PART I: PROJECT INFORMATION

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>Sustainable industrial production in the cassava and other agro-food sectors through the use of renewable energy applications and low-carbon technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country(ies):</td>
<td>Côte d'Ivoire</td>
</tr>
<tr>
<td>GEF Agency(ies):</td>
<td>UNIDO</td>
</tr>
<tr>
<td>Other Executing Partner(s):</td>
<td>Ministry of Environment, Urban Sanitation and Sustainable Development in collaboration with: Ministry of Energy and Oil, Ministry of Industry, Ministry of Agriculture, Polytechnical University of Yamoussoukro, Ecowas Center on Renewable Energy and Energy Efficiency (ECREEE), national NGOs and Small and Medium-sized Enterprises (SMEs)</td>
</tr>
<tr>
<td>GEF Project ID:</td>
<td>9468</td>
</tr>
<tr>
<td>GEF Agency Project ID:</td>
<td>150434</td>
</tr>
<tr>
<td>Submission Date:</td>
<td>04/04/2016</td>
</tr>
<tr>
<td>Re-submission Date:</td>
<td>05/12/2016</td>
</tr>
<tr>
<td>Re-submission Date:</td>
<td>07/12/2016</td>
</tr>
<tr>
<td>GEF Focal Area(s):</td>
<td>Climate Change</td>
</tr>
<tr>
<td>Integrated Approach Pilot:</td>
<td>IAP-Cities</td>
</tr>
<tr>
<td>Name of parent program:</td>
<td>[if applicable]</td>
</tr>
<tr>
<td>Agency Fee ($)</td>
<td>105,650</td>
</tr>
</tbody>
</table>

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES

<table>
<thead>
<tr>
<th>Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)</th>
<th>Trust Fund (in $)</th>
<th>GEF Project Financing</th>
<th>Co-financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCM-1 Program 1</td>
<td>GEFTF</td>
<td>1,112,100</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>1,112,100</td>
<td>5,000,000</td>
<td></td>
</tr>
</tbody>
</table>

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: Promote the sustainable industrial production in the agro-food sector through the use of renewable energy applications and low-carbon technologies

<table>
<thead>
<tr>
<th>Project Components</th>
<th>Financing Type</th>
<th>Project Outcomes</th>
<th>Project Outputs</th>
<th>Trust Fund (in $)</th>
<th>GEF Project Financing</th>
<th>Co-financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component 1: Strengthening of the institutional framework to promote the development of low-carbon technologies in the agro-food value chain</td>
<td>TA</td>
<td>Outcome 1.1: Secondary legislation is reinforced to promote low-carbon development for agro-food value chains, within the overarching policy framework on environmental sustainability</td>
<td>Output 1.1.1: National regulatory mechanisms promoting the development of renewable energy systems in agro-food value chains and low carbon technologies are proposed to the government counterpart</td>
<td>GEFTF</td>
<td>100,000</td>
<td>200,000</td>
</tr>
</tbody>
</table>

1 Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.
2 When completing Table A, refer to the excerpts on GEF 6 Results Frameworks for GETF, LDCF and SCCF.
3 Financing type can be either investment or technical assistance.
Output 1.1.2: A sectoral roadmap for improved energy performance in target subsectors (including cassava) is developed

Component 2: Technology demonstration of low-carbon applications in the agro-food value chain

| TA | Outcome 2.1: Low carbon technologies are promoted in the agro-industrial processing of agricultural products | Output: 2.1.1: Feasibility studies consolidated on potential uses of renewable energy in agro-food sectors | GEFTF | 175,000 | 800,000 |
| INV | Outcome 2.2: A viable pilot production site is operationalised, engaging the private sector | Output 2.2.1: Operationalisation of an innovative and highly replicable pilot project | 425,000 | 2,500,000 |

Component 3: Enabling partnerships in place for replication across the agricultural food-sector

| TA | Outcome 3.1: Sustainable replication across cassava and other agricultural sub-sectors ensured | Output 3.1.1: Mapping of medium-term potential across agro-food sector developed and roadmap for its activation in place | GEF TF | 261,001 | 1,200,000 |
| | | Output 3.1.2: Pipeline of bankable projects developed, local capacities established and quality assurance in place | |

Component 4: Monitoring and Evaluation

| TA | Outcome 4.1: Project’s progress towards objectives continuously monitored and evaluated | 4.1.1 A monitoring and evaluation plan will be prepared and carried out. | GEFTF | 50,000 | 100,000 |

Subtotal | 1,011,001 | 4,800,000 |

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: (       )

C. INDICATIVE SOURCES OF Co-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

<table>
<thead>
<tr>
<th>Sources of Co-financing</th>
<th>Name of Co-financier</th>
<th>Type of Co-financing</th>
<th>Amount ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recipient Government</td>
<td>Ministry of Energy and Oil</td>
<td>Grants</td>
<td>500,000</td>
</tr>
<tr>
<td>Recipient Government</td>
<td>Ministry of Environment, Urban Sanitation and Sustainable Development</td>
<td>Grants</td>
<td>500,000</td>
</tr>
<tr>
<td>Recipient Government</td>
<td>Ministry of Environment, Urban Sanitation and Sustainable Development</td>
<td>In-kind</td>
<td>500,000</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Private sector enterprises (SMEs)</td>
<td>In-kind</td>
<td>750,000</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Development banks (e.g. BOAD; AfDB)</td>
<td>Loans</td>
<td>2,500,000</td>
</tr>
</tbody>
</table>

For GEF Project Financing up to $2 million, PMC could be up to 10% of the subtotal; above $2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.
### CSOs
Locally active entities (e.g. NGO OPEIF and others) | In-kind | 150,000
------|------|------
GEF Agency | UNIDO | In-kind | 50,000
GEF Agency | UNIDO | Cash | 50,000
**Total Co-financing** | | | **5,000,000**

### D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

<table>
<thead>
<tr>
<th>GEF Agency</th>
<th>Trust Fund</th>
<th>Country/Regional/Global</th>
<th>Focal Area</th>
<th>Programming of Funds</th>
<th>(in $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIDO</td>
<td>GEFTF</td>
<td>Côte d'Ivoire</td>
<td>Climate Change</td>
<td>(select as applicable)</td>
<td>1,112,100</td>
</tr>
<tr>
<td><strong>Total GEF Resources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>1,112,100</strong></td>
</tr>
</tbody>
</table>

a) Refer to the Fee Policy for GEF Partner Agencies.

### E. PROJECT PREPARATION GRANT (PPG)
Is Project Preparation Grant requested? Yes ☒ No ☐ If no, skip item E.

#### PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

<table>
<thead>
<tr>
<th>GEF Agency</th>
<th>Trust Fund</th>
<th>Country/Regional/Global</th>
<th>Focal Area</th>
<th>Programming of Funds</th>
<th>(in $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIDO</td>
<td>GEF TF</td>
<td>Côte d'Ivoire</td>
<td>Climate Change</td>
<td>(select as applicable)</td>
<td>50,000</td>
</tr>
<tr>
<td><strong>Total PPG Amount</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>50,000</strong></td>
</tr>
</tbody>
</table>

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5 PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to $50k for PF up to $2m (for MSP); up to $100k for PF up to $3m; $150k for PF up to $6m; $200k for PF up to $10m; and $300k for PF above $10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

6 PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.
F. PROJECT’S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS

Provide the expected project targets as appropriate.

<table>
<thead>
<tr>
<th>Corporate Results</th>
<th>Replenishment Targets</th>
<th>Project Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society</td>
<td>Improved management of landscapes and seascapes covering 300 million hectares</td>
<td>Hectares</td>
</tr>
<tr>
<td>2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)</td>
<td>120 million hectares under sustainable land management</td>
<td>Hectares</td>
</tr>
<tr>
<td>3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services</td>
<td>Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;</td>
<td>Number of freshwater basins</td>
</tr>
<tr>
<td></td>
<td>20% of globally over-exploited fisheries (by volume) moved to more sustainable levels</td>
<td>Percent of fisheries, by volume</td>
</tr>
<tr>
<td>4. Support to transformational shifts towards a low-emission and resilient development path</td>
<td>750 million tons of CO\textsubscript{2e} mitigated (include both direct and indirect)</td>
<td>60,988-111,729tCO\textsubscript{2e} (1,247 tCO\textsubscript{2} direct and 40,741-121,482 indirect) metric tons</td>
</tr>
<tr>
<td>5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern</td>
<td>Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)</td>
<td>metric tons</td>
</tr>
<tr>
<td></td>
<td>Reduction of 1000 tons of Mercury</td>
<td>metric tons</td>
</tr>
<tr>
<td></td>
<td>Phase-out of 303.44 tons of ODP (HCFC)</td>
<td>ODP tons</td>
</tr>
<tr>
<td>6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks</td>
<td>Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries</td>
<td>Number of Countries:</td>
</tr>
<tr>
<td></td>
<td>Functional environmental information systems are established to support decision-making in at least 10 countries</td>
<td>Number of Countries:</td>
</tr>
</tbody>
</table>

PART II: PROJECT JUSTIFICATION

1) Global environmental/adaptation problems, barriers:

In order to respond to the most pressing environmental problems, the government of Côte d’Ivoire has drafted framework documents for environment and climate change mainstreaming, including a National Environment Policy in 2011, the Sanitation Sector Institutional Study and the Sanitation Sector Policy in 2010 as well as the Solid Waste Study in 2011. Côte d’Ivoire also revised its Climate Action Plan in September 2015 involving the different sector ministries and civil society organizations with emphasis being placed on the promotion of low-carbon technologies in the energy production sector. A Directorate-General (DG) of Sustainable Development was established in December 2011 which is expected to ensure the ministerial backstopping of this project, and a national sustainable development strategy is being prepared. However, major weaknesses persist, preventing the smooth implementation of environmental protection and climate change mitigation and adaptation policies that require environmental mainstreaming in all economic and social sectors, technical and financial capacity building and preparation of a national climate change adaptation plan. The institutional capacity building component 1 of this project will attempt to respond to these needs and identify priority areas for secondary legislation in consultation with the DG of Sustainable Development.

High dependency on fossil fuels for power generation and lack of clean energy access remain a major challenge in the country’s rural areas. According to World Bank and African Development Bank data, currently about 60% of the

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7 Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the Corporate Results Framework in the GEF-6 Programming Directions, will be aggregated and reported during midterm and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

8 INDC “Contributions prévues déterminées au niveau national de la Côte d’Ivoire”, September 2015
electricity is produced by thermal power stations while 40% is generated by hydropower plants. In its strategic plan 2013-2030 for the development of the electricity sector in Côte d’Ivoire, the Government identified 66 projects that will require massive investment from the private sector, including through Public-Private Partnerships (PPPs) with Independent Power Producers (IPP), to expand power capacity production and to modernize the transport and distribution of electricity throughout the country. Efforts are underway to increase hydroelectric and thermal electricity generation with construction of new hydroelectric dams (such as a 275-MW hydroelectric plant at Soubre) and thermal power plants as well as expansion projects at the CIRPEL and AZITO thermal power plants. In addition, the Government also wants to develop a balanced energy portfolio by encouraging the production of new and renewable energy sources.

To this end, a new Electricity Code has been passed which introduces some major changes in the electricity sector of Côte d’Ivoire and further liberalizes the power sector by ending the State monopoly on transport, distribution, commercialization, import and export activities of electricity. All those activities may now be operated by one or more private operators pursuant to a convention agreement to conclude with the State.

All relevant conventions are concluded by the Minister in charge of Energy and the Minister of Economy and Finance on behalf of the State and enter into force only after having been approved by decree adopted by the Council of Ministers. The terms and conditions of such convention, as well as its nature will be specified by future decree or by inter-ministerial decree for the distribution and commercialization activities. UNIDO, through it’s GEF-4 project on the promotion of solar PV mini-grids in rural areas, has helped the government draft the necessary policy documents and legislation and will continue to help strengthen the regulatory framework. This work is currently expanded with additional technical support from the European Union.

As in many countries in the region, electricity tariffs in Côte d’Ivoire have been considered as too low and not cost reflective to encourage IPPs to invest in the sector. Social tariffs have also been put in place affecting the profitability of the sector and hindered investment plans and attracting private sector involvement. According to the IMF, Côte d’Ivoire has designed a new pricing strategy which consists of taking out a large volume of consumers out of the social tariffs, implementing gradual price increases to bridge the generation cost differential and renegotiating export prices. The Electricity Code reflects this pricing strategy by setting the pricing principles for electricity. Electricity pricing should now take into account the financial equilibrium of the electricity sector, the development of the electricity sector, equity and non-discrimination principles for same categories of electricity consumers, the costs, charges and expected profits arising from the obligations of the public service as well as the financial equilibrium of the operator and its return on investment. Electricity tariffs are set and revised by the Minister in charge of Energy. This also means that tariffs can be site specific, depending on the social context and purchasing power of the local population and these aspects will be studied in detail in the technical and financial feasibility studies that will be elaborated during this project. The aim will be to identify the opportunities which the decentralized power generation sector offers for private and foreign investors.

2) Baseline scenario:

The primary target beneficiaries of the project are small and medium-sized enterprises (SMEs) in the cassava and other agro-food sectors (e.g. cashew, cotton), and this project will assist in increasing the energetic and economic performance of such enterprises by applying modern renewable energy applications (such as generating renewable heat and power from available organic waste streams) and other low-carbon technologies (e.g. energy efficiency and solar thermal systems). Cassava has been prioritized during the consultations with government counterparts as an important crop to pilot this approach, based on its economical importance, regional export and employment creation potential. The anticipation is that the approach, once successfully piloted, is replicable in equally important crops like cotton, cashew and other subsectors of the agro-food chain.

The baseline framework which more generally applies as a reference point to the project is the National Development Plan (NDP). It has recently been validated for the period beyond 2015 till 2020, through a participatory process with support from Côte d’Ivoire’s development partners. The Plan’s objective, as from 2015, is to lay the foundations of strong and inclusive growth allowing Côte d’Ivoire to ascend to emerging country status by 2020. The challenge for the NDP is to create the conditions required for lasting peace and stability, to engineer the long-term structural transformation of the economy and to restore Côte d’Ivoire’s regional leadership role. Implementation of the NDP should result in the restoration/construction of infrastructure by adopting a public-private partnership-based
approach and, more generally, foster the development of the private sector which will finance 54% of the strategy’s total cost.

The proposed project focuses on the following two pillars of the NDP: (i) Strengthening, Governance and Accountability; and (ii) Infrastructure Development in support of Economic Recovery. Thus, in support of NDP strategic objectives 1 and 2, the project aims to support the social and economic insertion process, and address the concerns of the population, especially of the most underprivileged, as regards access to modern energy services and income generating activities. It furthermore supports the NDP strategic objective 2, which aims to promote the optimal use of natural resources through the development of high quality infrastructure in the agriculture, transport and energy sectors, in order to bolster economic recovery. By focusing on the promotion and maximization of growth opportunities through sustainable natural resource management, specifically enhanced agricultural productivity as well as improved economic infrastructure quality, the project aims to contribute to efforts aimed at ensuring a smooth transition to green growth.

According to the Second National Communication on Climate Change (SNCC, 2010), agriculture is the main source of Nitrous oxide emissions (N₂O) with 185, 504.40 Gg - EqCO₂ or 99.84 % of N₂O emissions. This trend is confirmed by the document Intended Nationally Determined Contributions for the COP 21 (INDC) of the Côte d’Ivoire, prepared in September 2015, indicating that the country recorded in 2012 (year of reference) a total of 15,964.35 teq CO₂ emissions including:

- Electricity production: 3,442.63 or 21.56%
- Transport: 2,389.36 or 14.97%
- Industry: 1,000.81 or 6.27%
- Energy supply: 781.64 or 4.90%
- Buildings: 627.03 3.93%
- Agriculture: 6,140.80 or 38.47%
- Waste: 1,582.08 9.91%

As shown through these figures, the agricultural sector is the largest contributor to greenhouse gas emissions at the national level. Together with waste, it contributes to almost 50% of GHG emissions in the country.

In Côte d’Ivoire, cassava is among the main agricultural crops. It’s produced all over the country but mainly in the South, West and Central areas of the country. Annual production reached 2.41 million tons, with an average yield of 6.5 tons per hectare (CNRA, 2013). This production needs the use of approximately 370,770 hectares, resulting mostly from extensive farming.

Cassava producers in Côte d’Ivoire do not, in general, use improved varieties. The local varieties are susceptible to attack from pests and generally low yielding. These producers are generally characterized by a very low level of technical efficiency. The average index of technical efficiency of cassava producers in the Centre and in the Centre-West of Côte d’Ivoire is about 50% (Diarra et al., 2003).

Most of the small producers of cassava are driven by a need to meet household food security. Cassava processing has the following objectives (Kwiatia and Jeon, 1990):

- Reduction of losses in fresh roots after harvest;
- Elimination or reduction of quantities of cyanide;
- Improvement of the taste of derived cassava products;
- Establishment of small rural processing enterprises.

This establishment of small rural processing enterprises is handicapped both by the irregularity of the quality of the product which varies in relation to the cassava variety used and also by the traditional way of processing using mainly firewood for energy needs (heat and steam for cooking and drying issues).

Without a sound strategy and the implementation of projects like this one, the attiéké industry would be even more strongly linked to the increasing consumption and degradation of forest resources, thus contributing to deforestation. This scenario corresponds to analyses by the Ivorian government which now seeks to address the challenge of accelerating rural economic development with the need to reduce GHG emissions and improve the level and quality of life of the population. The INDC document (September 2015) reflects this approach by emphasising that sustainable development should be based on increasing agricultural production, agro-processing, the fight against...
deforestation and accelerating the provision of sustainable energy sources to reduce GHG emissions. However, Côte d'Ivoire needs to be supported to pursue the path of sustainable development in an environmentally conscious way.

To achieve the goal, the INDC proposed an alternative low-carbon scenario to reduce the GHG emissions by 2030 (28% off). Agriculture and waste GHG reductions are supposed to be as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Baseline scenario (2030) (Teq CO₂)</th>
<th>Low carbon scenario (2030) (Teq CO₂)</th>
<th>% of reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>7,059.16</td>
<td>4,722.58</td>
<td>-6.82</td>
</tr>
<tr>
<td>Waste</td>
<td>2,336.09</td>
<td>1,623.90</td>
<td>-2.08</td>
</tr>
</tbody>
</table>

In this context, our project will be among the low carbon projects endorsed by the government in the different nexus areas: agriculture, energy, waste, forestry, etc.

The proposed project will thus focus on using low-carbon technologies, especially organic waste streams which are currently not or inefficiently valorized, for industrial renewable energy applications to provide part or all of the enterprises’ energy demand (especially process heat), with the overall aim for promoting application of innovative and adaptive technology in the target sector to reduce their dependency on fossil fuels.

The innovation of the proposed project compared to the classical or existing applications of bio-energy is targeted at the technology and sectoral levels. Côte d'Ivoire has not thus far experienced any significant government-steered application of bio-energy technologies. Certainly, the use of modern bio-energy technologies has not trickled down to the agro-food sector, which regroups small and medium sized enterprises (SMEs). The management of organic waste streams in the agro-food sector in Côte d'Ivoire is currently not developed. For instance; crop residues and other biological waste is mostly being burnt on the field. The project will therefore promote the valorization of certain waste streams in identified agricultural sectors by bringing innovative technologies which respond to a high demand for (process) heat in the manufacturing sector, co-generation (power and heat) and possibly tri-generation (power and heat and cooling) and have not yet been pioneered in Côte d'Ivoire.

The above demonstrates there is an opportunity for a more effective and efficient use of the waste streams for conversion to energy. This is new as these sectors have not been exposed to the use of the bio-technologies at enterprise level, and could diversify the business activities, increase the competitiveness and decarbonise the energy use of the local economic sectors. As for the application of an innovative business model (such as PPPs, third-party financing etcetera), the PPG phase is expected to conclude the exercise on the most appropriate business model to maximize private sector participation, and mapping of potential agro-industrial sectors. The project’s scope is thus highly relevant to national energy targets of using local, sustainable and clean sources to support the low-carbon development in Côte d'Ivoire. The project is innovative and pioneering in the sense that it will do so by addressing sectors (SMEs in agro-food) and outputs (RE based heating and cooling) which are currently largely overlooked in policy and development plans.

Thus far, detailed studies of the potential application of low-carbon technologies in the agro-food processing sector are lacking. Agricultural waste forms the highest share of available biomass resources, especially in the cassava production. According to government estimates, there is a vast potential for available agricultural waste (based on cultivated areas and remaining residues post-harvest), which is often burnt in open fields or abandoned to decay, to be used for energy production. Detailed techno-economic potentials of bio-energy per region and agro-industrial subsector are currently lacking and the project (and PPG) will refine this data, identify a pilot site for technology demonstration to foster economic development in less industrialised regions; this will allow for more detailed calculations and analysis and on quantitative information required for the formulation of project targets.

Numerous local NGOs and SMEs have oriented their actions towards food security closely linked to environment conservation. These actions include intensive agricultural production with improved crop varieties launched through capacity building on promising technologies, woodlots, and transformation and conservation techniques. These players are expected to be identified during the PPG phase of the project to assess potentials for viable PPP solutions to boost productivity. Linking this approach with energy production in rural area, the biomass can be an alternative for rural industrial process as developed by UNIDO in other parts of the world.
Furthermore, the agriculture sector contributes 26% of GDP, 40% of export revenue and about 75% of non-oil export revenue. About 75% of the country’s land is arable, and soil quality and agro-climatic conditions are conducive to the production of a variety of tropical crops, but only 42% of the arable land is farmed. The sector remains one of the main drivers of economic growth despite a decrease due to the fall in the price of cash crops and the decade of military/political crisis. Adoption of the National Agricultural Investment Programme (PNIA) provides new opportunities for the sector’s recovery based on a public-private partnership and the development of production marketing and processing infrastructure. These factors augur well for the achievement of the food security objectives and an increase in the production and export of processed products. The growing importance and involvement of the private sector observed in recent years provides another opportunity for the country to increase financing in the sector and develop smallholder farming into modern competitive agriculture fully integrated into the regional and world market.

3) Associated baseline projects

The baseline project consists of the government’s policy direction to accelerating rural economic development while reducing GHG emissions, with a focus on rural enterprises. A number of initiatives are underway or under preparation to strengthen the value-chain for agro-food products such as cassava, under the overarching objective to restore the country as an agricultural hub and regional exporter of quality and value-added food products. The Ministries of Agriculture and Industry are among those working in this area, as well as development partners such as African Development Bank (AfDB) and West-African Development Bank (BOAD); the detailed discussion and alignment of these initiatives will be continued during the PPG phase. Secondly the baseline lies in the willingness of enterprises active in the agro-food sector (cassava to start with) to innovate and improve their production.

4) Proposed alternative scenario and components of the project

The project aims to harness the potential of introducing low-carbon technologies in the development of agro-food value chains. The aim is to decrease dependence on fossil fuels, reduce CO₂ emissions and create employment in the “green” economy while adding value to local products through productive activities. A mapping of existing SMEs active in the agro-food processing sector will be carried out to analyse the potential of introducing low-carbon technologies which will be tested through a viable business model approach. The NGO regrouping different producers of cassava, has shown readiness to partners in this project to identify pilot sites and consolidate a business model which can be used to upscale activities in the long run. In terms of policy support, the aim is to contribute to the strengthening of the regulatory framework which allows for greater environmental protection, the promotion of low carbon technologies and renewable energy systems in the agro-food production process. The agro-forestry sector also bears a significant potential for the application of biomass technologies and thereby valorizing residues from forestry for the production of energy.

GEF assistance will catalyze a private sector involvement based scale-up and replication of introducing low-carbon technologies in the agro-food processing, specifically, the cassava sector, through a viable business model approach. It will permit to address barriers related to capacity building and awareness, increasing know-how of the technical feasibility and economic viability of these technologies, and promoting financial mechanisms which will attract the involvement of the private sector.

GEF funds will be used to pilot an approach of establishing demonstration sites of biomass-based renewable energy services. The idea is to supply the energy generated to the local isolated units of processing cassava and other agro-food products which will be identified in detail during the PPG phase. The project is expected to lay the foundation for a market environment for low-carbon technologies in Cote d’Ivoire, and will have a significant demonstration effect, in the context of pursuing the objectives of reduction of GHG emissions proposed by the INDC COP21.

After a successful implementation of this project and demonstrating the technology, the GEF support will enable the government to scale up and replicate the project achievements across the country. As such, GEF support will ensure that (i) the commercialized development of low-carbon technologies and GHG avoidance are sustained by removing technical, policy and capacity barriers; and (ii) it is demonstrated that the energy generated from renewable sources (biomass-waste residues) can be used sustainably in rural areas for the development agro-food processing. The activities of the project will contribute towards GHG emission reduction through avoidance of potential future emissions of fossil fuels, as well as avoidance of firewood in the economic and social development of Cote d’Ivoire’s rural areas.
Synergies will be established with other ongoing development programmes in the area of sustainable energy and agro-food value chain development. To this end, technical and financial development partners have been targeted and collaboration agreements are being negotiated with the EU delegation in Abidjan and the African Development Bank among others as these institutions in particular have attributed substantial financial resources to the development of the green energy sector.

GEF involvement, therefore, adds value in promoting the development of low-carbon technologies while creating awareness in the long-run and trigger future financing, mainly from multilateral agencies and the private sector, to upscale the approach.

The project objective is to promote the sustainable industrial production in the agro-food sector through the use of renewable energy applications and low-carbon technologies.

To achieve this objective, the project will focus on the following components, results, and expected outputs:

Component 1: Strengthening of the institutional framework to promote the development of low-carbon technologies in the agro-food value chain

Outcome 1.1: Secondary legislation is reinforced to promote low-carbon development for agro-food value chains, within the overarching policy framework on environmental sustainability

The aim of this project outcome is to enhance the necessary institutional and policy framework in the country to actively steer the promotion of renewable energy applications and low-carbon technologies in the agro-food processing sector. The necessary secondary legislation will be foestered to encourage the development of the priority sectors, such as the valorization of bio-waste in the cassava production and others. An analysis of the present regulatory framework will be conducted and key enhancement recommendations formulated with respect to the agro-food sector and in light of best practice world wide. The sharing of data, joint review of the different draft reports will allow for greater complementarity. The business climate will equally be targeted in the analysis in order to propose a management model for the involvement of private sector actors in the conception and operation of renewable energy based power stations. As part of the policy and regulatory framework related work, barriers to the deployment of low carbon technologies will be identified such as tax or import duty related considerations and how to overcome them by identifying relevant governmental instruments and institutions.

As part of this component the regulations and capacities for functional and supportive instruments (such as exemption of import tax for renewable energy technologies) will be focused on. In fact, substantial preparatory work has been done on this aspect under the present UNIDO implemented GEF-4 project on renewable energy (solar) based mini-grids (GEF ID 4005), in which the existing regulatory framework was critically assessed and a number of recommendations have been formulated, which formed the initial basis for the preparation of a number of new decrees. Under the proposed project the focus will be on strengthening the relevant policy instruments, and respective institutions, entities, using the demonstration as the concrete case. One area of particular focus will be to improve the fiscal regime for the import of all types of renewable energy equipment; the current system allows for a tax exemption for solar (photovoltaic) panels and related equipment such as inverters and batteries, but not for other renewable energy (and energy efficiency) equipment.

The expected Outputs are:

Output 1.1.1: National regulatory mechanisms promoting the development of renewable energy systems in agro-food value chains and low carbon technologies are proposed to the government counterpart, including import duty exemption for low-carbon equipment

Output 1.1.2: A sectoral roadmap for improved energy performance in target subsectors (including cassava) is developed

Component 2: Technology demonstration of low-carbon applications in the agro-food value chain

Outcome 2.1: Low carbon technologies are promoted in the agro-industrial processing of agricultural products

Outcome 2.2: A viable pilot production site is operationalised, engaging the private sector

The agro food sector is one of the most active productive sectors in the western regions of Africa. Residues of this sector offer a very good source of renewable energy that can be converted into energy use application. But due to...
various obstacles, the majority of industries, including SMEs involved in agribusiness, lack information with regards to the benefits associated with the production of energy from waste; for example, through cogeneration electricity and heat or gasification. Côte d’Ivoire is deemed to have significant potential for use of renewable energy in its industries, including the food industry. Indeed, it has large quantities of agricultural waste not recovered from the cocoa, coffee, oil palm, sugar cane, rice, cassava, and residues stemming from the forestry sector.

A thorough analysis of the agro-food priority sectors identified by the government and the PPG phase of the project will be undertaken in order to explore the potentials of the installation of renewable energy applications in the production chain. Feasibility studies will be elaborated in collaboration with private sector partners in order to assess the economic viability of a biomass based energy system at a given site to support the production chain of agro-food products. Following the site identification, the bio-energy system will be constructed and appropriate management model put in place which will ensure the feasible operation of the site by a private operator. Emphasis on a viable private sector driven business model approach is meant to ensure future upscaling and replication in the country. The idea is therefore to test a possible business model as well as the technology to draw lessons for future feasibility of such systems. The pilot system can be installed in an existing SME specialising in the processing of agro-food products; the identification will be done during the PPG phase.

The expected outputs are:

Output 2.1.1: Feasibility studies consolidated on potential uses of renewable energy in agro-food sectors

Output 2.2.1: Operationalisation of an innovative and highly replicable pilot project

This operationalization will follow a pre-defined set of criteria promoting low-carbon improvement of the agro-food sector. The aim is to demonstrate the low-carbon technology and test a possible private sector driven business model for future upscaling.

Component 3: Enabling partnerships in place for replication across the agricultural food-sector

Outcome 3.1: Sustainable replication across cassava and other agricultural sub-sectors ensured

Output 3.1.1: Mapping of medium-term potential across agro-food sector developed and roadmap for its activation in place

Output 3.1.2: Pipeline of bankable projects developed, local capacities established and quality assurance in place

The aim of this component is to establish partnerships and linkages with other crosscutting development activities in order to enhance the cassava value chain as a whole. The energy solution is one part of an integrated approach which is necessary to develop a viable production process which takes into account questions related to quality, packaging, enterprise upgrading, trade capacity building and promoting a range of other by-products. Technical expertise within UNIDO can be capitalized on together with a proactive partnership approach on the ground towards other development actors. The mapping exercise will study the different interventions that may be necessary to enhance the cassava production chain in a sustainable way and how the energy solution can most effectively support this development process. As a result, a roadmap and pipeline of bankable projects to upscale the approach will be presented to other development partners, especially development banks such as AfDB and BOAD as first working sessions have already been initiated in this regard.

Component 4: Monitoring and Evaluation

The objective of this component is to facilitate a detailed and extensive M&E structure to be put in place under the project in compliance with UNIDO and GEF procedures. This will allow not only the monitoring of the project’s progress but also the construction of an overall project impact assessment on a rolling periodic basis, built-up from the project’s different components. The analysis of the M&E and impact assessment results of the different components will allow for periodic reviews of the project’s ‘Theory of Change’ and subsequent implementation strategies and work plans. Beyond this tailor-made M&E and IA approach, the proposed GEF Project would also come under UNIDO’s standard M&E approach for GEF funded projects, this consisting of mid-term review and final evaluations as well as defined period project implementation reporting based on the GEF/UNIDO templates (MTR/PIR/final PIR).

As a starting point, an ESMP will be formulated during the PPG and relevant environmental and social impact
mitigation measures will be incorporated into project design. Additionally, a study on the sustainability of biomass feedstock for production of electricity and heat will be conducted during the PPG and appropriate measures will be incorporated into the ESMP.

5) Incremental cost/cofinancing:

The GEF support of the sustainable agricultural production and promotion of renewable energy applications and low-carbon technologies in the agro-food sector in Côte d’Ivoire will promote the sustainable production of agricultural commodities (such as cassava and others), and strengthen the competitiveness of the local agro-food sector. The GEF grant will support the activities pertaining to the elaboration of secondary legislation as well as the realization of highly innovative and replicable pilot project as specified in outcomes 1 and 2 to maximize the demonstrative effect and trigger upscale throughout other economic sectors.

In order to ensure a sustainable linkage between the increase in energy consumption and environmental sustainability, there is a need to shift from imported fossil fuels to an increased and efficient use of domestic energy resources and direct the national economy towards a green industry and low-carbon development path. The potential use of biomass for energy generation is significant to substitute a considerable portion of fossil fuel use and achieve a reduction in GHG emissions. Organic waste can thus, be transformed into a source of sustainable energy, income and socio-economic benefits.

In the recently carried out industrial policy document, elaborated by UNIDO, the cassava sector was identified as a potential growth sector in terms of processing (adding value to the raw product) and energy production by using the vast amount of left-over waste. A detailed analysis of the energy savings and associated emission reduction will be performed during the project preparation phase, contemplating fuel types, efficiency rates and selected efficiency technologies.

Sustainable results will be obtained from this project through a cost-effective approach. The technical assistance and financial support from the GEF combined with the support of the government will function as an important leverage for biomass investments in agro-food and forestry sectors. By all these means, the capacity needed by the country will be developed, a safe technical and financial ground will be set and finally new enterprises will be triggered and also longer term development and investment impacts will be created, which will bring national success to global environment management indicators in scope of GEF’s focus areas.

As part of the technology demonstration component, SMEs will be targeted which are currently using diesel generators, coal or burning firewood to generate energy. The substitution of coal or diesel fuel meets the national development goals of Côte d’Ivoire by choosing renewable energy technology. The GEF grant will thus be used to cover the increment between a less costly, more polluting option and a more environmentally friendly option which is more costly at the beginning when introduced to the market.

The incremental reasoning for this project thus lies in the provision of a state-of-the-art and low-carbon energy solution when upgrading these enterprises. More quantitative details on the costs will be collected during the PPG phase, through visits and energy audits in representative target companies. These visits will provide a conclusion on which size of enterprises should be targeted, and which low-carbon applications are most commercially and technically appropriate.

- Sustainability

The benefits of modern bio-energy conversion technologies are multiple: emission reductions, diversity of fuel supply and energy security, reduction in fuel costs and reliance on fossil fuels, a reliable energy supply, economic growth, job creation, as well as the global potential for technology transfer and innovation. Long term ownership and sustainability will be ensured through working closely with the government partners (such as Ministries of Environment and Energy, Agriculture and Industry) and through the development of policy instruments such as the strategic road map. This roadmap will set out steps for these technologies to remain a focus beyond the timeframe of the project and will also ensure the steps are outlined for future investments to ensure that Ivorian manufacturers, SMEs and academic institutions are aware of technology development in this area. A highly innovative and replicable pilot enterprise (or more, depending on the amount of confirmed co-financing) will be selected during the PPG phase, taking into account criteria such as innovation, replicability, level of CO₂ emissions in the current
production process, willingness to contribute to co-financing etc., so that a viable business model and appropriate
technology can be show-cased and used for future upscaling.

The demonstration projects will be prepared and realized in direct cooperation with the private sector enterprises and facilitated by NGOs and/or industry associations already active in the processing of cassava (traditional or semi-traditional experience), with a strong involvement of the cassava producers. The selected private sector enterprises will be expected to cofinance the technology investment (through equity or loans), and the operationalization of the demonstration project(s) will be monitored closely, and will involve the transfer of knowledge to properly operate and maintain the system. The involvement of international technology suppliers will include tailored training of local staff, both from the enterprise, and ideally through local subcontractors. The experience of the GEF4 project on solar mini grids (ID 4005) has provided valuable lessons in term sof ensuring local capacity to handle common operation and maintenance activities and problem solving, with only major maintenance or incidences requiring physical visits of the international technology suppliers. Apart from the demonstration project(s) (including investment support), the project will also develop a pipeline of investment projects through technical assistance (through feasibility studies, business plans, etc), in order to facilitate the replication of the technology application throughout the cassava and other subsectors.

In terms of sustainability, the benefits of modern bio-energy conversion technologies are multiple: emission reductions, diversity of fuel supply and energy security, reduction in fuel costs and reliance on fossil fuels, a reliable energy supply, economic growth, job creation, as well as the global potential for technology transfer and innovation. Long term ownership and sustainability will be ensured through working closely with the government partners (such as Ministries of Environment and Energy, Agriculture and Industry) and through the development of policy instruments such as the strategic road map. This roadmap will set out steps for these technologies to remain a focus beyond the timeframe of the project and will also ensure the steps are outlined for future investments to ensure that Ivorian manufacturers, SMEs and academic institutions are aware of technology development in this area. A highly innovative and replicable pilot enterprise (or more, depending on the amount of confirmed co-financing) will be selected during the PPG phase, taking into account criteria such as innovation, replicability, level of CO2 emissions in the current production process, willingness to contribute to co-financing etc., so that a viable business model and appropriate technology can be show-cased and used for future upscaling.

- **Scaling**

The target agro-industrial food processing sector has a wide variety of sub-sectors across the country where the technology could be installed. Given the commercial interest in these projects, the different proponents will have an interest in keeping the projects running and hence sustain the global environmental benefits beyond the life of the project. The premise is that government and private sector will be prepared, through this project, to step up their involvement in the demonstrated type of innovations across sectors and the country. The strategy to reach this stage will be developed in full during the PPG phase, and will also include the assessment of the most suitable financing schemes to facilitate and maximise the inflow of co-funding during and beyond the project.

In terms of scaling-up, the demonstrating of the technical feasibility and commercial viability of industrial bio-energy projects is meant to provide national examples that can be replicated across the country. The bio-energy project will show what is possible and the examples will be disseminated widely in the country, and the implementation and operation will build up the technical capacity within the stakeholder groups to help in the replication of these projects. Given the commercial interest in these projects, the different proponents will have an interest in keeping the projects running and hence sustain the global environmental benefits beyond the life of the project.

The ownership of the private sector through investment commitments is also a central feature of the scaling strategy to ensure that the operators have a vested interest in keeping the systems financially viable in the future.

- **Innovation**

The modern bio-energy projects will show what is possible and the examples will be disseminated widely in the country, and the implementation and operation of these projects will build up the technical capacity within the stakeholder groups to help in the replication of these projects.

- **Market transformation**
The purpose of the project is to demonstrate the technical feasibility and commercial viability of industrial bio-energy systems in the agro-food value chain and provide national examples that can be replicated across the sub-sector and into other agro-food sub-sectors. The pilot units within ongoing food-processing (especially cassava sub-sector) SMEs will be selected on a number of criteria including their current production, GHG emission reductions and their replicability.

The project, through its policy, capacity building and technology demonstration components, will enable the government to scale up and replicate the project approach across the country. The project will contribute to strengthen the necessary regulatory framework to clarify the context and conditions of operating the new low-carbon processing units according to the business model designed for the project.

The transformational effect will thus be achieved by the joint efforts of modernizing and upgrading the value-chain of the agro-food processing sectors, and the improved energetic performance of the enterprises on which this project will particularly focus.

The objective to be achieved as a result of the project component on renewable energy applications in the agro-food sector will be to initiate and strengthen the green industry development through the use of bio-energy. The economic sector of focus will be the agro-industry, due to its importance for the national economy. The project will be used as an opportunity to drive economic development in currently less developed regions of the country. The proposed project will focus on using bio waste streams in the agro-food which are currently not or inefficiently valorized, for industrial renewable energy applications to provide part or all of the enterprises’ energy demand with the overall aim for promoting the application of innovative and adaptive technology in the target sectors to reduce their dependency on fossil fuels.

6) Global environmental benefits:

An increased use of renewable energy applications (such as bio-energy) and other low-carbon technologies (such as energy efficiency) in agro-food value chains will substitute the use of fossil fuels for heat or power generation and thus, GHG emissions arising from combustion of these fossil fuels will be prevented. In this way, Côte d'Ivoire will contribute to national, as well as global targets to reduce GHG emissions.

Based on initial assumptions, this project is expected to result in:

• Direct emission reductions of approximately 1,247 tCO₂eq through its demonstration activities
• Direct energy generation from demonstration projects totalling 3,066,000 kWh or equivalent

Indirect emissions reductions

Using the GEF bottom-up methodology, indirect emission reductions attributable to the project are expected to be 40,741-121,482, tCO₂eq. This figure assumes a replication factor of 3 (GEF uses 3 for a market transformation initiative and 4 where a credit guarantee is introduced).

2. Stakeholders. Will project design include the participation of relevant stakeholders from civil society organizations (yes X /no□) and indigenous peoples (yes □/noX□)? If yes, identify key stakeholders and briefly describe how they will be engaged in project preparation.

The Ministry of Environment, Sustainable Development, and Urban Safety through the Permanent Secretariat of Sustainable Development will ensure the overall governmental backstopping of the project. In collaboration with other line ministries including energy, industry and agriculture, it will establish a mechanism to coordinate the process of piloting, scaling up and establishment of the Project Steering Committee.

The Polytechnique of Yamoussoukro through its Renewable Energy Department will be involved in the research activities that need to be conducted to map out the potential usages of biomass in different sectors and assess the financial and technical feasibility of a pilot production site.

Stakeholders' roles in the Project:

Government
• Ministry of Environment: Overall backstopping of the project
Ministry of Oil and Energy: Line ministry for rural electrification related issues
Ministry of Agriculture: Backstopping on agro value chain development issues
Ministry of Industry: Backstopping on agribusiness related issues, food processing and industrial development

Landowners
- The local authorities (municipalities, regional councils, districts)
- The NGOs and SMEs specializing in agricultural production

Research and agricultural advisory institutions
- Polytechnique of Yamoussoukro:
  Associated in elaboration of sectoral studies on agro value chain development and mapping of bio energy potentials;
  Realization of research works at the request of the project on species and agricultural enterprises to set up in the project context;
  Input of scientific knowledge to the project execution;
  Capacity-building activities such as training programmes for public and private sector actors.

3. Gender Equality and Women’s Empowerment
   Are issues on gender equality and women’s empowerment taken into account? (yes ☑/no ☐). If yes, briefly describe how it will be mainstreamed into project preparation (e.g. gender analysis), taking into account the differences, needs, roles and priorities of women and men.

A gender analysis in the agribusiness, food and production forestry, indicates that women are mostly active in those activities including post harvest of crop production. Furthermore, women are predominantly present in the cassava processing sector which generates most income generating activities in the country. The policy work foreseen in this project as well as the pilot enterprise will give special attention to women groups and youth in terms of giving them opportunities to generate income and invest in commercial activities. This will contribute to poverty reduction and economic empowerment of women. The partnership with the NGO OPEIF Afrique is an indication of the planned involvement and empowerment of women toward increased livelihood option, one of the priority areas of this organisation

During the PPG phase, a complete gender analysis using gender markers will be conducted and concrete indicators for gender and social inclusion be determined and a budget has been set aside accordingly.

4. Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

<table>
<thead>
<tr>
<th>Risks</th>
<th>Level</th>
<th>mitigation measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology demonstration and PPP approach be seen as a private sector oriented approach</td>
<td>Moderate</td>
<td>The concept will be clearly defined and presented in its entire dimension. This will create greater awareness of the importance of PPS with all its possible options be understood and adopted by key stakeholders.</td>
</tr>
<tr>
<td>A change of government considering that this project is benefiting from a high support</td>
<td>Low</td>
<td>The project is embedded within the current institutional arrangement in the sector particular within the Ministry of Environment and Ministry of Oil and Energy. The creation of a Project Steering Committee will furthermore increase multi-stakeholder ownership and ensure continuity throughout the project duration.</td>
</tr>
<tr>
<td>Regulatory framework risk: uncertainty in the application of legislation that incent renewable energy production</td>
<td>Moderate</td>
<td>Elaboration of a policy document in close consultation with government counterpart to ensure that recommendations are validated and consensus created with respect to the application in national legislation.</td>
</tr>
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</table>
### Risks

<table>
<thead>
<tr>
<th>Economic and Sustainability Risk: The risk of raw material supply</th>
<th>Level</th>
<th>mitigation measures</th>
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<tbody>
<tr>
<td>Low</td>
<td>Considering the large potential in existing biomass resources from agro-industrial waste streams, the partial use of these resources is not expected to have any impact on food production. In contrast, the project will promote use of post-harvest agricultural wastes and byproducts and biomass wastes generated in production processes, especially in the cassava processing sector. Sustainable use of modern biomass will be promoted in the project; relevant standards and certification schemes will be applied where necessary. A study on the sustainability of biomass feedstock for production of electricity will be conducted during the PPG. Another economic risk is the volatility of the oil price which may discourage enterprises from moving away from traditional sources of energy (diesel generators). This aspect will also be analysed in the PPG phase to assess the economic viability of biomass energy systems.</td>
<td></td>
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<tr>
<td>Climate change risk</td>
<td>Low</td>
<td>Increased drought periods may affect the availability of biomass resources, both agriculture residues and livestock manure. The design of the project will include climate risk analysis and integrate mitigation strategies. During the project preparation phase, an assessment of the availability of those resources based on different scenarios will be carried out and, when necessary, possible alternatives will be identified.</td>
</tr>
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</table>

5. **Coordination.** Outline the coordination with other relevant GEF-financed and other initiatives.

The project provides an innovative approach in that it brings together government actors, civil society, academic institutions, and the private sector around an environmental initiative of significant magnitude.

The Ministry of Environment, Sustainable Development, and Urban Safety through the Permanent Secretariat of Sustainable Development will ensure the overall program coordination. The other project stakeholders will ensure the role of thematic leader, especially the Ministry of Oil and Energy, Ministry of Industry and Ministry of Agriculture through their participation in the Project Steering Committee.

Coordination and cooperation with other GEF projects and programmes will be developed and animated by the various coordinating teams of the project. UNIDO will make sure that this coordination is effective. The GEF National Commission coordinated by the Permanent Secretariat headed by the operational Focal Point coordinates the various GEF initiatives in Ivory Coast. More specifically, the collaboration will be developed and maintained with projects:

- UNEP/GEF Reforestation project under GEF-6 aiming to promote the sustainability and scaling up aspects for transforming the management, restoration and conservation of forests and biodiversity in Cote d'Ivoire. Collaboration could be envisaged in terms of prioritizing project sites, assessing the environmental impact of project interventions (setting up pilot enterprise) and assessing related CO2 emissions reductions.

- UNIDO/GEF4 project on promoting renewable energy for rural electrification and productive uses. The project will permit to avoid fossils fuels uses for remote mini-grids in the country. It will contribute to national emission reduction targets.

6. **Consistency with National Priorities.** Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes X /no ). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

The project is consistent and will contribute to national and international environment, climate change mitigation and sustainable development agenda. These include:
Strategic outcomes and outputs of PND (2012 – 2015). Specifically to its Strategic Result II.2.2 of PND related to the revival of strategic sectors of Ivorian economy, Outcome 4: “the competitiveness of Ivorian agriculture and its capacity to remunerate adequately the producers and ensure food security is reinforced” and its related output v: ‘land management is sustainably ensured’.

Côte d'Ivoire’s National Action Plan for the Environment (PNAE-CI) established a framework for environmental management that ensures coherent actions and cohesive national structures and institutions. Through its ten programmes, PNAE-CI has mainstreamed and aligned the guidance and obligations of the three Rio conventions (i.e., CBD, UNFCCC, and UNCCD), which address Côte d'Ivoire’s main environmental challenges.

The Second National Communication on Climate Change (2010) indicated that “The Ivorian agriculture contributes 27% to the GDP, employs 2/3 of the active population and provides with the agro-industrial sector 40% of export incomes. That important sector for the country is vulnerable to climate change, namely subsectors like coffee and cocoa. According to the study, the area that is the most affected is the N’ZI Comoé region, the former cacao belt. That belt moved gradually towards the center-west region of the country with its deforestation effects and important population migration”. The current project is therefore in line with the country SNC findings and the issues and area addressed by this project fall within the priority action and zone.

National Agricultural Investment Plan 2010-2015 which identified SLM as one of the important programme to increase agricultural productivity and its competitiveness with other sectors of the economy. Still in the agricultural sector, the project is line with the objective of restoration of forest cover indicated in the Agricultural Development Master Plan 1992 – 2015.

The Industrial Policy Report published by UNIDO/Ministry of Industry in 2012 defining the priority sectors for industrial development for the next 20 years and identifying the Cassava secor's potentials in terms of growth and employment creation.

7. Knowledge Management. Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

To ensure up-to-date know-how, UNIDO actively collaborates with a number of energy technology centers, networks and learning platforms worldwide, such as the International Centre for Science and High Technology in Trieste, the National Cleaner Production Centers (46 countries) and the Green Industry Platform to form strategic partnerships to promote knowledge management and best practices for technology transfer. UNIDO also already applies a strategy of establishing regional centres as centers of excellence and knowledge hubs (for instance the ECREEE center in Cape Verde for West-Africa, and similarly ongoing initiatives for East- and Southern Africa, as well as for SIDS) as a way to institutionalise capacities and support regional coordination and information exchange. This knowledge platform will be used to capitalize on expertise and methodologies developed by these centres in the area of training courses. ECREEE, for instance, has a vast experience working in Côte d'Ivoire and could assist in capacity building workshops which are to be organised under this project.

UNIDO is well-placed to implement this project with its global network of experts and will be able to draw upon its experience from its wider portfolio of relevant and mainly GEF funded projects on bio-energy, including in Ukraine (low-carbon technologies in bakery industry, biogas from organic farm waste to provide heat and electricity for on-farm needs), gasification in wood-processing sector, Uruguay (biogas and other low carbon waste utilization technologies), the Dominican Republic (biomass for electricity generation), India (organic waste streams for biogas in agro-food sector), Albania (bio-energy in olive oil sector), Turkey and Chile (biogas for agro-industries). Furthermore, UNIDO has carried out projects in Nigeria (rice husks for electricity), Thailand (bamboo waste from chopstick industry and rice husks for energy), Sri Lanka (bamboo waste processing into pellets).

The UNIDO GEF-4 funded project (GEF ID 4005) on the promotion of renewable energy mini grids (solar PV) in rural areas has also led to a substantial accumulation of knowledge and best practice, developing policy documents and feasibility studies on the application of RE systems in remote areas and testing the solar PV technology at seven project sites, totaling over 200 kW of solar energy capacity. As part of this project UNIDO also co-organised with the government of Côte d’Ivoire a high-level Investment Panel for Renewable Energy in Abidjan in January 2014.
The experience from this project forms the entry point for UNIDO activities in the RE and low carbon technology sectors in Côte d’Ivoire.

All knowledge management activities will be gender mainstreamed. This includes integration of gender dimensions into publications, for instance, presenting sex-disaggregated data and gender-energy nexus theory; gender sensitive language in publications, photos showing both women and men and avoid presenting stereotypes; as well as assuring that women, men and the youth have access to and benefit from the knowledge created. The most suitable partners and stakeholders will be identified (per component) during PPG phase. All publications developed under this project will comply with GEF and UNIDO communication policies.

In terms of the legal context, the present project will integrate in the standard basic cooperation agreement between UNIDO and Côte d’Ivoire signed on 7 March 1996.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT\(^9\) OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION</th>
<th>MINISTRY</th>
<th>DATE (MM/dd/yyyy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alimata Kone Bakayoko</td>
<td>Permanent Secretary &amp; GEF OFP of Côte d’Ivoire</td>
<td>MINISTRY OF ECONOMY AND FINANCE</td>
<td>04/08/2016</td>
</tr>
</tbody>
</table>

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies\(^10\) and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

<table>
<thead>
<tr>
<th>Agency Coordinator, Agency name</th>
<th>Signature</th>
<th>Date (MM/dd/yyyy)</th>
<th>Project Contact Person</th>
<th>Telephone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Philippe R. Scholtès, Managing Director, Programme Development and Technical Cooperation - PTC, UNIDO GEF Focal Point</td>
<td></td>
<td>07/12/2016</td>
<td>Mr. Mark Draeck, Department of Energy, Renewable and Rural Energy Division</td>
<td>+431 26026 5317</td>
<td><a href="mailto:M.DRAECK@UNIDO.ORG">M.DRAECK@UNIDO.ORG</a></td>
</tr>
</tbody>
</table>

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required GEF Project Agency Certification of Ceiling Information Template to be attached as an annex to the PIF.

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\(^9\) For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

\(^10\) GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF