already shown higher levels of women's participation than other acceleration and incubation programmes, with 25% of the 900 alumni supported to date being women-led enterprises. This shows how important the inclusion of specific activities is to address the gender gap. The Senegal Project will aim at increasing the proportion of women beneficiaries with a target of at least 35% women beneficiaries to be achieved.

194. UNIDO's Guide on Gender Mainstreaming in Energy and Climate Change Projects was used to draft a gender mainstreaming action plan in the framework of this project (see Annex I) and this will serve as a framework for the project implementation, to ensure that both UNIDO and GEF requirements are fulfilled. Based on the guidelines, attention will be paid to: 1) Gender-sensitive recruitment at all levels where possible, especially in the selection of project staff. Gender-responsive TORs will be used to mainstream gender in the activities of consultants and experts. In cases where the project does not have direct influence, gender-sensitive recruitment will be encouraged. Furthermore, whenever possible existing staff will be trained and their awareness raised regarding gender issues; 2) gender dimensions will be considered in all decision-making processes (e.g. efforts to achieve gender balance/representation in such processes), including PSC meetings; 3) sex-disaggregated data will be collected; 4) Consultations will be held with stakeholders promoting gender equality and women's empowerment, such as gender experts and organizations, CSOs and NGOs, e.g. for outreach purposes.

195. A gender analysis was carried out and a draft gender mainstreaming action plan developed (see Annex I) in the framework of this project, which also influenced the ultimate project design. In the project design, UNIDO has ensured that the gender dimensions are considered, and that the project results framework reflects key gender dimensions in the respective outputs, activities, indicators and targets.

196. A summary of gender mainstreaming activities integrated in this project is shown in the table below. A full list and further details are provided in the Gender Analysis Report (see Annex I).

**Table 15: Summary of gender mainstreaming activities in the Senegal project**

Stage/Activity	Gender Equality Measure
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Project execution	Gender sensitization workshops will be conducted for all stakeholders involved in the Senegal Project; A gender training package (material for national capacity building on gender awareness) will be developed for Senegal (could take as reference the training package developed by the GCIP Global); Gender focal point will be nominated within the PEE. Gender mainstreaming targets will be included in the ToR for the national PEE and international contractors.
Training of consultants and experts	Consultants/experts will be required to complete the 'I know gender' UN course; Mentors and judges will be provided with training on awareness raising and gender-bias; Consultants will be expected to provide evidence on how gender equality is addressed in the material they develop.
Development of Senegal Project Guidebooks	Guidebooks will highlight the need to make special effort to encourage women to apply for the Senegal Acceleration support, including targeted outreach and gender specific communications material (e.g., videos, success stories) and explicit statements that the project encourages applications from women; Training materials for entrepreneurs will include topics on gender awareness; Gender equality will be addressed in the curricula and content of all training material developed for experts.
Application stage for Senegal Cleantech Accelerator	Sex-disaggregated data will be collected in application forms; There will be targeted and gender responsive outreach; It will be considered to organize events specifically targeted at connecting women technicians and engineers with businesswomen; A target of 35% of women-led enterprise applications is set.
Selection of Senegal semi-finalists and recruitment of experts	Stringent selection criteria will be defined that provide equal opportunities for both women and men; Women will be involved in the mentoring/training and judging processes so that more role models are created; Efforts will be made to ensure gender balance of judges; Special support will be provided to women to prepare for the competition, e.g., women could receive possibility to select their slot, so it does not overlap with their household responsibilities or could be offered safe transport to the competition venue; Evaluation methodology for selection of semi-finalists will consider the gender balance within entrepreneur's management teams and beneficiaries, as well as gender-responsive policies within their firms.
Special Awards	Special consideration will be given to the creation of a gender related prize (e.g., a prize for the women's entrepreneur of the year and/or a special award for the team with the product/service with the highest gender equality impact potential). Such a prize was offered in a number of countries under the GCIP programme, which led to an increase in the number of women-led innovators applying for support (e.g., in South Africa Pakistan and Morocco the number of applications from women entrepreneurs was between 25% and 40%). In sum, the project design will acknowledge the differences between women and men considering distribution of economic activities and social roles.
Provision of support to entrepreneurs participating in the Senegal Cleantech Accelerator, Advanced Accelerator, and Post-Accelerator	Where considered necessary, the project will seek to remove barriers to ensure inclusion of women (e.g., segregated financial training might be offered); There is a specific training module foreseen as part of the Accelerator curriculum to address gender-related challenges and barriers; The training material will be gender-responsive (e.g., stereotypes will be avoided); Trainings will be organized at times suitable for both women and men, and recordings will be provided.



Forums/events	Women participants will be encouraged to attend the forums/events through focused outreach activities; It will be ensured that topics of interest to women entrepreneurs are included in the forum/event agendas; There will be a targeted event or panel to discuss women's entrepreneurship; Participant data will be sex-disaggregated.
Investment facilitation	Gender lens investing principles will be applied in all investment decision making processes; Specific training material and guidelines on gender lens investment will be developed for financiers and other stakeholders.
Capacity building	Capacity building on gender equality will be mainstreamed throughout the project implementation and with regard to all stakeholders; A gender sensitization training for relevant stakeholders will be organized.
Policy support	The development of gender and youth empowerment policy framework will be supported by the project.
M&E	Regular monitoring and reporting on the Gender Mainstreaming Strategy and Action Plan;  Gender impact assessment report at the end of the project to assess the impact of the project on women's lives and livelihoods in Senegal, in particular in the cleantech and agricultural sector.

[1] <https://www.ifc.org/wps/wcm/connect/44b004b2-ed46-48fc-8ade-aa0f485069a1/WomenOwnedSMes+Report-Final.pdf?MOD=AJPERES&CVID=kiiZZDZ>

[2] Rapport global du recensement g?n?ral des entreprises, 2017, Government of Senegal  
<https://www.ansd.sn/ressources/rapports/Rapport%20global-05-07-2017.pdf>

[3] [http://www3.weforum.org/docs/WEF\\_GGGR\\_2020.pdf](http://www3.weforum.org/docs/WEF_GGGR_2020.pdf)

[4] Figures from: <http://hdr.undp.org/en/countries/profiles/SEN>

[5] <https://africa.unwomen.org/en/where-we-are/west-and-central-africa/senegal>

[6] <https://africa.unwomen.org/en/where-we-are/west-and-central-africa/senegal>

[7] [https://pdf.usaid.gov/pdf\\_docs/PA00W8ZG.pdf](https://pdf.usaid.gov/pdf_docs/PA00W8ZG.pdf)

**Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?**

Yes

**Closing gender gaps in access to and control over natural resources;**

**Improving women's participation and decision making** Yes

**Generating socio-economic benefits or services or women** Yes

**Does the project's results framework or logical framework include gender-sensitive indicators?**

Yes

**4. Private sector engagement**

**Elaborate on the private sector's engagement in the project, if any.**

198. The private sector is key to the creation and expansion of the market of cleantech products and services, achieving GEBs, generating jobs and supporting economic growth. The proposed project is designed in line with the GEF policy on Stakeholder Engagement that sets out the core principles and mandatory requirements for stakeholders. The private sector is a key source of co-financing; thus, the project PMU will be explicitly tasked to connect the start-ups to as many potential investors (public, private, national, regional, global) through activities like Investor Connect and National Forums (and the Global forums of the GCIP to which Senegal is expected to be invited to). Accordingly, the PMU will become a platform through which start-ups will be connected and establish relationships with networks of private investors, industry association, VCs, impact investors, etc.

199. There will be direct interactions with and support for entrepreneurs (SMEs and start-ups) offering innovative cleantech solutions. The entrepreneurs are considered as agents of change that bear the potential of instigating a market transformation. The SMEs and start-ups will be supported in the framework of the Senegal Pre-Accelerator, Accelerator, Advanced Accelerator, and Post-Accelerator, as described before.

200. Corporate partnerships will be formed to connect the Senegal Project participants with various companies with the aim to create joint venture opportunities across borders, to facilitate market expansion and product co-development. This has already been successfully piloted with the Korean Financing Technology Corporation (KOTEC) with collaborations established between Korean SMEs and GCIP alumni from Morocco, Pakistan, Thailand and Turkey. Similar partnerships are expected under this project. Partnerships at regional level will also be sought more specifically to expand the market regionally within Africa.

201. The Senegal Project will also partner with corporations that seek to identify and invest in innovative cleantech. More specifically, the National Innovation Challenge, to be integrated into the Senegal Cleantech Accelerator, will connect selected corporations ? looking for concrete demand-driven solutions ?with entrepreneurs.

202. Moreover, the Senegal Project will work together with financing institutions, venture capitalists, and angel investors (such as Tony Elumelu Foundation, Mastercard Foundation, WIC Capital, Partech, KINAYA Ventures, Brightmore Capital etc.) that seek to invest in cleantech solutions. In addition, Investor Connect events will be organized to connect potential financiers with entrepreneurs and to facilitate investments.

203. Furthermore, during implementation phase, expanding private sector co-financing will be sought. Due to the dynamics that characterize the private sector, it is complex to secure co-financing at a design stage.

204. The Senegal Project will also cooperate with industry and business associations (such as UFCE, etc.) to leverage their know-how, capital and interest in cleantech innovations, as well as to

build their capacity. In addition, industry experts will be engaged as mentors, trainers, judges, and EIRs (Entrepreneurs in residence) to support the Senegal Cleantech Accelerator, Advanced Accelerator, and Post-Accelerator.

## 5. Risks to Achieving Project Objectives

**Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):**

205. In order to secure the success of the project, it is important to carry out an assessment of the elements that could prevent the proposed project from achieving the expected results and to anticipate a strategy for the management of these risks in order to maximize the benefits of the project.

206. Obstacles can be of a different nature: political, institutional, technical, environmental, and financial. Obstacles can also correspond to the different phases of the project: from the creation and the recruitment phase to the start of the project, the implementation / execution of activities, the participation of stakeholders, monitoring and adaptive management during the project or the sustainability and impact of project actions after the end of the project duration. To minimize risks, stakeholders were engaged during the design phase of the project in order to better understand the potential impact of these risks and propose appropriate mitigation measures.

207. The tables below provide an overview of the identified general risks to achieving the project objectives, as well as specific COVID-19 risks and opportunities. To address these anticipated risks, the project will be designed to include an effective means to monitor, and to the extent possible, mitigate these risks. A project monitoring and evaluation plan has been prepared to track not only the stages of the project, but also the indicators that show that the identified risks are, if not eliminated - at least mitigated.

**Table 14: General risk analysis**

RISK	RISK LEVEL	RISK MITIGATION MEASURE
Political Risk I: Government priorities not placed on climate change mitigation when resources are diverted to address urgent crises (such as pandemics, geopolitical instabilities of the region, etc.)	Medium	The Project includes streamlining the importance of addressing climate change through cleantech innovation into policies and regulations and coordinating the relevant actors across sectors. This includes reinforcing their capacities in understanding the benefits of cleantech applications for economic growth in a sustainable manner, so that they will prioritize mitigation initiatives. Also, support for the private sector on offering innovative financial products to ensure continued and sustained support for cleantech companies and entrepreneurs will be crucial.  The PEE, PEPs and relevant stakeholders will be trained to identify outlying risks such as pandemics so that they can be prepared with appropriate mitigation measures. This topic should be part of the M&E training.

<p>Political risk II: Change in political leadership</p>	<p>Medium</p>	<p>The project will engage both the high-level political leadership from the concerned ministries, but also technical and operational staff who will drive the project activities execution. Therefore, change in leadership of the country should not have a strong impact on the project outcome and achievements. While the project is focused on climate change mitigation, its strategy of promoting innovation and entrepreneurship, by means of engaging the private sector, answers one of the key challenges that any new government will have to address i.e., creating employment. As such, the very project strategy and how it is linked to the country's key development issues is such that any new leader will be enticed to support the project. Nevertheless, in order to mitigate possible low awareness or support from the local government, UNIDO will consistently engage with the government in place in order to promote the importance of the project. By engaging both high-level political leadership and operational ? civil service staff, the project will also ensure that the operational level will continue to drive the project work even if the higher commands change.</p>
<p>Political risk III: Local against national politics</p>	<p>Low</p>	<p>The project will support the development and improvement of policies and regulatory frameworks at national level. In this process, the project will ensure adequate and extensive consultation with local governance structures, especially structures involved in the energy and agriculture sectors (since these are the most significant GHG emitters in Senegal). This will minimize potential challenges at operational levels.</p> <p>The risk would also be minimized by the fact that the Project will seek to conduct events in several cities, not only in Dakar, to increase the engagement of the local stakeholders and truly create awareness at national level.</p>

<p>Political risk IV: Change in political priorities due to new oil&amp;gas discoveries</p>	<p>Low</p>	<p>The project envisages to create awareness and ensure commitment as much as possible at both the high-level political sphere from the concerned ministries, but also on the technical and operational staff. Additionally, the project strategy is linked to the country's key development issues and policies such as the PSE and the NDC which have a strong focus on RE, EE, cleantech innovation as a whole and the active involvement of the private sector (e.g., SMEs). Notably, the PSE also takes into account the development of the oil&amp;gas sector. Thus, both RE and oil&amp;gas goals in the PSE complement each other. Nevertheless, in order to mitigate possible low awareness or reduced support from the local government, UNIDO will consistently engage with the government in place in order to promote the importance and relevance of the project for the development of cleantech innovative ideas pushed by local SMEs and entrepreneurs.</p>
<p>Institutional Risk I ? Limited absorptive capacity by the national counterparts</p>	<p>Low</p>	<p>The project will provide capacity building to the PEE and PEPs, as well as other key stakeholders as an ongoing process throughout the project implementation period to ensure that staff are comprehensively trained, and sustainability of the project is ensured. The project will also hire a dedicated PMU that will be the main responsible entity to monitor project progress and performance and will be able to identify any potential shortages in terms of implementation capacities of any of the involved parties.</p>
<p>Institutional Risk II ? Insufficient administrative and organizational capacity of the PEE for successful execution of the project</p>	<p>Low</p>	<p>An organizational assessment (a HACT Harmonized Approach to Cash Transfers assessment) was conducted in order to ensure that the PEE (the DEEC/MEDD in this case) is suited to carry out the executing task and minimise this risk. Nevertheless, the project will hire a dedicated PMU that will be the main responsible entity to monitor project progress and performance and will be able to identify any potential shortages in terms of organisational or administrative constraints and tackle them beforehand.</p>
<p>Institutional Risk III ? Lack of effective coordination between various project partners</p>	<p>Low</p>	<p>Proper coordination will be ensured through the establishment of the PMU and the Project Steering Committee (PSC) and ad-hoc working groups will be formed if necessary. Throughout the project implementation, support will be provided by UNIDO to ensure effective coordination between the key project stakeholders. Also, keeping the several parties informed about project progress through different communication channels is useful to aid coordination of efforts and activities. In addition, at project start, more specifically at the Inception Meeting, the roles and responsibilities that each party will play should be stated and recorded in the Inception Meeting Report.</p>

Sustainability Risk ? Lack of ownership of project results and inability to source funding to continue the activities in the medium and long term	Low	A sustainability and exit strategy will be developed based on a framework delivered by the GCIP Global, and it will among other include specific considerations related to a formal project handover process and the point intime when UNIDO?s exit takes place (based on targets achieved by the project).
Market Risk ? Lack of interest by entrepreneurs and other stakeholders to participate in the project, especially women entrepreneurs/SMEs led by women	Low/Medium	<p>Outreach and communications activities will be a key Component of the project in the lead-up to the opening of application process and throughout the project to attract entrepreneurs, potential sponsors and partners, and mentors and judges. More specifically, the project knowledge management, communication, and advocacy strategy will be developed to guide these efforts. On the other hand, bearing in mind that the project will be addressing one key barrier to entrepreneurship, which is access to financing, it is expected that there will be enough interest in participating.</p> <p>Women engagement activities and measures to encourage their participation will be continuously conducted to ensure a high percentage of women involvement. This will include reaching out through women?s associations and networks as well as women role models, utilizing gender responsive communication material, etc.</p>
Market Risk ? Failure of businesses supported by the project	Medium	The Senegal guidebooks (for Accelerator, Advanced Accelerator, and Post-Accelerator) will be comprehensive documents that articulate the approach to promoting cleantech innovation and entrepreneurship in developing countries, taking the GCIP as reference. As such, they will help ensure that the businesses supported have real market potential. In particular, the guidebooks will define eligibility requirements and selection criteria for the participants. Moreover, there will be specific training topics addressing the most common mistakes that lead to business failure in the market so both trainers and trainees understand what needs to be done to reduce failure.

<p>Financing Risks ? Incentive and financial support systems are insufficient</p>	<p>Low/Medium</p>	<p>The outreach and communications activities will be targeted at, among others, financing institutions, venture capitalists, and angel investors. Also, the PSC will include at least one representative of a financing institution or an investor. Moreover, the project seeks to strengthen the provision of appropriate funding instruments and mechanisms to enable the deployment of cleantech goods and services and envisages to create strong linkages and networking event like Investor Connect and the Senegal Cleantech Forum to showcase the financial benefits of investing in cleantech (and not only focusing on the environmental benefits). Finally, the analysis of the policy gaps and provision of recommendations to improve the framework should include proposals of new incentives that would encourage investments in cleantech.</p>
<p>Social Risk ? Limited inclusion of vulnerable groups and gender dimensions</p>	<p>Low</p>	<p>To ensure gender inclusiveness of all project activities, the awareness of stakeholders on unconscious bias will be enhanced and the business case for women's involvement will be presented. Moreover, UNIDO methodology for gender assessment and gender responsive communication showing the benefits of gender equality for both women and men will be applied. To mainstream women and youth entrepreneurship, adequate and gender responsive communication strategy will be implemented, and sensitization workshops will be organized. A full gender analysis was carried out and its recommendations were incorporated into the project design. Vulnerable groups and local communities will also be engaged during implementation in stakeholders' events and CSO/NGO dealing with these groups will be approached to provide support in reaching these communities. Specific events (e.g., focus groups) addressing indigenous peoples or vulnerable groups may be considered as engagement method to ensure their needs are properly mainstream into project implementation.</p>

Climate change Risks	Low/Medium	In terms of climate change impacts, it is worth mentioning that droughts, floods, sea-level rise, and coastal erosion are the natural hazards that pose the greatest threat to the country with predominance of droughts and floods. Droughts in Senegal are concentrated mostly in the arid and semi-arid Sahelian regions (north and centre) and can cause a significant drop in crop yield. Floods are of concern in the coastal areas where most of the population resides, which are the result of river overflows (in the Gambia and Senegal rivers), a combination of heavy rains and insufficient drainage infrastructure (in Kaolack and Dakar especially) - and storm surges leading to salt-water intrusion into agricultural lands (particularly in the Saloum Delta). In addition to extreme events, rising sea levels place much of the coastal population, infrastructure and ecosystems at risk from flooding and erosion. The sector that could be mostly affected by climate impacts is the agricultural sector since 70% of the production is rain-fed. To safeguard against climate change risks, the screening of technologies to be supported by the Senegal project will include an assessment of the climate risks with a time horizon of 30 years, and where risk is identified it will be necessary for the entrepreneur to propose suitable adaptation or management measures. The GIZ's Climate Expert Tool could be used as a tool available to entrepreneurs in that context: <a href="https://www.climate-expert.org/en/home/tools-trainings/introduction-to-tools/">https://www.climate-expert.org/en/home/tools-trainings/introduction-to-tools/</a>
Environmental Risks	Medium	Any cleantech innovation supported by the project will need to meet strict environmental screening criteria and follow the local environmental legislation (e.g., disposal of hazardous waste such as batteries of PV systems). In addition, an Environmental and Social Management Plan (ESMP) was prepared (Annex J) to mitigate the environmental (and social) risks.

**Table 15: COVID-19 pandemic risk analysis**

RISK	RISK LEVEL	RISK MITIGATION MEASURE
Operational Risk ? On-going global restrictions due to global evolution of the pandemic remain	Medium/High	If travel or group gatherings and meetings are not possible due to restrictions for people traveling from/to Senegal, or commuting around the country, virtual / on-line meetings will be conducted to the extent possible.
Technical expertise is not readily available due to the pandemic	Low	Necessary efforts will be made to identify alternative technical experts in case it is required (e.g., having a list of alternative experts). Planning will be flexible enough to reschedule activities onsite that require specific expertise.



Possible re-instatement of COVID-19 containment measures limits available capacity or effectiveness of project execution/ implementation	Medium	The capacity of stakeholders, and especially the beneficiaries, for remote work and online interactions will be strengthened by securing access to commercially available conferencing systems. The current design of the curriculum for entrepreneurs is based on online interactions and deliverables, using webinars and web platforms, and therefore COVID-19 is not expected to pose a significant risk to the conduct of the acceleration cycles. The PMU will also be continuously monitoring the national restrictions and rules in order to foresee and plan ahead of potential changes in measures.
Some project supporters, co-financiers or beneficiaries may not be able to continue with project execution/ implementation	Low	The situation will be closely monitored by the PMU and the PEE in order to find alternate supporters or co-financiers, or to readjust the list of beneficiaries if needed.
Price increases for procurement of goods/services	Medium	The project team will undertake efforts needed to find alternative providers and make sure that competitive pricing is obtained

208. In addition to risk analysis a set of opportunities have been identified arising from the COVID-19 pandemic, which are included in the table below.

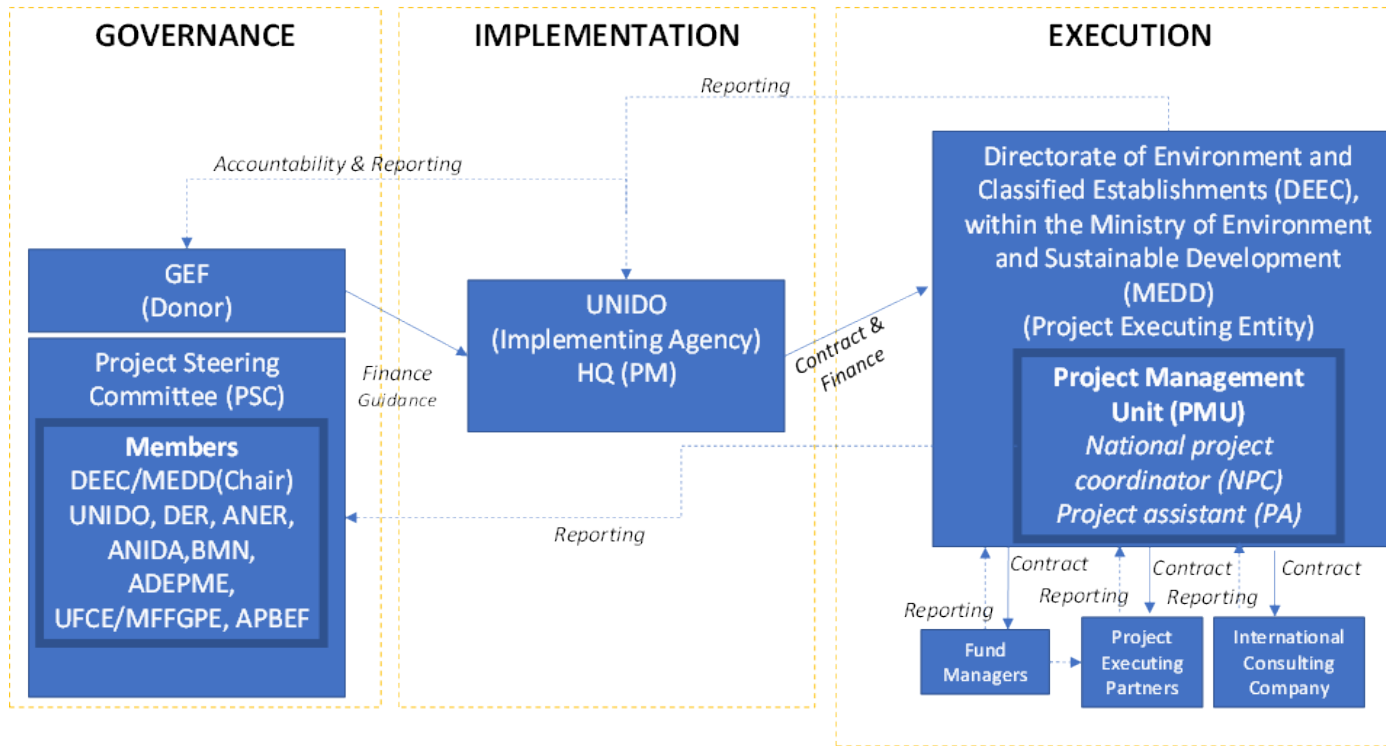
**Table 16: COVID-19 pandemic opportunity analysis**

Opportunity	Opportunity level	Opportunity optimization measure
New business opportunities created in response to COVID-19 related restrictions and measures	High	Response to COVID-19 restrictions, such as remote working arrangements and no-contact business modalities will require solutions that can be turned into new business models. These opportunities will be analysed at the national level and shared with the Senegal Project entrepreneurs. Examples of former GCIP alumni responding to new business opportunities by providing innovative solutions during the pandemic are summarized here: <a href="https://www.unido.org/stories/cleantech-innovators-take-covid-19">https://www.unido.org/stories/cleantech-innovators-take-covid-19</a>
New business opportunities to build back better for business continuity and economic recovery post-COVID-19	High	By design, the project engages private sector to promote and scale up cleantech products and services, and business models with resilience to climate change (e.g., circular business models). Information on relevant new business opportunities as well as policy/regulations will be added to the Senegal Project curriculum so that the entrepreneurs are fully informed of the market and policy trends.

## 6. Institutional Arrangement and Coordination

**Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.**

209. The figure below shown below depicts the overall institutional arrangement to be applied for this project.



**Figure 12: Implementation / Institutional arrangement for the Senegal project**

Implementation

210. This project will be implemented by UNIDO as Project Implementing Agency (GEF Agency), which entails oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and requirements. UNIDO as the GEF Agency will also be accountable to the GEF Council for the GEF-financed activities, as well as it will be responsible for project cycle management services and corporate activities.

Execution

211. There will be a Project Executing Entity (PEE). The PEE for the Senegal Project will be the Directorate of Environment and Classified Establishments (DEEC, Direction de l'Environnement et des Etablissements Classés), operating and sitting within the Ministry of Environment and Sustainable Development (MEDD, Ministère de l'Environnement et du Développement Durable). UNIDO conducted a HACT assessment to verify its suitability as executing entity and, based on the outcome and the information provided, considers that they are able to execute the project.

212. The DEEC will be responsible for the overall project execution i.e., procuring services and engaging with appropriate entities to undertake the activities within the different components of the project (e.g. the fund manager engaged by DEEC to manage the financial mechanism established under Component 1).

213. A PMU will be created and will sit at the DEEC (within the MEDD). The PMU will include a National Project Coordinator (NPC) and a Project Assistant (PA) and will be responsible for the day-to-day management of the project activities, follow-up with PEPs, be the main point of contact with UNIDO and will take care of reporting to UNIDO on behalf of the DEEC (within the MEDD). The PMU will be responsible for the overall coordination of the reporting on the project's status to the PSC, as well as monitoring and evaluation of project activities, as to be specified in the project workplan.

#### Project Steering Committee (PSC)

214. A Project Steering Committee (PSC) will be formed at project start. The PSC is formed in order to ensure project oversight, coherence and institutional ownership of the project, as well as to provide advisory inputs in key topics attaining the project. The PSC will be chaired by the DEEC (within the MEDD). Representatives from institutions involved in the different project Components as well as government representatives of key sectors and financial institutions will be members of the PSC. Also, UNIDO will be a member of the PSC. The complete list of stakeholders in the PSC will be identified at the beginning of the implementation period. A priori, a set of institutions (in addition to DEEC/MEDD and UNIDO) have been identified as potential members of the PSC, namely:

- a. DER (Delegation for Rapid Entrepreneurship of Women and the Youth);
- b. ANER ? National Agency for Renewable Energy (is part of the Minist?re du P?trole et des Energies (Ministry of Petroleum and Energy);
- c. ANIDA (Agency for Employment and Agriculture Development) in representation of the Ministre de l'Agriculture et de l'Equipeement Rural (Ministry of Agriculture and Rural Development);
- d. Ministre du Commerce et des Petites et Moyennes Entreprises (Ministry of Trade and Small and Medium Enterprises) whose two main agencies are BMN and ADEPME and could represent the Ministry in the PSC;
- e. Gender-related interests could be represented by UFCE and/or the Ministry of Women, Family, Gender and Child Protection (MFFGPE);
- f. The Senegalese financial sector could be represented by APBEF (Association Professionnelle des banques et institutions financi?res).

215. The PSC will meet twice per year to review the project implementation and execution progress and confirm the workplan for the subsequent year. Any amendments proposed to the workplans and budgets by the PSC will be done in accordance with the approved project document, the GEF policy, and UNIDO rules and regulations. Minutes of meetings should be recorded as part of the M&E plan, signed by UNIDO and the PSC chairperson(s).

#### Global Advisory Board

216. Since the Senegal Project will be linked to the GCIP, it will be indirectly exposed to the Programme's Global Advisory Board. The GCIP Framework is supported through a Global Advisory Board that is to be established under the GCIP Global and that fulfils a role of a PSC. The Global Advisory Board will provide strategic guidance to the GCIP Framework, including the GCIP Global and GCIP country projects, and is the approval body for items of major impact on the programme. It will meet once a year to monitor progress against the objectives of the overall GCIP at the programmatic level, address

potential problems and discuss strategic and policy issues affecting the programme. It will review impact tracking and it will also be responsible for defining strategy and advocacy messages.

#### Coordination with other GEF-financed projects and initiatives

217. In addition to the strong linkage to the GCIP, detailed in the sections above, this project will be conducted in coordination with ongoing GEF projects in Senegal, as well as other projects and initiatives identified above in the baseline scenario (see Table 6: Relevant ongoing projects and initiatives), as to build upon lessons learned, increase synergies, and avoid duplication of efforts. Particularly with regards to GEF projects, particular attention will be paid to ensuring coordination with:

- a. GEF-6, 2015, IFAD: Food-IAP: Agricultural Value Chains Resilience Support Project (PARFA), approved for implementation in December 2016. Special attention will be put on the activities under Outcome 1 on capacity building and the promotion of coordination and integration mechanisms, and Output 2.3 "Sustainable energy and the increased value of agricultural and livestock products", of this project.
- b. 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?"

218. The project will also seek to collaborate with the UNFCCC Climate Technology Centres Network (CTCN) and the PFAN, which are UNIDO hosted (or co-hosted) initiatives with expertise in supporting the technology innovation value chain. Synergies will be also secured with ongoing national initiatives that involve the national PEE and PEPs. Beyond Senegal, the GCIP Global will ensure that the Senegalese PEEs and PEPs, as well as the network of entrepreneurs and experts, are linked up to GCIP child projects in Cambodia, Indonesia, Kazakhstan, Moldova, Morocco, Nigeria, South Africa, Turkey, Ukraine, and Uruguay.

#### Legal Context

219. "The Government of the Republic of Senegal agrees to apply to UNIDO's allocation from the GEF grant under the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed on 4 July 1987 and entered into force on 31 July 1991."

#### Transfer of assets

220. Full or partial ownership of equipment/assets purchased under the project may be transferred to national counterparts and/or project beneficiaries during the project implementation as deemed appropriate by the government counterpart in consultation with the UNIDO Project Manager.

### **7. Consistency with National Priorities**

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

221. The Senegal Project is fully consistent with all the relevant national strategies and policy documents outlined in the description of the baseline scenario. In line with these, the project will contribute to economic development and job creation, by fostering the SME sector, as well as improved energy access through mainstreaming renewable energy technologies. The following table (Table 17) summarises the alignment of the project with each of the national strategies and plans.

**Table 17: Consistency of the project with national strategies and plans[1]**

National Document (strategy or plan)	Consistency of the project with the national document (strategy or plan)
National Determined Contribution (NDC) under UNFCCC	The document contains specific commitments to reduce greenhouse gas (GHG) emissions, compared to projected emissions, by 2035 and is aligned with the forward-looking vision and strategies of the PSE. The project is fully in line with the NDC since its aim is to foster the growth of the cleantech market through investments in innovative cleantech technologies which have a positive impact towards reduction of GHG emissions.
Plan d'Action Prioritaire Ajusté (PAP2A): Priority action Plan of the Plan Senegal Emergent (PSE)	This project is in line with the goals set within Senegal's central strategic framework, the PSE, which seeks to achieve a high level of sustained, sustainable and inclusive growth, focusing on the preservation of the environment and the promotion of a green economy as well as on capturing financing for green jobs. It further builds on the need to reduce the degradation of national resources while reinforcing institutional capacities and technologies as to improve the awareness on environmental safeguarding. Furthermore, goals within the strategy seek to increase the integration of renewable energy into the national energy mix, as to lower the dependency on fossil fuel for power generation. Equally, the framework underlines the need to increase energy efficiency initiatives in commercial buildings. Aligned with the PSE, this project will support the identification, upscale and commercialization of innovations that will contribute towards the increased integration of renewable energy and energy efficiency applications in Senegal.
Letter of Policy of the Energy Sector (LPDSE) 2019-2023	It sets the overall framework for the 2019-2023 period concerning the implementation of Senegal's energy policy, through 8 programmes including 4 focused on renewable energy and energy efficiency which are technologies that could be regarded as part of the cleantech groups envisaged to be supported by this project.
National Action Plan for Adaptation (NAPA) under LDCF/UNFCCC - 2006	Some cleantechs that can be supported by this project tackle not only climate change mitigation but also do work as a means for adaptation to climate change. Therefore, this project may also contribute to the aims of the NAPA.
National Action Program (NAP) under UNCCD - 1998	One key challenge that the NAP aims to address is the sustainable management of natural resources to reduce desertification, which is a phenomenon that takes a big toll especially in agricultural regions of the north of the country (the Sahel). Therefore, any innovative cleantech supported by this project that aims at improving the agricultural performance and sustainability of rural communities located in geographical areas currently under the impacts of desertification, would be also contributing to the sustainable exploitation of natural resources. In addition, cleantech that include innovative irrigation methods may also contribute to adapt to areas threatened by desertification.

Minamata Initial Assessment (MIA) under Minamata Convention - 2018	In accordance with Senegal's MIA, the main potential sources of mercury in the country are identified as primary metal production such as industrial gold mining, artisanal and small-scale gold mining (ASGM) with mercury amalgamation, incineration and / or open burning of waste, waste disposal or use of products containing added mercury (dental amalgam, batteries, non-electronic measuring instruments among others) and cement production. The present project may contribute to, for example, the development of waste management/recycling cleantech applications and therefore indirectly have some positive impact towards reduction of mercury releases but this would have to be assessed in detail on a case-by-case basis.
National Biodiversity Strategies and Action Plan (NBSAP) - 2015	The NBSAP has four strategic axes: a) improve biodiversity knowledge and strengthen institutional and technical capacity; b) reduce pressures and restore and conserve biodiversity; c) promote biodiversity accounting in socioeconomic development policies; and d) promote the sustainable use of biodiversity and mechanisms for accessing biological resources and equitably sharing the benefits derived from them[2]. The Senegal project is, in general terms, aligned with these goals since cleantech applied for more efficient agricultural practices and that contribute to reduce environment degradation would have a positive impact towards biodiversity conservation.
National Communications (NC) under UNFCCC	Senegal has issued 3 NC so far (the last was issued in 2015). The 3rd NC is focused on inventorying the GHG emissions of the six sectors recommended by the IPCC, namely: Energy, Industrial Processes, Agriculture, Land Use and Land Use Change and Forestry (LULUCF) and Waste. This project aims at encouraging cleantech innovation for GHG mitigation. The two highest-emitting sectors of the Senegalese economy are energy and agriculture, and those would be initially prioritized to receive support from the Senegal Project (however, there is no formal restriction for cleantech innovations addressing other sectors of the economy). Thus, this proposed project is fully in line with the NC.
Technology Needs Assessment (TNA) under UNFCCC	Senegal's TNA has identified as priority technologies for climate change mitigation the following: Energy (renewable energies, energy efficiency in buildings and industries): Biomass direct combustion; Solar Photovoltaics; Wind ?onshore?; Portable solar lamps; Solar water heaters; Solar dryers; Low consumption lamps (Compact Fluorescent Lamp); Automated power factor improvement[3]. Therefore, any cleantech supported by the present project that is under or aligned with any of the mentioned priority technologies would be directly contributing to improving the technology and knowledge base of the country for climate action and mitigation. Some of them may also contribute to climate adaptation as well.
National Implementation Plan (NIP) under POPs ? 2007 (initial NIP)	For Senegal, the preparation of the NIP was an opportunity to carry out in-depth studies on the inventory of persistent organic pollutants, some of which are dangerous pesticides (Dieldrin, DDT) and others unintentionally released products (dioxins and furans) resulting from combustion processes[4]. There are combustion processes that may release both GHG and POPs simultaneously (such as for example solid waste combustion, from internal combustion engines such as those in vehicles, combustion of coal, wood, peat, etc.) therefore by applying innovative cleantech solutions to reduce GHG emissions (e.g., electric engines for green mobility), it would be possible to also have a reduction in POPs emissions.

National Portfolio Formulation Exercise (NPFE) under GEFSEC - 2014	The NPFE conducted by Senegal in 2014 focused on the fields of Climate Change, Conservation of Biological Diversity, Land Degradation and POPs. Therefore, this project is aligned with one of the key areas of focus identified by the exercise. Out of the 22 project proposals identified during the exercise, 6 were under the climate change area, namely: (i) EE in buildings, (ii) Senegal riverbank stabilization project in the municipality of Matam (reduce water erosion); (iii) African Mangroves Ecosystems (conservation); (iv) ISRA Adaptation Project (focused on farmers and fostering innovative strategies for soil erosion and fertility, etc.); (v) Modernization of traditional bioenergy (to develop innovative approaches for the efficient use of bioenergy); and (vi) Transferring the Manufacture of Solar Photovoltaic Panels in Senegal (for rural electrification or ?ecovillages?). The promotion of investments and innovation in the cleantech market which is targeted by the Senegal project is aligned, at least, with proposals (i), (iv), (v), and (vi) of the previous list.
NREAP and NEEAP - 2015	Both plans issued in 2015, under the ECOWAS policy framework for renewable energy and energy efficiency, they set targets and a path to better integrate RE objectives and EE objectives to produce cleaner energy, reduce fossil fuels consumption as well as to save energy by using it more wisely and efficiently, therefore clearly in line with the goals of this project which aims at fostering cleantech innovation.

222. Furthermore, as previously explained, this project is in line with the Start-up Act which is part of the legal framework of the country and sets incentives to encourage entrepreneurship and business investment in innovations.

[1] The ASGM NAP (Artisanal and Small-scale Gold Mining) under Mercury, National Capacity Self-Assessment (NCSA) under UNCBD, UNFCCC, UNCCD, Poverty Reduction Strategy Paper (PRSP), and Biennial Update Report (BUR) under UNFCCC have not been included in the table because Senegal has not developed them.

[2] <https://www.cbd.int/nbsap/about/latest/#sn>

[3] <https://tech-action.unepdtu.org/country/senegal/>

[4] <http://chm.pops.int/Implementation/NationalImplementationPlans/NIPTransmission/tabid/253/Default.aspx>

## 8. Knowledge Management

**Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.**

223. A key element in knowledge management will be the creation of a national pool of experts (trainers, mentors, judges), which will allow for best practice sand business knowledge to be shared with participants and stakeholders in a structured manner. The national pool of experts will be created from representatives of universities with business development programs (incubators), national banks,



investment companies and businesses. All of them will be trained to provide entrepreneurs with the skills needed to participate in the Senegal Project and ultimately to bring their innovations to the market.

224. Knowledge sharing will be conducted through trainings, workshops, roundtable discussions, printed materials, and through the project web platform at national level (and at international level by linking the platform to the GCIP Global platform). A set of carefully designed outreach activities will ensure recognition of and support for Senegal Project enterprises at national level beyond the project duration.

225. The PEE and the PMU will be tasked with ensuring the national and international visibility of the Senegal Project and accessibility of key findings through the project's web platform. This will provide an opportunity to reach out to future entrepreneurs and investors, while raising public awareness on cleantech and climate change mitigation. All knowledge management activities will be gender responsive: e.g., gender dimensions will be integrated into publications and it will be assured that women, men, and the youth have equal access to and benefit from the knowledge created equally. For instance, gender responsive training and advocacy material will not perpetuate gender stereotypes through presenting women only in their traditional roles.

226. Continued networking among entrepreneurs during and after the annual acceleration cycles will be facilitated through the Senegal Project web platform. The web platform will be a modern and user-friendly information sharing and networking tool that will also equip the PEE with local ownership of data.

227. A knowledge management, communication, and advocacy strategy framework will be developed by UNIDO with a particular focus on: (i) Promoting visibility of the project and communicating its impacts achieved at national (and global) levels; (ii) Increasing awareness of the catalytic role of cleantech in addressing climate change and environmental issues; (iii) Showcasing cleantech innovations from the Senegal Cleantech Accelerator alumni and enhancing their visibility and credibility. The knowledge management, communication, and advocacy strategy framework will be shared with the PEE for review and adaptation to the Senegal Project needs, as specified under Output 3.1.2.

228. The Senegal Project alumni and representatives will participate as invitees in some GCIP Global events to share knowledge and experiences from the project and showcase their innovations.

229. The Senegal Project knowledge management, communication, and advocacy strategy will specify the exact knowledge products to be delivered along with relevant timelines and milestones. The table below provides a general overview of deliverables relevant for knowledge management.

**Table 18: Overview of deliverables relevant for knowledge management**

Deliverables	Timeline
A pool of experts (trainers, mentors, judges) created	By the 6th month of project implementation/execution with regular updates after every half a year
The knowledge management, communication, and advocacy strategy framework developed for Senegal Project based on GCIP (Output 3.1.2)	By the 6th month of project implementation/execution with regular updates each year



Policy briefs, impact reports, brochures, webinars and other types of promotional materials distributed through briefing sessions, press releases, social media presence, advertising, etc. ? in line with the Senegal Project  knowledge management, communication, and advocacy strategy	From the 6th month of project implementation/execution and according to the timeline as to be specified in the Senegal Project knowledge management, communication and advocacy strategy
The Senegal Project web platform created and operationalized (Output 3.1.3), including a special section for the Senegal Project alumni network	By the 6th month of project implementation/execution
Senegal Project Forum and Investor Connect and regional technology brokerage events organized	Annually / bi-annually

## 9. Monitoring and Evaluation

### Describe the budgeted M and E plan

230. The monitoring and evaluation (M&E) will be conducted in accordance with established UNIDO and GEF procedures. The overall objective of the M&E is to ensure successful and quality implementation of the project by: i) tracking and reviewing project activities execution and actual accomplishments against targets; ii) providing visibility into progress as the project proceeds so that the implementation team can take early corrective action if performance deviates significantly from original plans; and iii) adjusting and updating project strategy and implementation plans to reflect possible changes on the ground, results achieved and corrective actions taken.

231. According to the M&E policy of the GEF and UNIDO, follow-up studies like Country Portfolio Evaluations and Thematic Evaluations can be initiated and conducted. All project partners and contractors are obliged to: (i) make available studies, reports and other documentation related to the project and (ii) facilitate interviews with staff involved in the project activities.

232. The Project Result Framework (Annex A) provides performance and impact indicators for project implementation/execution along with their corresponding means of verification (plus baseline and targets). The PSC will assess progress against the framework and gender indicators. In case there are significant deviations between the forecasted workplan and actual implementation, corrective measures will need to be taken.

233. The M&E Plan will include time-bound milestones and deliverables. The PMU will also draft progress review reports every six months and will update the PSC before each meeting.

234. There will be an external mid-term review of the project conducted halfway through project implementation, and a terminal evaluation to be started three months before project expected finalisation date.

235. The ESSPP considerations, as well as gender dimensions and baseline for gender related targets will be appropriately captured in the Senegal M&E plan, in the progress review reports, as well as in the collection and assessment of relevant data. The M&E plan will encompass monitoring of the

Environmental and Social Management Plan, the Stakeholder Engagement Plan, the Gender Analysis Report and a Gender Action Plan, and a risk analysis.

236. The GCIP methodology for impact assessment will be developed by the GCIP Global and, if possible and available, it will be shared with the Senegal Project as reference document, to follow a similar approach with regards to estimation, tracking, and reporting. This will allow for data comparisons with GCIP countries. The methodology will enable assessment of social, economic, and environmental impacts, and at a minimum, it will account for global environmental benefits (GEBs), job creation, gender mainstreaming, and investment leveraged. The data will be sex-disaggregated and gender-sensitive, and youth participation will also be recorded.

237. An overview of indicative costs of M&E activities is provided in the table below.

**Table 19: M&E activities**

M&E activity	Timeframe	GEF Budget (USD)	UNIDO in-kind co-financing (USD)	PEE in-kind co-financing (USD)	Responsible parties
M&E Plan	first 3 months after implementation start date	10,000	25,000	20,000	PEE
Periodic progress reports (incl. PIRs)	Every 6 months	15,000	35,000	30,000	PEE/UNIDO
Mid-term review	At 2.5 years after implementation start date	30,000	20,000	20,000	UNIDO (conducted by external evaluator)
Terminal Evaluation	Start 3 months prior to estimated project end date	45,000	20,000	30,000	External evaluator, submission to UNIDO
Total		100,000	100,000	100,000	

## 10. Benefits

**Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCE/SCCF)?**

238. The project is expected to result in more cleantech start-ups and SMEs being identified and supported, thus acting as a catalyst for entrepreneurship development and cleantech investment in Senegal. The Senegal Project, as a dedicated national platform for promoting and supporting cleantech innovation, will result in an enhancement of human capital, thereby leading to job creation and poverty reduction as well as to an increased women participation in the entire value chain of technology development. Local development and production of cleantech will very likely result in lower costs benefiting both the technology developers and end-users.

239. As example of the benefits this type of projects can bring, it is noteworthy to underline that so far around 84% of start-ups and SMEs that have completed the GCIP acceleration program globally, have remained in business for minimum of five years.

240. The Senegal Project aims at actively involving the youth and encouraging women-led applications and businesses, which will receive training and mentoring that is expected to provide them with the tools to continue their successful way to the market and consolidation. This will result in a benefit for the reduction of youth unemployment, and women unemployment particularly.

241. In addition, the increased use of cleantech innovations supported by the Senegal Project will also result in GHG emission reductions (as part of the GEBs). Finally, the project will also support increased energy access in rural areas and the application of renewable / clean energy technologies in agriculture and agri-businesses, which would eventually expect to have a positive impact on productivity.

242. The Senegal Project will highlight the need for a stronger support at the national level for cleantech innovations and start-ups/SMEs. In particular, it will provide added value by bridging the gap between cleantech innovators and investors, thereby paving the way for the creation of new businesses opportunities resulting in a value added for the domestic economy. At the same time, through engaging all relevant stakeholders in the national CIEE, and encouraging their cooperation, as well as offering a networking space through the GCIP, it is expected to create opportunities for international business scale-up and exchange of knowledge.

## 11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

### Overall Project/Program Risk Classification\*

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate	Low		

#### Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

**Supporting Documents**

Upload available ESS supporting documents.

Title	Module	Submitted
10715_ Senegal ESMP_Annex J	CEO Endorsement ESS	
200257 ES screening Sep2020 signed	Project PIF ESS	

**ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).**

Project Strategy	Indicator / KPIs	Baseline	Target (for the entire project duration)	Means of verification	Assumptions
Objective Promote the acceleration of high-impact clean technology innovation from the private sector for market-based scale up, climate action, and creation of green jobs	Investment leveraged (million USD)	0	1-3	Project progress reports	Monitoring and Evaluation Plan full designed and implemented  Continuous support from the Government of Senegal and national partner institutions  Commitment by CIEE stakeholders  Interest by cleantech entrepreneurs and investors
	Number of enterprises with economic gains (sales, savings) (sex-disaggregated)	0	30-50 (at least 35% women-led)	Project evaluation reports	
	Number of additional jobs created (sex-disaggregated)	0	40 (at least 35% women employed)	Project impact reports	
	Number of enterprises with an increase in exports (sex-disaggregated)	0	5-10 (at least 35% women-led)		
	Number of SMEs with increased inclusion in value chains	0	10-15 (at least 35% women-led)		
	CO2eq emissions reduced (tons) directly and indirectly	0	225,000 (direct) 1,125,000 (indirect)		
	Added RE generation capacity (MW)	0	The targets will be set after the first cycle of the Senegal Cleantech Accelerator, based on the review of the number and quality of applications featuring renewable energy and energy efficiency technologies		
	Energy savings from implemented energy efficiency measures (kWh or TOE saved)	0			
	Number of new technologies adopted	0	75		
Component 1 Transforming early-stage innovative cleantech solutions into scalable enterprises					

Outcome 1.1 Early-stage cleantech innovations are accelerated under consideration of equality					
Output 1.1.1 Based on GCIP, guidebooks are developed for Senegal (including mapping of cleantech solutions, identification and prioritization of actions in accordance with national strategies for climate change and energy)	Number of guidebooks developed for Senegal (gender-responsive) Accelerator, Advanced Accelerator and Post-Accelerator	0	3 (one for each acceleration stage)	Project progress reports	Continuous support from the Government of Senegal and national partner institutions
	Number of consultation sessions held with relevant CIEE stakeholders on the Senegal Guidebooks	0	2	Attendance records from consultation meetings and events	Commitment by CIEE stakeholders
	Number of stakeholders with whom the Senegal Guidebooks are shared through information dissemination events (sex-disaggregated)	0	800-1200 (at least 35% women attendees)	Meeting minutes	Interest by cleantech entrepreneurs
	Number of National Innovation Challenges conducted (with indication of women-led applications to the challenge)	0	2-4 (with 35% women participation in a leading position of the applicants)		
	Number of corporate partners engaged, per challenge, in the National Innovation Challenge	0	3-7 (with at least 35% women participation in the management board)		
Output 1.1.2 A pool of cleantech innovation and entrepreneurship experts (both women and men trainers, mentors and judges) is trained and certified to support the Senegalese cleantech innovation and	Number of training and certification systems developed and operational (gender-responsive)	0	3 training and certification systems: 1 for trainers, 1 for mentors and 1 for judges	Project progress reports	Continuous support from the Government of Senegal and national partner institutions
	Number of trainings delivered to the experts (gender responsive)	0	At least 1 training for trainers, 1 for mentors and 1 for judges		Commitment by CIEE stakeholders

entrepreneurship accelerator (15-30 experts accredited, at least 35% women)	Number of experts evaluated to form the pool, sex-disaggregated	0	15-30 (at least 35% women)		Interest by cleantech entrepreneurs
	Number of experts certified to form the pool, sex-disaggregated	0	15 (at least 35% women)		
	Share of experts completing the ?I know gender? training (or similar if not available)	0	100%		
Output 1.1.3. Five (5) annual cycles of the national competition-based cleantech innovation and entrepreneurship accelerator conducted	Number of annual cycles of Acceleration completed	0	5	Attendance records from trainings	Continuous support from the Government of Senegal and national partner institutions  Commitment by CIEE stakeholders  Interest by cleantech entrepreneurs
	Number of applicants receiving support through the Senegal Pre-Acceleration phase (sex-disaggregated by team leader)	0	50 participants per cycle (35% women-led)	Project progress reports	
	Number of applicants to the Senegal Cleantech Accelerator (sex-disaggregated per team leader)	0	150-300 (at least 30% women led applications)	Records of applications received	
	Number of semi-finalists (sex-disaggregated by team leader)	0	25-30 semi-finalists per cycle (35% women led)		
	Number of Senegal Cleantech Forums conducted	0	5 in total (1 per cycle)		
	Number of brokerage events conducted (gender responsive)	0	7-10 events		
	Number of finalists (sex-disaggregated by team leader)	0	5-8 finalists per cycle (35% women led) with 2-3 winners		
	Number of help-lines for queries established	0	1 help-line established		

	Number of targeted gender-responsive outreach activities promoting the Senegal Pre-Accelerator, Accelerator and Senegal Cleantech Forum	0	At least 5 per cycle (25 in total)		
	Number of panels at the Senegal Cleantech Forums focusing on women's entrepreneurship	0	At least 1-2 panels per Forum		
Outcome 1.2 Start-ups and SMEs are supported through advanced and gender-responsive business growth and investment facilitation services					
Output 1.2.1 Targeted business growth support services provided to selected cleantech enterprises towards commercialization	Number of enterprises provided with Advanced Accelerator support (sex-disaggregated by team leader)	0	9-15 (at least 35% women led)	Project progress reports Meeting attendance records	Continuous support from the Government of Senegal and national partner institutions
	Number of Senegal Post-Accelerator cycles conducted (gender responsive)	0	5	Meeting minutes	Commitment by CIEE stakeholders
	Number of enterprises participating in the Post-Accelerator cycles (sex-disaggregated by leader)	0	30-45 (35% women led)		Interest by cleantech entrepreneurs and investors
	Number of virtual training webinars delivered to entrepreneurs	0	9-12 webinars		



	Number of Senegal Post-Accelerator enterprises provided with needs-based support and/or technology verification, product development and testing facility support	0	At least 5		
	Number of targeted support activities for products/services that promote gender equality and women's empowerment	0	3-5		
	Number of targeted support activities for women entrepreneurs	0	3-5		
Output 1.2.2 Enterprises (up to 25) are connected to financing opportunities and provided with tipping-point investment facilitation support	Number of enterprises connected to financing opportunities (sex-disaggregated by enterprise leader)	0	15 (35% women led)	Project progress reports	Continuous support from the Government of Senegal and national partner institutions  Commitment by CIEE stakeholders  Interest by cleantech entrepreneurs and investors
	Number of Investor Connect events organized (gender responsive)	0	5-10 (at least 1 per cycle)	Meeting attendance records	
	Network established with a number of financial institutions and funds for the local investor community	0	1 Network with 20-25 institutions	Meeting minutes	
	Number of gender-responsive awareness raising events for investor community	0	3-7 workshops/events		

	Number of financial sector institutions / organisations / investors attending the awareness raising events.	0	15-35		
	Number of trainings on gender-lens investment or gender sensitization for investors	0	3-5		
	Number of trainees successfully completing the training (sex-disaggregated)	0	10 (at least 35% women)		
	Number of international events attended by a representative of the Senegal Project	0	3-5		
	Number of high-growth potential enterprises supported through PFAN (or similar) for market scale up	0	1-3		
Output 1.2.3 Mentoring and partnership support provided to cleantech enterprises for global market expansion	Number of enterprises receiving support for global market expansion (sex-disaggregated for enterprises leadership)	0	5-10 (35% women led)	Project progress reports Meeting attendance records	Continuous support from the Government of Senegal and national partner institutions
	Number of finalists of the Senegal Cleantech Accelerator participating in the GCIP Global Forum (sex-disaggregated)	0	1-2	GCIP programme records	Commitment by CIEE stakeholders Interest by cleantech entrepreneurs and investors Support from GCIP

Output 1.2.4 Innovative early-stage financing mechanism designed and established to support the deployment and scale-up of cleantech solutions	Number of financing mechanisms designed and established	0	1	Project progress reports	Continuous support from the Government of Senegal and national partner institutions  Commitment by CIEE stakeholders  Interest by cleantech entrepreneurs and investors
	Number of Calls for Proposals run for applications to the financial mechanism	0	4 (1 per year starting year #2)		
	Number of cleantech solutions supported by the financial mechanism (sex-disaggregated by supported applicant)	0	5-20 (35% women applicants)		
	Funds disbursed by the financial mechanism (in USD)	0	USD 1,000,000 funds disbursed (at least 35% benefits women)		
	Cash co-finance leveraged by the financial mechanism (in USD)	0	USD 3,000,000 co-finance leveraged (at least 35% benefits women)		
Component 2. Cleantech innovation and entrepreneurship ecosystems (CIEE) strengthening and connectivity					
Outcome 2.1 Cleantech innovation and entrepreneurship ecosystems in Senegal strengthened					
Output 2.1.1 National cleantech innovation and entrepreneurship support institutions (i.e., funding agencies and industry associations etc.) are trained to promote cleantech innovations and entrepreneurship	CIEE assessments conducted with gender approach and updated at mid-term	0	1 full assessment at the start plus 1 update of the assessment at mid-term	Project progress reports	Continuous support from the Government of Senegal and national partner institutions  Commitment by CIEE stakeholders  Interest by cleantech entrepreneurs and investors
	Number of kick-off / follow-up workshops held with CIEE stakeholders	0	2 (1 kick-off and 1 follow-up)	Meeting attendance records	
	Number of gender-responsive stakeholder engagement strategies and cleantech innovation cluster strategies	0	2 (1 for stakeholder engagement and 1 for innovation cluster)	Meeting minutes	

Number of facilitators trained in the kick-off and follow-up workshops (sex-disaggregated)	0	10 (35% women)
Number of capacity building delivered to CIEE support institutions to promote cleantech innovation and entrepreneurship	0	2-3
Number of attendees to the capacity building events (sex-disaggregated)	0	30-90 (35% women)
Number of Entrepreneurship Train-the-Trainer Programmes delivered	0	1-5
Tailor-made workshop on cleantech policy and strategy development delivered for policy-makers	0	1-3
Number of attendees for the tailor-made workshop on cleantech policy-making (sex-disaggregated)	0	20-50 (at least 35% women)
Number of stakeholders that completed the 'I-know-gender' (or similar if not available) training (sex-disaggregated)	0	75% of the total stakeholders with at least 45% of the men completing it
Number of university professors, out of the total attendees, attending the Entrepreneurship Train-the-Trainer programme	0	10 (with at least 1 representative of each university included in the programme)

Output 2.1.2. Recommendations on policies and regulations to promote cleantech innovation and entrepreneurship developed (gender-responsive)	Number of gender-responsive recommendations for the cleantech, innovation, and entrepreneurship policy	0	10-20	Project progress reports	Continuous support from the Government of Senegal and national partner institutions  Commitment by CIEE stakeholders  Interest by cleantech entrepreneurs and investors
	number of gender-responsive roadmaps guiding implementation of the policy recommendations	0	1	Meeting attendance records	
	share of policies that are gender-responsive	0	100%	Meeting minutes	
Output 2.1.3 Meetings for ecosystem players organized to promote linkages, collaboration and to facilitate the generation, exchange and dissemination of knowledge products	Number of collaborations achieved to facilitate the dissemination of knowledge products with other CIEEs	0	1-3	Project progress reports	Continuous support from the Government of Senegal and national partner institutions  Commitment by CIEE stakeholders  Interest by cleantech entrepreneurs and investors
	Number of participations of Senegal Project representatives in GCIP-wide events (sex-disaggregated)	0	1 representative participating in 1 event/year	Meeting attendance records	
Component 3. Knowledge management and project coordination					
Outcome 3.1 Efficiency and sustainability of the project ensured through project coordination, knowledge management, communication and advocacy					
Output 3.1.1 Technical operational guidelines developed (based on GCIP) and implemented	Number of General operational guidelines developed for the PMU (gender responsive)	0	1	Project progress reports	Continuous support from the Government of Senegal and national partner institutions  Commitment by CIEE
	Number of sustainability and exit strategies developed	0	1	Meeting attendance records	
				Meeting minutes	

Output 3.1.2 Project knowledge management, communication and advocacy strategy is developed (based on GCIP) and applied	Number of Senegal Project gender-responsive knowledge management, communication, and advocacy strategies	0	1		stakeholders  Interest by cleantech entrepreneurs and investors
	Number briefing sessions, press releases, social media posts and adverts (% of them targeting women)	0	100-200 (5%-10% targeted at women)		
	Number of cooperation agreements for partnerships	0	20-30 (at least 10% with women led organizations or organizations that promote GEEW)		
Output 3.1.3 The Senegalese web platform is developed and operated to connect national ecosystem players, and linked to the GCIP global web platform	Number of Senegal Project web platforms established	0	1		
	Number of Senegal alumni networks and associated web platforms	0	1		
	number of members in the Senegal alumni network (sex-disaggregated)	0	80-100 (at least 35% women)		
	number of alumni network sub-chapter for women entrepreneurs established	0	1		
Outcome 3.2 Impact and progress of the project tracked and reported					
Output 3.2.1 Environmental and social impacts of the project estimated, tracked and reported	number of trainings on the GCIP methodology for impact assessment delivered (gender responsive)	0	3	Project progress reports  Training attendance records	Continuous support from the Government of Senegal and national partner institutions

	Number of local Senegal methodology for impact assessment developed	0	1	Commitment by CIEE stakeholders  Interest by cleantech entrepreneurs and investors
	Number of participants in trainings on the Senegal methodology for impact assessment (sex-disaggregated)	0	30-75 (at least 35% women)	
	Number of impact reports issued	0	4-5 (including 1 impact report on gender)	
Output 3.2.2 Capacity enhancements of the Project Executing Entity to ensure long-term sustainability, retention of institutional knowledge and ability to engage funding partners in a more harmonized and consistent manner.	Needs assessment study to identify potential improvements areas conducted	0	1	
	Number of capacity building training sessions conducted	0	1-3	
	Platform to support the monitoring and evaluation needs created	0	1	
Output 3.2.3 Project progress monitoring and reporting as per UNIDO and GEF guidelines conducted	Number of Senegal monitoring and evaluation (M&E) plans (gender responsive)	0	1	
	Number of progress review reports issued (gender responsive), including reports on the gender mainstreaming strategy and action plan	0	1 report every 6 months (total 10 reports in 5 years)	
Output 3.2.4 Independent mid-term review and terminal	Number of external mid-term reviews conducted	0	1	

evaluation conducted	Number of external terminal evaluations conducted	0	1		
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**ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).**

GEF Secretariat / STAP comments	Response
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1

Comment by Kordula Mehlhart, GEF Council Member, Head of Division on Climate Finance, BMZ, Council, Germany made on 1/7/2021

Comment:

Germany requests that the following requirements are taken into account during the design of the final project proposal:

- 1) Germany requests that indigenous peoples and local communities are included in project design and stakeholder management in a transparent and inclusive manner.
- 2) Further, we request to provide detailed information about supported clean tech products and their additionality in the national context.
- 3) Moreover, Germany requests that the barriers faced by cleantech SMEs in developing and scaling-up innovative cleantech solutions are specified by studies or concrete examples. Overall, the barriers mentioned are very generic. It is for example not clear, what supportive policy is missing for the barrier 'limited enabling policy and regulatory environment' or how the conclusion of the barrier 'lack of public awareness' was reached.
- 4) Further, the risk management section should also include the recently found petrol and gas reserves as a potential risk, as they might change political priorities in the energy sector. This could affect the project and should be evaluated in the project design.
- 5) Germany would suggest to reference the LDPSE (Letter politique de Development du Secteur d'Energie) and its action plan for 2019-2023 in the baseline scenario.
- 6) Germany also recommends to further engage with GIZ and KfW projects besides the GIZ project ICT4Agriculture that is already mentioned in the proposal. This would include amongst others the 'Programme for sustainable energies'  
[https://www.giz.de/projektseiten/projects.action?request\\_locale=en\\_GB&pn=201522176](https://www.giz.de/projektseiten/projects.action?request_locale=en_GB&pn=201522176)

1) A set of stakeholders has been included as key reference organisations that advocate for minority groups, vulnerable populations, women and the youth (especially from rural contexts) in the Stakeholders Engagement Plan (SEP), and also described in the Stakeholders Section of this document. Groups representing businesswomen (UFCE - Union des Femmes Chefs d'Entreprises du S?n?gal) are proposed to be included also as PSC members to make sure their needs are mainstreamed into the project. The Senegal Project expects to count with support from local Universities to conduct stakeholders' engagement activities, capacity building, trainings, information dissemination, etc. The Universities that have expressed interest are located in different areas of the country (Dakar, Saint Louis, Ziguinchor, Bambey, Thi?s) and this is because it opens the opportunity for the project to have a more significant geographical footprint and thus ease access to those who live in areas different from Dakar. The SEP envisages the conduction of stakeholder consultation workshops. Organisations representing indigenous peoples and local communities will be

2

Comment by Tom Bui, Director, Environment, Global Issues and Development Branch (MFM), Global Affairs Canada, Council, Canada made on 1/11/2021  
Comment:

7) Canada believes that clean tech plays a critical role in protecting the environment and addressing climate change. This project seeks to support Senegal to strengthen and connect the clean tech entrepreneurship ecosystem. Consultation with stakeholders and counterparts will allow for SMEs to define areas of focus for funding pertinent to the region that support current initiatives or tackle new ones. The project could be complementary to related environmental initiatives. Senegal is currently receiving financial and technical support to reduce emissions and encourage sustainable growth. As such, Canada does not see any reason to remove this project from the work program. Senegal provides opportunities for increased clean technology and environmentally conscious development. Canada would ask stakeholders to consider revising the funding model to support SMEs after scale-up and deployment. Given the instability/unpredictability of markets during COVID-19, support for SMEs at the development stage will be beneficial but continued support to endure market uncertainty will be important for longevity.

8) Canada would also like to ensure at the front end of project design that the distinct barriers faced by women are identified, key gender issues are addressed and presence or absence of women in the innovation ecosystem is documented. The lack of data availability and collection efforts in Senegal mentioned in the introduction in the PIF can be addressed by this project, by building the capacity of stakeholders to collect and understand the value of (disaggregated) data.

9) Additionally, we believe there is a need to ensure a focus on results and impact that will last, such as new or strengthened business networks, strengthened links within and outside the ecosystem, improved and lasting access to credit options for small businesses including those led by women, change in attitudes towards women and youth in the sectors.

10) Finally, Canada would like to consider a wider definition of innovation which encompasses the ways in which Senegalese women innovate, which may in some cases be overlooked for being "low-tech," while their potential for scalability and impact may be great.

7) Ensuring sustainability of the action is one key aspect of the Senegal Project that was taken into consideration in its design. A group of activities is included in order to ensure as much as possible that the benefits and outputs generated by the project are sustained over time after project closure. After acceleration, there are two more steps that the SMEs/entrepreneurs may want to participate in: the advanced acceleration and the post-acceleration (under PC1). These 2 phases are intended to provide technical assistance for cleantech SMEs to benefit from specialized support and remove any remaining barrier they may be facing. This enables them to be better positioned to continue expanding their business after project closure. Also, the aim of PC2, among other things, is to strengthen the CIEE in Senegal to improve interconnectivity among all the actors of the cleantech market both at national and international level. The project will also benefit from the learnings of the several experiences from the global GCIP Child projects in terms of what strategies or activities work better to ensure sustainability of the enterprises after project finishes. In addition, PC2

3

STAP Rating given after screening process is ?Minor issues to be considered during project design?. Answers to the identified minor issues follow below:  
In the STAP Overall Assessment of the project proposal:

11) There could be greater clarity provided in terms of cleantech companies success linked to needs in the country. The PIF gives the example of solar company Oolu power but earlier suggests that among the most significant needs would be to have cleantech solutions for agriculture and irrigation delivery. There needs to be some more tangible linkage in terms of what sectors will be approached and how. Given that there is an existing UNIDO interface with the GCIP project, perhaps these issues are already addressed in some other needs assessment that may be referenced.

12) Furthermore, the project proponent should provide information on any baseline on existing clean energy and agricultural innovation that has been done in Senegal that forms the basis for this project and give the confidence for promoting innovation in cleantech and agricultural technology in the country? It will be useful to provide examples of clean energy and agricultural technology innovations developed in the country but have not been able to scale-up because of the lack of support that this project seeks to provide.

13) It will also be useful to provide more specifics on the activities to be implemented. The PIF talks about cleantech products, services, and business models, but no detailed information on these was provided. Without some idea of these specifics, it is difficult to understand how the expected GEBs from this project would be achieved. Furthermore, these specifics are needed to ascertain the project's innovativeness, sustainability, and potential for scale-up.

14) As rightly noted, it can be challenging to calculate the expected avoided greenhouse gas emissions from this type of project. An extrapolation based on another project was used to calculate the target presented in the core indicator. However, we think it could be possible to estimate the avoided emissions if some specifics on the probable type of clean and agricultural technologies are known. An estimate of the avoided emissions can be derived by assessing the business-as-usual emissions scenario in the targeted sectors (up to 2030 or 2040, for example) and comparing with expected emissions from the alternative clean and agricultural technology solutions. This further highlights the need to have an idea of the specific innovative cleantech and agricultural technologies that already exist or are possible in Senegal.

15) It is commendable that the PIF recognized that other co-benefits are possible from the project, including prevention of air pollution, improved water quality, and reductions in waste and material use. The project will also provide socioeconomic benefits include job creation, improved human health, and overall enhance human well-being. The proponent should endeavor to capture and account for these benefits.

16) The PIF presents information on the current and projected climate change (temperature and rainfall) in Senegal up to 2060. It also identified the potential impact of climate change on some proposed interventions, particularly in the agricultural and energy sectors. Because the project will be addressing sectors that are highly vulnerable to climate change, it seems unlikely that the current climate change risk rating of "low" is correct. The lack of specifics of the proposed interventions also makes it difficult to assess the climate risk accurately. Therefore, we encourage the proponent to carry out a detailed climate risk screening of the project's planned activities and develop mitigation measures for identified climate risks.

17) Overall a worthwhile effort. We recommend referencing the following publications: New report from International Energy Agency which focuses on Cleantech in North Africa and its efficacy <https://www.iea.org/reports/clean-energy-transitions-in-north-africa>, Mathews, J. A. (2017). Global trade and promotion of cleantech industry: A post-Paris agenda. *Climate Policy*, 17(1), 102-110. <https://doi.org/10.1080/14693062.2016.1215286>

11) There is further clarity provided throughout the document about initially focusing in the agriculture sector and the energy sector since they are the ones that emit the most and, particularly the agricultural sector, is one key sector of the Senegalese economy. There has been a stakeholders consultation process and a baseline assessment undertaken during PPG stage that confirms this.

Information can be found in the description of the baseline (paragraphs 7 to 25), in Figure 8: Identified Innovation Hotspots in Senegal For Different Sectors, in the Annex N ?Baseline Report?, and in Annex H ?Evidence of stakeholders engagement? where also examples of successful innovative start-ups (some led by women) are provided.

12) The proposed project will look at creating synergies with ongoing initiatives as well as to using lessons learnt from recently closed projects, which align to this one in terms of goals, sectors, and activities. The Table 6: Relevant ongoing projects and initiatives, describes these projects and highlight potential synergies or collaboration opportunities that could be found with the proposed project for Senegal. In addition, the project will seek to synergise

[1] <https://www.africanews.com/2021/09/10/senegal-ambitious-oil-gas-development-program-to-boost-economy-by-miguel-artacho/>

**ANNEX C: Status of Utilization of Project Preparation Grant (PPG).  
(Provide detailed funding amount of the PPG activities financing status  
in the table below:**

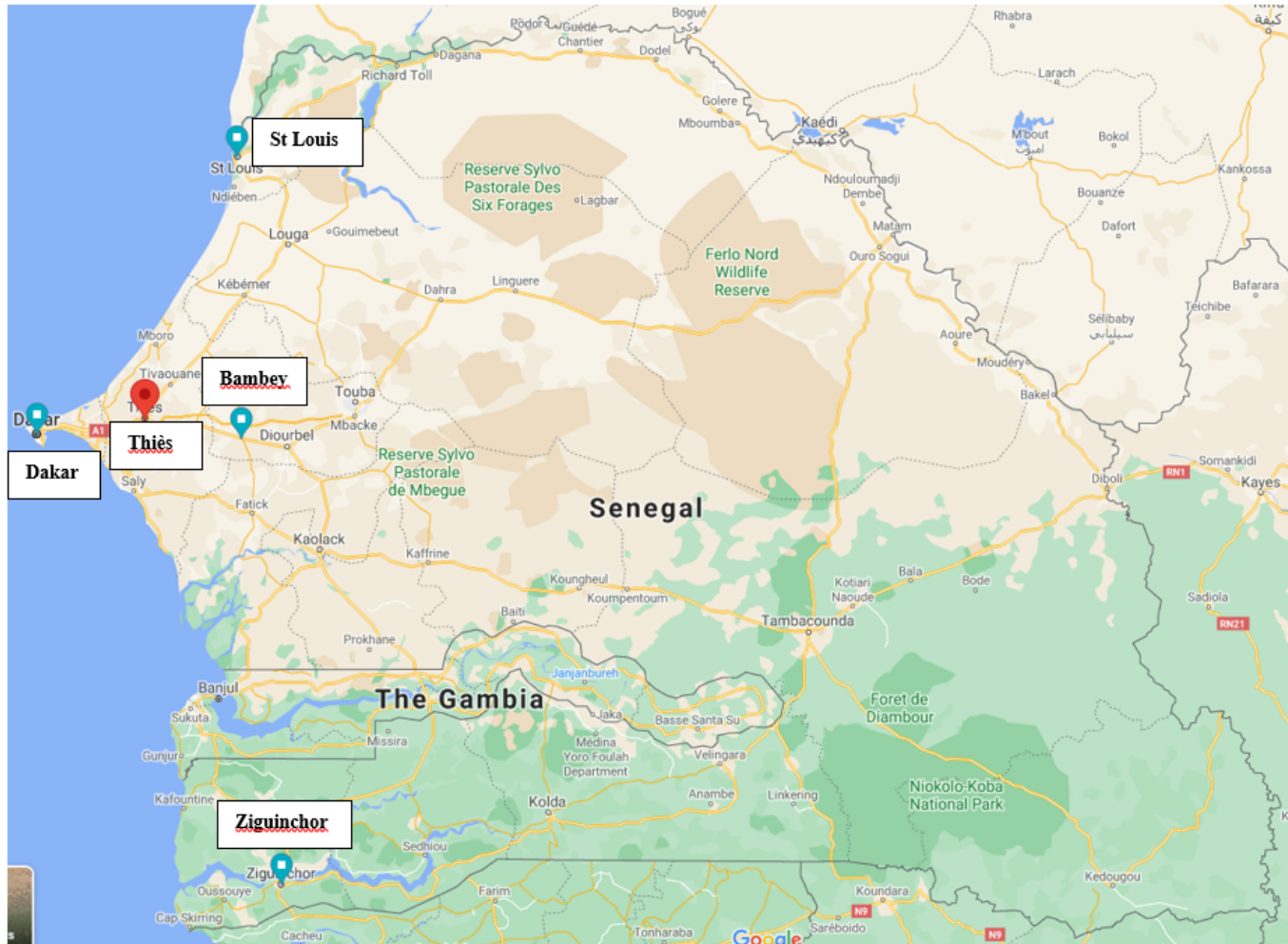
The remaining PPG funds will be spent within the first year of implementation and in accordance with the guidance on eligible expenditure as per the GEF Guidelines on the Project and Program Cycle Policy (2020 update).

Project Preparation Activities Implemented	GETF Amount (\$)		
	Budgeted Amount	Amount Spent To date	Amount Committed
Description of the project implementation/execution modalities and agencies, incl.  <ul style="list-style-type: none"> <li>- Draft TOR for contractual arrangements</li> <li>- HACT assessment of the proposed executing agency</li> <li>- Obtaining of co-financing letters from donors, NGOs, Agencies and government</li> </ul>	5,000.00	2,536.12	2,463.88
Development of the project document (incl.), incl.  <ul style="list-style-type: none"> <li>- Analysis of baseline and ongoing/planned initiatives</li> <li>- gender analysis/ assessment</li> <li>- Preparation of environmental and social management plan (ESMP) (for Category B projects)</li> </ul>	50,000.00	40,029.56	9,970.44
Stakeholder engagement activities: Stakeholder Workshop to verify the project document. Training to the national PEE on the project execution arrangements. Translation of documents in local language.	25,000.00	900.15	24,099.85
<b>Total</b>	<b>80,000.00</b>	<b>43,465.83</b>	<b>36,534.17</b>

**ANNEX D: Project Map(s) and Coordinates**

**Please attach the geographical location of the project area, if possible.**

The project will be implemented at national level, but the activities foreseen will take place mainly in Dakar. Universities located in other cities of the country have expressed interest in supporting the conduction of capacity building and / or events related to the project, those are: Gaston Berger University (Saint-Louis), Alioune DIOP University of Bambey (Bambey), Assane SECK University of Ziguinchor (Ziguinchor), Ecole Polytechnique de Thiès (Thiès), ESP - Ecole Superieur Polytechnique, University of Dakar (Dakar).



**Figure 11: Map of Senegal with potential project locations (source: google maps).**

## **ANNEX E: Project Budget Table**

**Please attach a project budget table.**



Years 1 - 5											
Expenditure Category	Detailed Description (Activity)									Total (US\$eq.)	Responsible Entity (*UNIDO's subcontract to executing entities)
		Outcome 1.1	Outcome 1.2	Outcome 2.1	Outcome 3.1	Outcome 3.2	Sub-Total	M&E	PMC		
Contractual services	to review the GCIP guidebooks and to share suggestions for their improvement (Activity 1.1.1a)	650	-	-	-	-	650			650	MEDD
	to adapt the GCIP guidebooks (Activity 1.1.1b)	5,525	-	-	-	-	5,525			5,525	MEDD
	to consult, and disseminate the GCIP guidebooks (Activity 1.1.1c)	5,500	-	-	-	-	5,500			5,500	MEDD
	to conduct assessment of landscape and capacities of potential GCIP Senegal applicants and experts (Activity 1.1.1d)	5,500	-	-	-	-	5,500			5,500	MEDD
	to develop a calendar of events and investigate the possibility of incorporating a NIC into the accelerator	1,000	-	-	-	-	1,000			1,000	MEDD
	to get acquainted with the GCIP expert training; to share suggestions for improvement (Activity 1.1.2a)	651	-	-	-	-	651			651	MEDD
	to adapt the GCIP expert training and certification system (Activity 1.1.2b)	4,505	-	-	-	-	4,505			4,505	MEDD
	to operationalise the GCIP expert training and certification system (Activity 1.1.2c)	7,000	-	-	-	-	7,000			7,000	MEDD
	to provide support to PEE with the GCIP certification of national experts (Activity 1.1.2d)	1,513	-	-	-	-	1,513			1,513	MEDD
	to provide training and certification to experts, as well as to conduct their evaluation (Activity 1.1.2e)	18,000	-	-	-	-	18,000			18,000	MEDD
	to deliver the GCIP Senegal Pre-Accelerator (Activity 1.1.3a)	32,000	-	-	-	-	32,000			32,000	MEDD
	to deliver the GCIP Senegal Accelerator (Activity 1.1.3b)	170,000	-	-	-	-	170,000			170,000	MEDD
	to support PEE in the delivery of the GCIP Senegal Accelerator (Activity 1.1.3c)	25,340	-	-	-	-	25,340			25,340	MEDD
	to organize the annual GCIP Senegal Forum, incl. awards (Activity 1.1.3d)	485,437	-	-	-	-	485,437			485,437	MEDD
	to provide guidance to PEE on GCIP Senegal forum and integration with the annual global forum (Activity 1.1.3e)	2,542	-	-	-	-	2,542			2,542	MEDD
	to establish and maintain a helpline (Activity 1.1.3f)	23,250	-	-	-	-	23,250			23,250	MEDD
	to conduct the GCIP Senegal Post-Accelerator (Activity 1.2.1b)	-	59,000	-	-	-	59,000			59,000	MEDD
	to provide technology verification (Activity 1.2.1d)	-	59,000	-	-	-	59,000			59,000	MEDD
	to organize the Investor Connect event (Activity 1.2.2a)	-	78,000	-	-	-	78,000			78,000	MEDD
	to establish a network of financial institutions and funds (Activity 1.2.2b)	-	5,000	-	-	-	5,000			5,000	MEDD
	to support PFAN in providing 3-5 workshops (Activity 1.2.2c)	-	10,000	-	-	-	10,000			10,000	MEDD
	to attend 3-5 suitable events in order to encourage participation to funding (Activity 1.2.2d)	-	17,000	-	-	-	17,000			17,000	MEDD
	to support selected enterprises scale up through PFAN support (Activity 1.2.2e)	-	40,000	-	-	-	40,000			40,000	MEDD
	to encourage participation of GCIP Senegal alumni in the GCIP Global Accelerator and support with the application	-	15,000	-	-	-	15,000			15,000	MEDD
	to nominate and support the participation of a group representing GCIP Senegal at the GCIP Global Forum	-	30,000	-	-	-	30,000			30,000	MEDD
	to identify a Fund Manager; to design a financial mechanism with the purpose of improving energy access in	-	5,000	-	-	-	5,000			5,000	MEDD
	to conduct and consult an analysis of Senegal's CIEE, including policy framework (Activity 2.1.1a)	-	-	24,000	-	-	24,000			24,000	MEDD
	to develop tools for CIEE strengthening and connectivity, as well as to train facilitators (Activity 2.1.1b)	-	-	33,000	-	-	33,000			33,000	MEDD
	to conduct capacity building event for selected stakeholders (Activity 2.1.1c)	-	-	25,000	-	-	25,000			25,000	MEDD
	to deliver the Entrepreneurship Train-the-Trainer Programme (Activity 2.1.1d)	-	-	53,000	-	-	53,000			53,000	MEDD
	to deliver 1 tailor-made workshop on cleantech policy and strategy development for 20 people from selected key	-	-	5,000	-	-	5,000			5,000	MEDD
	to review existing policy and regulations and to develop a gender responsive localisation document; to develop	-	-	30,000	-	-	30,000			30,000	MEDD
	to develop recommendations; to conduct stakeholder engagement workshops; to prepare and consult a roadmap	-	-	36,000	-	-	36,000			36,000	MEDD
	to promote cooperation at national and international level through One Senegal Cleantech Forum (Activity 2.1.3a)	-	-	20,000	-	-	20,000			20,000	MEDD
	to participate in GCIP-wide events or other relevant events (Activity 2.1.3b)	-	-	15,000	-	-	15,000			15,000	MEDD
	to review and adapt GCIP internal guidelines for project management teams (Activity 3.1.1a)	-	-	-	2,000	-	2,000			2,000	MEDD
	to develop GCIP Senegal sustainability & exit strategy (Activity 3.1.1b)	-	-	-	10,000	-	10,000			10,000	MEDD
	to capture and disseminate knowledge gathered by the GCIP Senegal (Activity 3.1.2b)	-	-	-	14,000	-	14,000			14,000	MEDD
	to create and maintain a section for the GCIP Senegal on the global GCIP web platform (Activity 3.1.3a)	-	-	-	8,000	-	8,000			8,000	MEDD
	to launch the Senegal alumni network (incl. 80-100 participants) and create a special section on the Senegal web platform to maintain it (3.1.3b)	-	-	-	3,000	-	3,000			3,000	MEDD
	to conduct a needs assessment study to identify potential improvements areas (Activity 3.2.2a)	-	-	-	-	20,000	20,000			20,000	MEDD
	to perform up to 3 capacity building trainings on the areas needing improvements identified in the needs assessment study (Activity 3.2.2b)	-	-	-	-	55,000	55,000			55,000	MEDD
	to create a platform to support the monitoring and evaluation needs (Activity 3.2.2c)	-	-	-	-	85,000	85,000			85,000	MEDD
	to prepare the Senegal M&E plan and regular (every six months) progress review reports (Activity 3.2.3a)	-	-	-	-	-	2,000	2,000		2,000	MEDD
	to conduct the external mid-term review (Activity 3.2.4a)	-	-	-	-	-	-	30,000		30,000	UNIDO
	to conduct the external terminal evaluation (Activity 3.2.4b)	-	-	-	-	-	-	45,000		45,000	UNIDO
	translation	5,500	-	5,000	2,500	-	13,000			13,000	MEDD
sub-total	793,913	318,000	246,000	39,500	160,000	1,557,413	77,000	-	1,634,413	MEDD, UNIDO	
Operational services	to operationalise the financial mechanism with the purpose of improving energy access in underserved regions (Activity	-	950,000	-	-	-	950,000	-	-	950,000	MEDD

**ANNEX F: (For NGI only) Termsheet**

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

Not applicable.

**ANNEX G: (For NGI only) Reflows**

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agency is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

Not applicable.

**ANNEX H: (For NGI only) Agency Capacity to generate reflows**

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies' capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).

Not applicable.