GABON NATIONAL INVESTMENT FRAMEWORK (CAFI 3)

SUBMISSION OF THE GABONESE REPUBLIC TO THE SECRETARIAT OF CAFI FOR THE BOARD

December 2020

TABLE OF CONTENTS

LIST OF ABBREVIATIONS AND ACRONYMS

AeaffB	L'Agence d'Exécution des Activités de la Filière Foret Bois
ADAG	Agence de Developpeent Agricole
AFD	French Development Agency [*Agence française de développement*]
AGNOR	l'Agence Gabonaise de Normalisation
AFOLU	Agriculture, Forestry and Other Land-Use
AGEOS	Gabon National Space Agency [*Agence gabonaise d'études et d'observation spatiale*]
ANPN	National Parks Agency [*Agence nationale des parcs nationaux*]
CAFI	Central African Forest Initiative
CBD	Convention on Biological Diversity
CENAREST	National Scientific and Technological Research Center (*Centre national de la recherche scientifique et technologique*)
CNAT	National Land Use Plan Committee
CNC	National Climate Council [*Conseil national climat*]
Co2	Carbon dioxide
COP	Conference of the Parties
COPIL	Steering Committee [*Comité de pilotage*]
dbh	diameter at breast height
DG	Director-general/General Directorate
EEZ	Exclusive Economic Zone
ENEF	National School of Forestry
ESIA	Environmental and Social Impact Assessment
FAO	Food and Agricultural Organization
FCPF	Forest Carbon Partnership Facility
FLEGT	Forest Law Enforcement, Governance and Trade
FSC	Forest Stewardship Council
GHG	Greenhouse Gas
GoG	Government of Gabon
Ha	Hectare
HCS	High Carbon Stock
HCV	High Conservation Value
IFT	Tropical Forest Institute [*Instituto Floresta Tropical*]
IPCCC	Intergovernmental Panel on Climate Change
INDC	Intended Nationally Determined Contribution
IFL	Intact Forest Landscapes
IRET	Research Institute for Tropical Ecology (*Institut de recherche en écologie tropicale*)
LEDS	Low Emission Development Strategy
LOI	Letter of Intent
LULUCF	Land Use, Land Use Change, and Forestry
MAEPA	Ministry for Agriculture, Livestock, Fishery and Food [*Ministere de l'agriculture, de l'elevage, de la pêche et de l'alimentation*]
MINEF	*Ministère de l'eau, de la forêt, de la mer et de l'environnement chargé du plan climat et plan d'affectation de terres – abbreviated Ministère des Eaux et Forêts - MINEF*
MEFME	Ministry for Water, Forests, Oceans and the Environment [*Ministère de l'eau, de la forêt, de la mer et de l'environnement chargé du plan climat et plan d'affectation de terres – abbreviated Ministère des Eaux et Forêts - MINEF*]
NDC	Nationally Determined Contribution
NGO	Non-governmental Organization
NIF	National Investment Framework
NRI	Natural resources inventory

NTFP	Non Timber Forest Products
PGV	Plan Gabon Vert
PNAT	National Land Use Plan
PEFC	Programme for the Endorsement of Forest Certification
PMU	Project Management Unit
PNC	National Climate Plan of Gabon [*Plan national climat du Gabon*]
PRE	Economic Recovery Plan
PSGE	Strategic Plan for Emerging Gabon [*Plan stratégique Gabon émergeant*]
REDD+	Reducing Emissions for Deforestation and forest Degradation (+)
RIL	Reduced Impact Logging
RIL-C	Reduced Imact Logging – Carbon
ROSCEVAC	Network of Civil Society Organizations for the Green Economy [*Réseau des organisations de la société civile pour l'économie verte en Afrique Centrale*]
RPP	Readiness Preparation Proposal
SDG's	Sustainable Development Goals
SEA	Strategic Environmental Assessments
SGG	Secretary-General of the Government
SNC	Second National Communication
SNORF	National Forest and Natural Resource Monitoring System
teC02	Tonne-equivalent CO2
TFF	Tropical Forest Foundation
TNC	Nature Conservancy
UNDP	United Nations Programme for Development
UNFCCC	United Nations Framework Convention on Climate Change
US$	US dollar
USFS	United States Forest Service
WWF	World Wildlife Fund

PREFACE

This document is the summary of the strategy of the Government of Gabon on the use of proceeds from the results-based payment agreement signed with Central African Forest Initiative (CAFI) in 2019. This strategy will become the "investment plan"[1] that is a condition for the disbursement of the results-based payments under the agreement.

As the results-based payment agreement rewards Gabon for verified emission reductions and removals from the forest and land use sector as a service provided to the planet, the proposed approach is different from existing CAFI arrangements. This is also recognized in the addendum of the letter of intent (LOI) setting out the conditions for results-based payments.

Gabonese forests constitute a major asset for the Gabonese people and for the world. Their safeguarding requires strong commitment from Gabonese people and result in costs to the Government that is strongly encouraged, for example by the IMF, in the current macroeconomic context to boost government revenues and decrease public spending. In this context, the results-based payments represent an international recognition of Gabon's stewardship of its forests and should contribute to covering the costs of conserving them. As Gabon seeks to become an Emerging Nation the recognition of forests as a national asset that contributes to national revenues and, in turn, help the government provide essential services to its citizens is a major achievement for Gabon. Now the Gabonese people will not see forest protection as a constraint on their development aspirations, but on the contrary, will begin to see it as an active contributor to them.

With this in mind, Gabon proposes an approach that can potentially include support beyond the realm of the forest and conservation sector (i.e. land based mitigation) to, for example, people and communities who are the most impacted by forests or their destruction. It also proposes implementation modalities that enable the country to integrate this information (i.e. the value of forests) into decision-making on the allocation of public funds, to reflect RBPs on budget and in budget documents, and to report to Parliament and citizens. The implementation could also rely on country systems to manage the resources. This would ensure that safeguarding forests is aligned with how the government implements any policy priority (as opposed to implementing donor priorities), in line with its commitment to the SDGs.

More specifically, the use of proceeds is split into two groups:

1. Strategic areas already identified by the Government of Gabon in existing policy documents (PSGE, PGV etc.), the national investment framework prepared with CAFI, the existing LOI and the intended nationally determined contribution. They fall under the authority of the Ministry in charge of forests and environment.

[1] Gabon considers the reflection and modification of the existing Strategic Plan for Gabon Emergence as the NIF (National Investment Framework) for this agreement. Gabon, unlike many countries, has invested significant effort into the development of this National framework, and as such, would like to consider the PSGE as the NIF for CAFI into the future.

As such they require less consultation as consensus about the importance of these issues and their contribution to emission reductions and greenhouse gas removals have already been established in the processes leading to the adoption of the aforementioned documents. They constitute the quick-wins for the first tranche of the results-based payments, and they are developed in detail in this document. Many of the example programs outlined within this document fall within this context.

2. Other strategic areas are currently under discussion in the context of the Nationally Determined Contribution (NDC) and the revision of existing policy documents based on new data and evidence produced since their adoption, such as the SDGs. These strategic areas span several sectors and are potentially under the authority of other ministries (such as agriculture or energy or local governments). Place-holder provisional budgets to fund these potential initiatives have been included in the Investment Plan, though they will require further consultation processes and additional technical analysis to establish their relevance and scope. The Government of Gabon intends to lead this process in the first half of 2021, subject to restrictions related to COVID-19, as part of their preparation of the NDC and update of their PSGE (2012) to better address national progress in the climate and sustainable development initiatives.

To ensure national ownership and efficiency in implementation, several implementation modalities will be considered during program development, in accordance with the CAFI terms of reference and defined by the LOI. Potential implementation modalities, all of which fall into the CAFI acceptable options include:

1. Implementation of projects (through project management units) by multi and bilateral development agencies. Previous CAFI grants are currently implemented by UNDP and AFD.
2. A variant of the above is the implementation by international agencies accredited to the CAFI but relying more on country systems (sector support with on treasury / on budget /on accounting / on auditing / on procurement/execution / on plan / on reporting arrangements). These mechanisms which are part of the tools development agencies use could be adjusted during the negotiation of the investment plan to include additional requirements and safeguards such as holding accounts, co-signatures, non-objections, additional audits, tracing, earmarking etc.)
3. Implementation of some activities by international NGOs accredited to CAFI. CAFI is currently developing the operational modalities for this access modality.
4. As a separate solution, or in combination of the above, a small grants/community support fund or window is envisaged to reward and encourage forest communities for being good forest stewards (e.g. the livelihood improvement grants to support locally driven initiatives/needs outlined in Chapter 3).

Processes for how decisions and Agency selection will be determined are described within the Governance section of this Investment Framework.

EXECUTIVE SUMMARY

With 88% forest cover[2], Gabon holds a special status as a high-forest, low-deforestation country with the second-highest forest cover in the world. Gabon's forests store high levels of carbon [3,4,5], harbor exceptional biodiversity[6], provide resources and livelihoods for rural populations, and regulate rainfall and mitigate climate change at the national, regional and global scales.

Gabon's maintenance of its forests is not free of cost. The Gabonese people have safeguarded their forests, sacrificing revenue and development from deforestation for forest stewardship. Since 1993, when Gabon adopted its first Environmental Law, it has progressed towards its current policy of sustainable development, marking unmistakable achievements in sustainable forestry, protected area creation, land use planning and monitoring, and climate change policy. Highlights of these achievements include the 2002 announcement of 13 national parks over 11% of Gabon's territory (implemented in 2007), the 2009 announcement on the prohibition on the export of raw logs (Implemented on 1 January 2010), the 2014 Sustainable Development Law, the 2016 entry into the Paris Climate Accord and the President's 2018 declaration that all logging operations in the country must be certified.

In 2015, Gabon signed the Joint Declaration of the Central African Forest Initiative (CAFI) to mitigate climate change, reduce poverty and contribute to sustainable development. As part of its participation in CAFI, Gabon developed a National Investment Framework (NIF) in which it committed to reducing its greenhouse gas (GHG) emissions from forests by 50% by 2025 compared to a 2005 baseline level. As a result of its past achievements and in anticipation of its future forest conservation and management, Norway partnered with Gabon in 2019 to provide 150 million dollars in support of its NIF. These results-based payments represent international recognition of Gabon for its stewardship of its forests and will contribute to covering the costs of conserving them and providing essential services to Gabonese citizens

In 2017, Gabon embarked on the first stage of its NIF, **CAFI 1**, with 18 million USD to elaborate, adopt and implement its National Land Use Plan (PNAT) and its Natural Resources and Forestry Observation System (SNORF). The second stage,

[2] Sannier C, McRoberts RE, Fichet L-V, Makaga EMK (2014) Using the regression estimator with Landsat data to estimate proportion forest cover and net proportion deforestation in Gabon. *Remote Sensing of Environment* 151(C):138–148.

[3] Poulsen, J.R., V.P. Medjibe, L.J.T. White, Z. Miao, L. Banak-Ngok, C. Beirne, C.J. Clark, A. Cuni-Sanchez, M. Disney, J.-L. Doucet, M.E. Lee, S.L. Lewis, E. Mitchard, C.L. Nuñez, J. Reitsma, S. Saatchi, C.T. Scott. 2020. Old growth Afrotropical forests critical for maintaining forest carbon. *Global Ecology and Biogeography*.

[4] Saatchi, S.S., Harris, N.L., Brown, S., Lefsky, M., Mitchard, E.T.A., Salasf, W., *et al.* (2011). Benchmark map of forest carbon stocks in tropical regions across three continents. *Proc. Natl. Acad. Sci.*, 108, 9899-9904.

[5] Wade, A.M., D.B. Richter, V.P. Medjbe, A.R. Bacon, P.R. Heine, L.J.T. White, J.R. Poulsen. 2019. Determinants and estimates of stocks of deep soil carbon in Gabon, Central Africa. *Geoderma* 341:236-248.

[6] Sosef, Marc S. M. Sosef1*†, Gilles Dauby2,12,21†, Anne Blach-Overgaard3, Xander van der Burgt4, Luís Catarino5 et al., 2017. Exploring the floristic diversity of tropical Africa. BMC Biology 15:15.

CAFI 2, started in 2019, and provided 12 million USD to support mandatory certification of logging concessions, expanding transboundary protected areas, and optimizing land use for the intensification of crop production and technical assistance on carbon data management.

This document describes the programs to be undertaken during **CAFI 3**, which maintain and build upon CAFI 1 and CAFI 2 activities. Project outputs will focus on four major outcomes: **reducing greenhouse gas emissions, avoiding or minimizing future emissions, enhancing carbon dioxide absorption and carbon sequestration by natural forests, and reinforcing capacity to design, implement & monitor national climate change mitigation programs.** CAFI 3 activities will also produce important co-benefits, including reinforcement of national capacity and improvement of livelihoods, particularly of forest-dependent and rural communities, and biodiversity conservation.

The program is composed of two impacts -focused on four sub-impacts, with a combined total budget of ~216M[7]. The Overall Impacts, Outcomes and Outputs to achieve these objectives are defined below:

Overall Goal: Meet Gabon's NDP commitment to UNFCCC by implementing national scale 'Natural Climate Solutions' that decrease carbon emissions through improved land stewardship and maintain and possibly increase carbon sequestration.

Impact 1. Climate change mitigated through the LULUCF sector

Sub-Impact 1.1. Greenhous as emissions reduced

Outcome 1.1.1. Improved forest management through national scale certification

Outcome 1.1.2. Law enforcement improved (proxy for decrease in illegal logging)

Outcome 1.1.3. Community forests are developed

Sub-Impact 1.2. Future emissions avoided or minimized

Outcome 1.2.1. Industrial agriculture intensified in areas of high suitability but low carbon, low conservation value

Outcome 1.2.2: Impact of shifting agriculture decreased and revenues increase

Outcome 1.2.3. Energy generation and transmission is optimized to minimize impacts on forests

Sub-Impact 1.3. Carbon sequestration enhanced and conserved through conservation of HCS and HCV forests

Outcome 1. 3.1. The National Park Network is well managed and protected from encroachment

Outcome 1.3.2. Protected areas and buffer zones established and protected from encroachment along disputed border regions between Gabon and Congo

Outcome 1.3.3. A profitable tourism industry developed that contributes to the financial management of protected areas and reduces encroachment

[7] ~18M to be transferred as the first payment for gross emissions and reduction removals for the years of 2016 and 2017 (Gabon National Results Report, October 2020).

Outcome 1.3.4. Access of forest-dependent people to basic services is improved

Outcome 1.3.5. Urban people have access to forests and parks

Sub-Impact 1.4: Capacities strengthened to design, implement and monitor national climate change mitigation programs

Outcome 1.4.1. Support National Institutions for climate mitigation and research

Impact 2: Development co-benefits increase and livelihoods are improved

Organizational Structure for decision making and program implementation will consist of: **(1) the National Climate Council,** Chaired by the President of Republic, **which provides the political decision-making body** for the implementation of the CAFI 3 investment plan; **(2) a Steering Committee**, **responsible for approving and monitoring the implementation** of the CAFI 3 Investment Plan programs and projects, **and (3) The CAFI Program Management Unit**, placed under the authority of a **Permanent Secretary of the Climate Council**, assisted by Technical Advisers . The PMU manages the day to day communication, partner and Agency coordination and implementation of activities defined within program documents.

As results-based payments are agreed upon for transfer (see Gabon National Results Report, 2020 for technical review of the process by which payment calculations will be agreed upon between partners), the Climate Council will determine how the revenue will be used. Programs will be determined by an annual priority reflection within the Climate Council, based on those defined within the NIF, but reflecting dynamic country strategic priorities and/or the availability of co-funding. A detailed program document that reflects the Climate Council priorities will be will be completed and validated by the CAFI Steering Committee. This program document will define detailed project activities and budgets as well as identify partner Agencies.

Specifically, during the program document preparation phase, additional opportunities for stakeholder consultation will be provided following protocols outlined within the Gabon safeguard strategy. To identify the accredited executing agencies selected to oversee financial management and program implementation, the Steering Committee will prepare a competitive expression of interest. The Steering Committee will select the best suited implementation partner from among *accredited* applicants. The management of the financial resources of the of the CAFI 3 Investment Plan will be subject to the rules of the accredited executing agencies. The completed program document, the annual budget report, as well as the budgeted annual work plan, will be approved by the members of the Steering Committee.

This NIF poses certain political, organization, technical, economic, and social risks. However, given the overall context, the risks are low to moderate. Strong political commitment will guarantee a high level of mobilization and inter-ministerial coordination. As part of the preparatory process of the NIF, a national Safeguard strategy to mitigate social and ecological risks was defined (Supplementary Material 1, Supplementary Material 2). The development of this Investment Framework involved several consultations with public, private and civil society actors (Annex B).

CONTEXT

GABON'S ACHIEVEMENTS RELATED TO GHG EMISSIONS REDUCTIONS

With 88% forest cover, Gabon holds a special status as a high-forest, low-deforestation country with the second-highest forest cover in the world. Gabon's forests store high levels of carbon, harbor exceptional biodiversity, provide resources and livelihoods for rural populations, and regulate rainfall and mitigate climate change at the national, regional and global scales. Climate change is the greatest environmental challenge the planet faces today, yet also represents an opportunity for creating a path to sustainable development through international cooperation. Gabon is forging that path with its low emissions development strategy (LEDS) to increase economic growth and become an emerging economy through sustainable policies and actions, while conserving its natural ecosystems and contributing to global climate efforts.

Protecting the natural environment is a core principal enshrined in Gabon's Constitution, and the country's LEDS builds on a history of environmental leadership spanning three decades. In 1993, Gabon adopted its first Environmental Law, defining the basic principles for guiding national policy in the protection of the environment. Since then, Gabon has progressed towards its current policy of sustainable development, marking unmistakable achievements in sustainable forestry, protected area creation, climate change policy, and land use planning and monitoring (Figure 1).

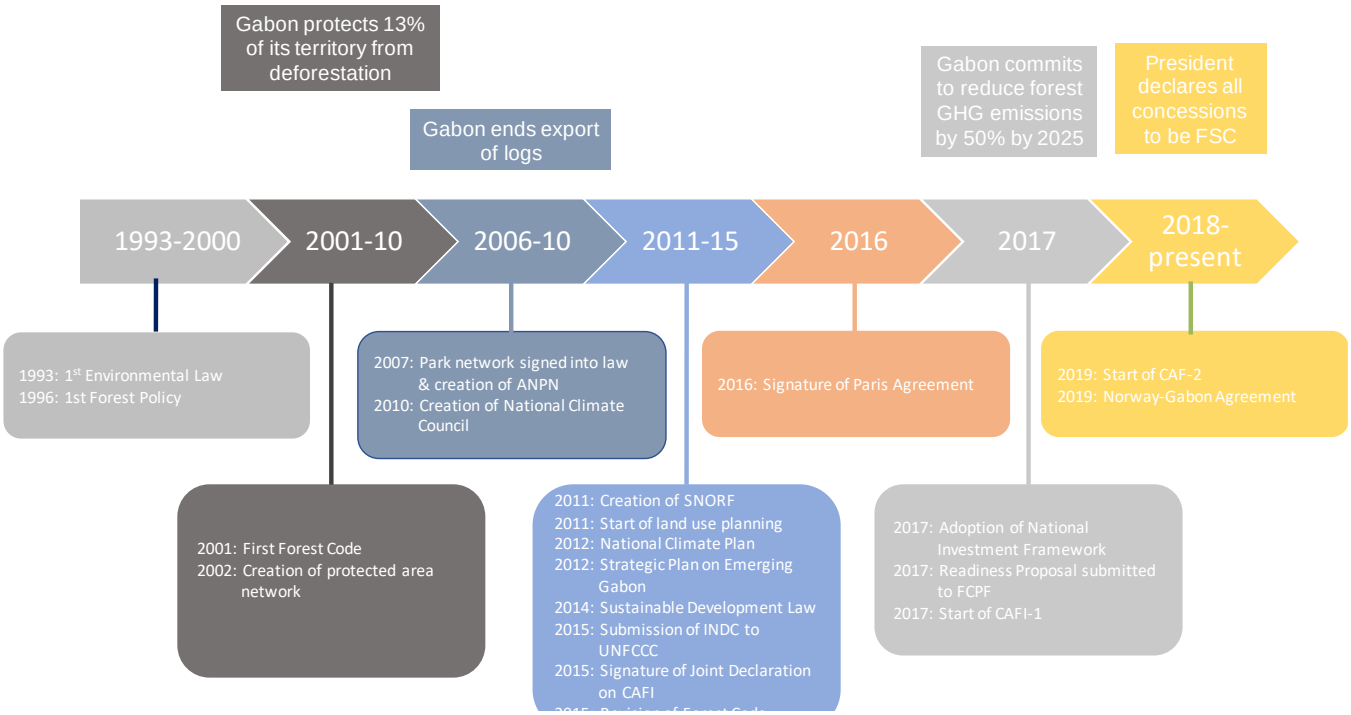


Figure 1. Timeline of Gabon's achievements related to GHG emissions reductions

- Logging has historically been an important contributor to Gabon's economy and the single most important source of employment after the public sector; **sustainable management of forests**, therefore, is crucial to the country's future. Indeed, with the oil sector projected to decline as renewable energies take over, Gabon is planning to greatly expand its forestry sector as part of its economic diversification strategy, introducing plantation forests to supplement the precious hardwoods harvested from its natural forests. Gabon adopted its first forest policy in 1996, to increase the forestry sector's contribution to economic and social development. In 2001, a new Forest Code was signed into law requiring logging companies to undertake sustainable management of their concessions, to employ low impact harvesting techniques, to lengthen harvest rotation to at least 20 years, to submit 30-year management plans for forest concessions (with a 5-year grace period to undertake inventories and elaborate management plans). The law prescribed that by 2009 75 percent of raw logs should be processed in Gabon prior to export. By late 2009, Gabon was still far from reaching its wood processing goal, so President Ali Bongo-Ondimba halted all export of raw logs and required that 100 percent of timber be processed in country from 1 January 2010. This radical measure was intended to generate more value-added and jobs on national territory, but also contributed to professionalizing the sector and to a significant drop in total wood production, thereby reducing emissions.
- In 2015, a process to revise the 2001 Forest Code was initiated. This process is still underway, and a revised Code that incorporates the country's sustainable forest management goals – specifically, the prohibition against the export of raw logs, stricter provisions for implementing forest management plans, preservation of natural parks and reduction of carbon emissions during timber harvesting – is expected to be submitted in 2021. The new Code should help strengthen the regulatory framework for reducing emissions from land use, land use change and forestry (LULUCF) and be closely aligned with Gabon's NDC under the Paris Climate Change Agreement. With a view to reducing forest sector emissions, the Government has also undertaken to reduce the surface area of forest licenses. This reduction of land area in production should automatically reduce total GHG emissions from LULUCF.

  To reduce illegal logging, in 2020 Gabon formally requested that the European Union re-open negotiations on forest law enforcement, governance and trade (FLEGT), to strengthen control over timber exported from Gabon. In September 2018, President Ali Bongo Ondimba took an additional step towards ensuring sustainable forestry management; with the aim of meeting Gabon's national determined contribution (NDC) commitments for reduced emissions from the forestry sector, he declared that all timber companies operating in Gabon must achieve FSC certification by 2022. As such, the government conveyed its intent to become a world leader in the certified timber market while protecting and managing its natural resource base with the highest of standards[8].

[8] The country could revise this FSC specific certification requirement to include other certification schemes upon future evaluation (e.g. when the certification process is well advanced and the country-specific technical requirements - national certification norms- have been defined (Pre-Activity 1). The creation of the Registry and traceability data bases will allow the Ministry to evaluate concession scale, step-wise, progress toward certification benchmarks and make recommendations for policy modifications if appropriate.

- Gabon's forest ecosystems, including mangroves, coastal forests, and lowland rainforests, are globally important for their large trees and high carbon stocks, exceptional biodiversity and large number of endemic and emblematic species. Conservation of these ecosystems through a **protected area network** is a key component of Gabon's low emissions development strategy. In 2002, Gabon announced the creation 13 national parks. Preliminary legislation was passed which was finalised in 2007 by the National Parks Law, cancelling 1.3 million ha of forest concessions, and conserving 11 percent of its territory. The National Park Agency (ANPN, Agence Nationale des Parcs Nationaux) was created in the 2007 law, to protect and manage the parks, their buffer zones and their natural resources; develop the park network; and, promote the parks and their resources. In addition, in 2007 and 2008 Gabon created 6 new RAMSAR Sites and Lopé National Park was extended when it became a mixed Natural and Cultural World Heritage Site. Altogether, the park network, presidential reserve, RAMSAR reserves, hunting and wildlife preserves and arboretums cover 21% of the country. In 2017, Gabon also created a network of 20 protected marine areas, covering 26 percent of the country's Exclusive Economic Zone (EEZ), which ANPN manages.

- Climate change influences every aspect of society; hence mitigation of the inimical effects of climate change and bolstering the path to sustainable development requires a concerted, whole-of-government approach formalized in **climate change policy**. In the last several years, Gabon has made significant strides forward in terms of national policy adoption and international agreements and commitments related to low emissions development.

  Following the Conference of the Parties (COP) on Climate Change in Copenhagen in December 2009, the President of Gabon created the National Climate Council (CNC, Conseil national climate) in 2010 to develop and provide strategic direction for national climate change policy. From its inception, the CNC was responsible for developing **Gabon's National Climate Plan** (plan national climat; PNC), the reference document for incorporating climate issues in sectors key to the country's development (including forests, agriculture, hydrocarbons, energy, mining and housing) – which was published in 2012. The same year, the Government published its **Strategic Plan on Emerging Gabon** (Plan stratégique Gabon émergent; PGSE)[9,10] which laid out its plans for turning Gabon into an emerging economy by 2025 and included a chapter on 'Green Gabon', focusing on climate and environment. One of the major objectives of the PGSE and the **Economic Recovery Plan** (PRE) is

[9] Gabon is currently implementing an ambitious economic diversification strategy to develop competitive manufacturing and service sector industries, while also conserving the country's natural environment. The goal of this development strategy, known as "Plan Stratégique Gabon Émergent (PSGE)", is to develop Gabon into an emerging economy by 2025. A central pillar of the Gabon Emergent Strategy is Gabon Vert, or "Green Gabon" – the Government's vision to ensure sustainable and green development are integrated into activities across sectors. Gabon Vert objectives are intended to assure that development opportunities are viewed through the lens of conserving Gabon's natural heritage, biodiversity, and forest habitats for future generations.

[10] Office of the President of the Republic, 2012. Plan stratégique Gabon émergent : Vision 2025 et orientations stratégiques 2011-2016. République gabonaise. Libreville, 149 p.

to lead the country to food self-sufficiency and transform it into an agricultural product-exporting nation to diversify the economy.

In 2014, Gabon adopted the **General Law on Sustainable Development** that required companies to offset damage to forests or community land by buying sustainable development credits (carbon, biodiversity, ecosystem and community capital credits) as part of a national credit trading scheme.

Gabon submitted its first National Communication to United Nations Framework Convention on Climate Change (UNFCCC) in December 2004[11] and its Second National Communication (SNC) in November 2011[12]. For the Agriculture, Forestry and Other Land-Use (AFOLU) sector these followed the Intergovernmental Panel on Climate Change (IPCC) 1996 guidelines using Tier 1 methodology and FAO default data in many cases. However, the quality of these analyses was limited and neither included forest degradation, which is a significant source of emissions for Gabon. Degradation was included in Gabon's **Intended Nationally Determined Contribution** (INDC) which was submitted in April 2015[13]. In the INDC, Gabon committed to reduce GHG emissions by 50 percent by 2025 compared to a business-as-usual baseline post-2005. As the LULUCF sector is responsible for more than 90 percent of the country's emissions, initiatives in this sector offer a high mitigation potential.

In 2016, Gabon signed the **Paris Agreement** under the UNFCCC agreeing to contribute to constraining the global average temperature rise to below 2 °C. Under the Paris Agreement, each country must determine, plan, and regularly report on the contribution that it undertakes to mitigate global warming dealing with greenhouse-gas-emissions mitigation, adaptation, and finance.

In 2017, Gabon submitted its **readiness proposal** (RPP) to the Forest Carbon Partnership Facility (FCPF) and engaged in a process to better understand emissions from the forestry sector and to develop technical protocols to help mitigate unnecessary forestry emissions.

Gabon signed the Joint Declaration of the **Central African Forests Initiative** (CAFI) in 2015 in New York on the side lines of the General Assembly of the United Nations. As part of its participation in CAFI, Gabon first developed a **National Investment Framework** (NIF), which was accepted by CAFI's Board of Directors in 2017 leading to the signature of a Letter of Intent (LOI). In the LOI, Gabon committed to reducing its GHG emissions

[11] République Gabonaise, 2004. Communication Nationale sur les Changements Climatiques. Ministère de l'Économie Forestière, des Eaux, de la Pêche, Chargé de l'Environnement et de la Protection de la Nature, Libreville, Gabon.

[12] République Gabonaise, 2011. Seconde Communication Nationale du Gabon sur les Changements Climatiques. Ministère de l'Habitat, de l'Urbanisme, de l'Écologie et du Développement Durable.

[13] République Gabonaise, 2015b. Contribution prévue déterminée au niveau national – Conférence des Parties 21 31 mars 2015. République Gabonaise.

from forests by 50% by 2025 compared to a 2005 baseline level. CAFI, in return, committed to obtaining and mobilize funding to support the implementation of the NIF.

- The link between land use and climate is complex. Land use decisions determine the types of activities that take place in an area and, therefore, affect both the economy and the environment. For example, Gabon has long imported most of its food products: in 2010 less than 1 percent of the country's surface area (approximately 250,000 ha) was cultivated. This situation, favorable to maintaining forest cover, poses problems for food security and economic diversification. Careful land use planning can direct agricultural development towards areas with low carbon stocks and conservation value, thereby growing the economy and avoiding carbon emissions. In late 2011, Gabon undertook **national land use planning**[14] (PNAT, Plan national d'affection des terres), to assign a land use category to each area of the territory, with the objective of optimizing resources, minimizing conflicts related to incompatible uses, and maximizing opportunities with regard to multiple and compatible uses. This process, coordinated by the CNC, will lead result in a national land use plan adopted by the Parliament. The PNAT is cross-ministerial and is Gabon's primary tool for the implementation of the country's LEDS that promotes development while protecting Gabon's natural heritage and contributing to international commitments to prevent climate change.

- To be effective, Gabon's low emissions development activities in the LULUCF sector, including sustainable forestry, management of protected areas and buffer zones, agricultural expansion, and land use planning, must be monitored, evaluated, and adapted. Starting in 2011, Gabon initiated the establishment of a robust **national forest and natural resources monitoring system** (SNORF) to ensure effective implementation of national land use activities and achievement of emission reductions, including increasing forest carbon sequestration potential through the expansion of its protected area network and avoiding or minimizing future emissions from the agricultural sector while meeting the country's food consumption needs through land-use optimization. As part of the SNORF, Gabon has already established a National Resource Inventory (NRI) to measure and monitor forest carbon stocks[15]. SNORF activities are implemented by the National Climate Council (CNC), the Sustainable Development Authority (ADD), the Gabonese Agency for Spatial Studies and Observations (AGEOS) and the National Parks Agency (ANPN).

[14] Gabon recognizes that implementation of its ambitious development goals, if unplanned and unmitigated, could result in rapid rates of deforestation. Thus, the country embarked upon a National Land use planning process as a means of optimizing land use and thus limit future emissions from development initiatives. In March 2018, a program called " *National land use planning and forest monitoring to promote sustainable development strategies for Gabon*" was approved by the CAFI Executive Board. Its objective is to improve land use planning and monitoring of LULUCF to reduce deforestation and forest degradation while enhancing development co-benefits. The program will help elaborate, adopt and implement a National Land Use Plan (*French acronym: PNAT*) and a National System for Monitoring Natural Resources and Forests (*French acronym: SNORF*). Activities will be implemented by the National Climate Council (CNC), the Sustainable Development Authority (ADD), the Gabonese Agency for Spatial Studies and Observations (AGEOS) and the National Parks Agency (ANPN).

[15] The NRI has contributed information towards Gabon's Forest Reference Emissions Levels (FREL) through national estimates of carbon in aboveground biomass (Poulsen et al. in press. *Global Ecology and Biogeography*, Poulsen et al. 2016 *Global Ecology and Biogeography,* Beirne et al. 2019 *Ecological Applications*), soil carbon (Wade et al. 2019 *Geoderma*), coarse woody debris (Carlson et al. 2017 *Global Change Biology*), and from oil palm agriculture (Burton et al. 2017 *Conservation Letters*).

Gabon has made and implemented significant policy decisions to protect its forests through conservation and sustainable forest management practices. These activities have culminated in a positive contribution to global climate change mitigation. In Gabon's Proposed National REDD+ Forest Reference Level, the forest reference level is -51,433,806 tCO_2eq per year[16], indicating that without the sustainable management of forest and conservation reforms made in the early 2000's, net emissions would be 61.5 million tCO_2/year higher than today. Based on its national circumstances and future development plans, projected net emissions will be approximately -103.8 million tCO_2eq/year by 2025, indicating that Gabon is carbon positive – the country's activities go beyond achieving net zero carbon emissions to creating an environmental benefit by removing additional CO_2 from the atmosphere[17].

CAFI 3 PROGRAM: BUILDING ON ACHIEVEMENT TO SECURE THE FUTURE

In acknowledgement of Gabon's achievements, Norway entered an historic partnership with the country in 2019 to provide 150 million dollars to the country for both reducing its greenhouse gas emissions from deforestation and degradation, and absorptions of carbon dioxide by natural forests. Gabon's National Results Report for Results-Based Payments (RBPs), submitted in October 2020, presents national results in gross emissions reductions and removals for 2016 and 2017. The National Results Report for RBPs is based on Gabon's Forest Reference Level (to be submitted to the UNFCCC). The GoG aims to apply to the 'Architecture for REDD+ Transactions REDD+ Environmental Excellence Standard' (ART-TREES) in the future.

The 10-year results-based agreement (**CAFI 3**) follows two previous stages of CAFI support. The first stage, **CAFI 1**, was initiated in 2017 with a contribution of 18 million USD to elaborate, adopt and implement the PNAT and the SNORF. The second stage, **CAFI 2**, started in 2019, and provides 12 million USD to support mandatory certification of logging concessions, expanding transboundary protected areas, and optimizing land use for the intensification of crop production and technical assistance on carbon data management.

The programs outlined within the CAFI 3 NIF both maintain and build upon activities defined by the CAFI 1 and 2 program documents (illustrated in Table 1). Additional NIF activities are intended to support commitments defined by Gabon's NDC and other international forest and biodiversity conservation engagements. In keeping with the CAFI LOI, project outputs will predominately focus on Impact 1- Climate change mitigated through the LULUCF sector and impacts understood- prioritizing four sub-impacts: **reducing greenhouse gas emissions , avoiding or minimizing future emissions, enhancing carbon dioxide absorption and carbon sequestration by conservation of HCS and HCV forests, and reinforcing capacity to design, implement & monitor national climate change mitigation programs.** The activities that lead to these impacts will also produce important co-benefits, including reinforcement of national capacity and improvement of livelihoods, particularly of forest-dependent and rural communities.

[16] GOG. 2020. Gabon's Proposed National REDD+ Forest Reference Level. (Draft June 2020).

[17] GOG. 2020. Gabon's Proposed National REDD+ Forest Reference Level. (Draft June 2020).

1. ***Reduce greenhouse gas emissions.*** This first impact will be achieved from the forestry sector through improved forest management and national certification by supporting the Agence Filière du Bois and completing the National Certification Training Center. Illegal logging will be halted by supporting operations of the Elite Forestry Law Enforcement Unit. Finally, the creation of community forests will improve forest management and reduce illegal logging while supporting local livelihoods (Chapter 1, Objective 1).
2. ***Avoid or minimize future emissions.*** This second impact will be achieved by the industrial and rural agricultural sectors. Gabon will develop its industrial agriculture sector and enhance subsistence agricultural practices to ensure national food security, while avoiding carbon emissions through agricultural intensification in areas of low carbon and low conservation value (Chapter 2, Objective 1). Gabon will transition from a system of shifting (slash-and-burn) agriculture to an innovative, stable model to increase production and reduce land clearance. Former cropland will be liberated to regenerate or be converted to sustainable agroforestry. To incentivize stable agriculture, large community plots will be protected from wildlife, particularly elephant crop raiding (Chapter 2, Objective 2). Emissions will also be reduced through the energy sector and watershed management will be strengthened by optimizing Gabon's plan to develop hydro electric energy through a strategic environmental assessment undertaken with the International NGO The Nature Conservancy (TNC) that considers environmental and social impacts to develop a comprehensive plan for energy generation and transmission and reduction of deforestation and degradation of forests in the watershed upstream of dams (these activities increase sedimentation and reduce rainfall, reducing energy production and the lifespan of the dams) (Chapter 2, Objective 3).
3. ***Enhance carbon dioxide absorption and carbon sequestration through conservation of HCS and HCV forest.*** This third impact will be achieved by strengthening Gabon's protected area network (Chapter 3, Objective 1), building the tourism sector (Chapter 3, Objective 2), improving livelihoods of forest-dependent people (Chapter 3, Objective 3), and making forests more accessible to the urban population by creating green spaces and urban parks, initiating a tree planting program in Libreville, joining the Parks/Cities4Forests initiative, and building the National Botanical Gardens to showcase Gabon's botanical diversity, educate the public, and provide seeds and plants to conservation projects (Chapter 3, Objective 4).
4. ***Reinforce capacity to design, implement & monitor national climate change mitigation programs.*** This fourth impact contributes to each of those previously described by building institutional and human capacity in Gabon to meet its NDC. Institutions will be strengthened through support to the CNC, Council on Sustainable Development (Conseil développement durable ; CDD[18]) and the National Commission for Land-use Planning (Commission national gabonaise d'affectation des terres; CNAT), the principal institutions guiding sustainable development and overseeing activities to meet its NDC requirements

[18] Note that the CNC and CDD could be fused into a single Council in the future.

(Chapter 4, Objective 1). Gabon's scientific institutions will be strengthened by supporting the SNORF and investing in five of Gabon's long-term research centers, while its human capacity will be enhanced by providing graduate scholarships to Gabonese students to become leaders in subject areas related to climate change and sustainable development at top-rated universities (Chapter 4, Objective 2).

Climate change bisects every aspect of human society – politics, economics, and culture – therefore, mitigating climate change requires societal change. Recognizing the need for a whole-of-society approach, Gabon's strategy includes two themes that cut across the climate outcomes – reinforcing capacity and improving livelihoods (Figure 2). Each impact includes outcomes and outputs related to these themes.

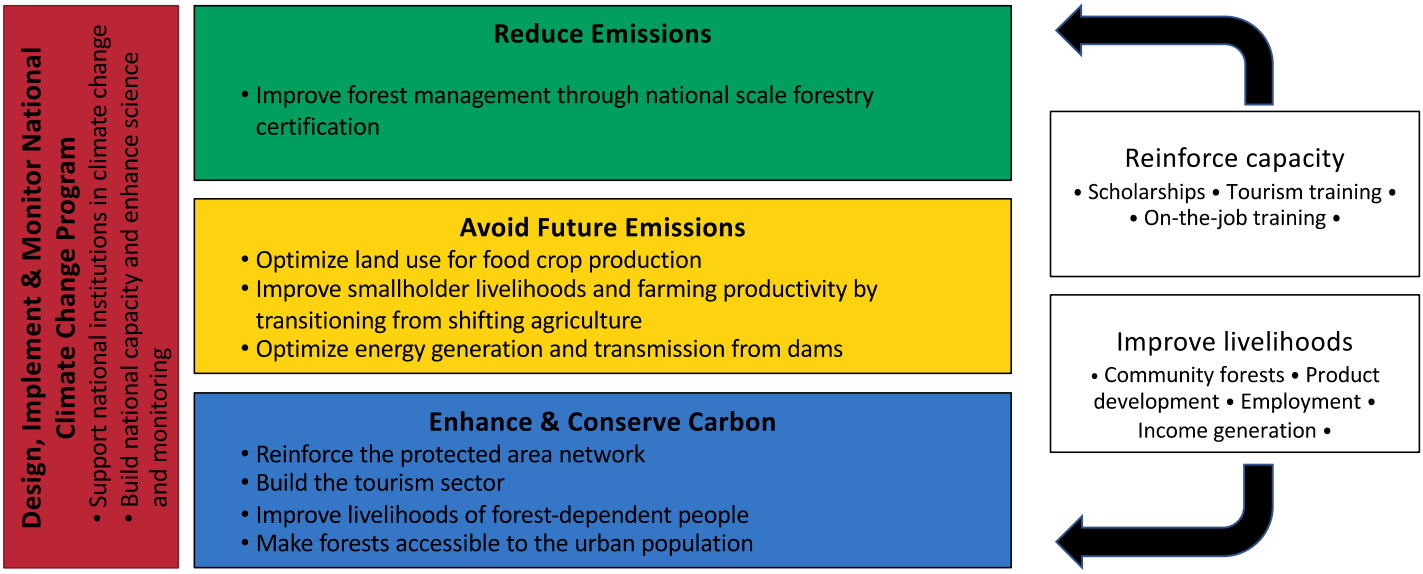


Figure 2. Framework for CAFI 3 (colored boxes), focusing on three outputs with two cross-cutting themes

Importantly, many of the projects defined within the NIF will also contribute to Impact 2 - Development co-benefits increased and livelihood improved. Table 1 outlines the programs/projects expected to significantly contribute to sustainable development and livelihood improvement.

Table 1. Project outcomes defined within the NIF that directly or indirectly contribute to Impact 2. Development co-benefits increased and livelihood improved

Development co-benefits and livelihood contribution			
Sub-impact	**Outcome**	**Direct/Indirect**	**Development and livelihood contribution**
Sub-Impact 1.1. Greenhouse gas emissions reduced	1.1.3. Community Forestry Development	Indirect	Improved community revenue from well managed community forest estates
Sub-Impact 1.2. Future emissions avoided or minimized	1.2.2. Impact of shifting agriculture decreases and revenues increase	Direct + Indirect	Improved food security. Output 1.2.2.1. Agricultural plots protected from elephants + Potential access to revenue from PNFL development
Sub-Impact 1.2. Future emissions avoided or minimized	Outcome 1.2.3: Energy generation and transmission is optimized to minimize impacts on forests	Direct	Improved access to sustainable, affordable electricity
Sub-Impact 1.3. Carbon sequestration enhanced and conserved through conservation of HCS and HCV forests	Outcome 1.3.3. A profitable tourism industry developed that contributes to the financial management of protected areas and reduces encroachment.	Indirect	Local revenue generation through development of tourism artisanal products and access to employment opportunities from tourism guide training programs
Sub-Impact 1.3. Carbon sequestration enhanced and conserved through conservation of HCS and HCV forests	1.3.4. Access of forest-dependent people to basic services is improved	Direct	Direct funding support to Output 1.3.4.1. Grant program established Establish a grant program to improve the livelihoods of forest-dependent people
Sub-Impact 1.3. Carbon sequestration enhanced and conserved through conservation of HCS and HCV forests	1.3.5. Urban people have access to forests and parks	Indirect + Direct	Significant employment opportunities for local populations during completion of urban forest project, and long term employment for maintenance of park and botanical garden grounds. Direct support of small business development models for local retail nurseries
Sub-Impact 1.4. Capacities strengthened to design, implement and monitor national climate change mitigation programs	1.4.2.2. Long term climate research and forest monitoring sites are established	Indirect	Local employment opportunities at long term research sites + education enhancement opportunities provided by scholarship program for ~ 50 graduate students
Sub-Impact 1.4. Capacities strengthened to design, implement and monitor national climate change mitigation programs	1.4.3. Climate friendly sustainable development initiatives benefit all people	Direct	Climate friendly development projects across sectors will be direct program target, with priorities defined by 2023

Table 2. Programs outlined within the CAFI 3 NIF both maintain and build upon activities developed within CAFI 1 and 2 program documents. New activities are dedicated to meeting additional international climate mitigation and sustainable development commitments

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Sub-Impact 1.1. Greenhouse gas emissions reduced										
Outcome 1.1.1. Improved forest management through national scale concession certification										
Output 1.1.1.1. Registry of operators engaged in the certification process maintained			CAFI 2			CAFI 3				
Output 1.1.1.2. Institutional support for certification program implementation provided			CAFI 2			CAFI 3				
Output 1.1.1.3. Institutional capacity strengthened of the Agence Filière du Bois to implement field oversight, monitoring and audit protocols			CAFI 2			CAFI 3				
Output 1.1.1.4. Government agents and private sector employees trained to implement and monitor national certification standards			CAFI 2			CAFI 3				
Outcome 1.1.2. Law enforcement improved (proxy for decrease in illegal logging)										
Output 1.1.2.1. Support the 'Elite' Forestry Law Enforcement Unit to reduce illegal activity through improved law enforcement			CAFI 2			CAFI 3				
Outcome 1.1.3. Community forests developed										
Output 1.1.3.1. Community forest area for each village identified				CAFI 3						
Output 1.1.3.2. Management plans developed and implemented by rural communities				CAFI 3						
Sub-Impact 1.2. Future emissions avoided or minimized										
Outcome 1.2.1. Industrial agriculture intensified in areas of high suitability but low carbon, low conservation value										
Output 1.2.1.1. Land tenure and agricultural permitting better regulated			CAFI 2			CAFI 3				
Output 1.2.1.2. Agricultural suitability understood for 5 priority crops			CAFI 2			CAFI 3				
Output 1.2.1.3. Agricultural Ministry equipped with tools to make long-term forest, climate and biodiversity friendly land-use decisions			CAFI 2			CAFI 3				
Output 1.2.1.4. Impact of agriculture programs evaluated			CAFI 2			CAFI 3				
Outcome 1.2.2. Impact of shifting agriculture decreases and revenues increase										
Output 1.2.2.1. Agricultural plots protected from elephants						CAFI 3				
Output 1.2.2.2. Sustainable alternatives to slash-and-burn agriculture piloted						CAFI 3				
Output 1.2.2.3. Abandoned fields transitioned to agroforestry or regenerating forest						CAFI 3				
Outcome 1.2.3. Energy generation and transmission is optimized to minimize impacts on forests										
Output 1.2.3.1. Multi-stakeholder plan elaborated and validated and metrics defined						CAFI 3				
Sub-Impact 1.3. Carbon sequestration enhanced and conserved through conservation of HCS and HCV forests										
Outcome 1.3.1. The National Park Network is well managed and protected from encroachment										

Output 1.3.1.1. National Park Headquarters able to operate in modern facility						CAFI 3			
Output 1.3.1.2. National Parks are regularly patrolled by air and foot				CAFI 3					
Outcome 1.3.2. Protected areas and buffer zones established and protected from encroachment along disputed border regions between Gabon and Congo									
Output 1.3.2.1. Baseline surveys of each proposed Protected Area and Buffer Zone regions conducted			CAFI 2	CAFI 3					
Output 1.3.2.2. Transboundary parks delimited and patrolled			CAFI 2	CAFI 3					
Outcome 1.3.3. A profitable tourism industry developed that contributes to the financial management of protected areas and reduces encroachment.									
Output 1.3.3.1. World class eco-tourism products developed						CAFI 3			
Output 1.3.3.2.positive interactions fostered between guides and visitors						CAFI 3			
Output 1.3.3.3. Gabon's eco-tourism experience becomes world renowned						CAFI 3			
Outcome 1.3.4. Access of forest-dependent people to basic services is improved									
Output 1.3.4.1. Grant program established Establish a grant program to improve the livelihoods of forest-dependent people						CAFI 3			
Output 1.3.4.2 Grant accessed by beneficiaries						CAFI 3			
Outcome 1.3.5. Urban people have access to forests and parks									
Output 1.3.5.1. Trees planted in urban areas						CAFI 3			
Output 1.3.5.2. Green spaces and urban parks created						CAFI 3			
Output 1.3.5.3. Botanical diversity celebrated, plant production and conservation ensured at new National Botanical Gardens and National Herbarium				CAFI 3					
Sub-Impact 1.4. Capacities strengthened to design, implement and monitor national climate change mitigation programs									
Outcome 1.4.1. Institutional and human capacity strengthened to adapt projects to the latest scientific information									
Output 1.4.1.1. National Climate Council (Conseil national climat; CNC), Commission on Land Use Planning (CNAT), AGEOS and IRET retain sustainable funding	CAFI 1			CAFI 3					
Outcome 1.4.2. Science, monitoring and capacities are enhanced									
Output 1.4.2.1. National Climate Monitoring programs are executed and results reported to UNFCCC	CAFI 1			CAFI 3					
Output 1.4.2.2. Long term climate research and forest monitoring sites are established				CAFI 3					
Outcome 1.4.3. Climate friendly sustainable development initiatives benefit all people									
Output 1.4.3.1. Climate-friendly sustainable development projects developed						CAFI 3			

LINKAGES BETWEEN NIF ACTIVITIES AND LOI MILESTONES

Specific linkages between NIF activities and the mutual goals, objectives and milestones defined within the CAFI-Gabon LOI are defined in Table 2.

Table 3. Linkages between NIF activities and the mutual goals, objectives and milestones defined within the CAFI-Gabon LOI

NIF	LoI	CAFI M&E framework
Impact level		
Impact 1: CC mitigation		
Sub impact 1.1.	Milestones 1.2018.c 1.2018.d 1.2019.f 1.2019.g	Impact 1
Sub impact 1.2.		Impact 1
Sub impact 1.3.		Impact 1
Sub impact 1.4.	Objective 1 on Objective 2 on forest monitoring	
Impact 2: Development		Impact 2
Outcome level		
1.1.1. Certification		Outcome 3
1.1.2. Law enforcement	Milestone 3.2021	Outcome 3
1.1.3. Community forests		Outcome3
1.2.1. Industrial agriculture in low HCS HVC	Milestones 1.2018.d	Outcome 1
1.2.2. Shifting cultivation		Outcome 1
1.2.3. Energy		Outcome 2
1.3.1. Protected areas		Outcome 1
1.3.2. Eco-tourism		
1.3.3. Livelihoods		Impact 2
1.3.4. Urban forests		
1.4.1.		Outcome 7
1.4.2.		Outcome 7
1.4.3.		Outcome 7

THEORY OF CHANGE

The chapters to follow provide an overview of CAFI 3 program priorities as defined by the Government of Gabon, in consultation with multiple stakeholders over nearly 2 years. This consultation process and list of stakeholders engaged is provided in Annex B. Figure 3 demonstrates how each of these programs fit into the Theory of Change for the Conservation, Forestry and Agricultural sectors. The provided Theory of Change directly builds upon that defined within the first CAFI NIF.

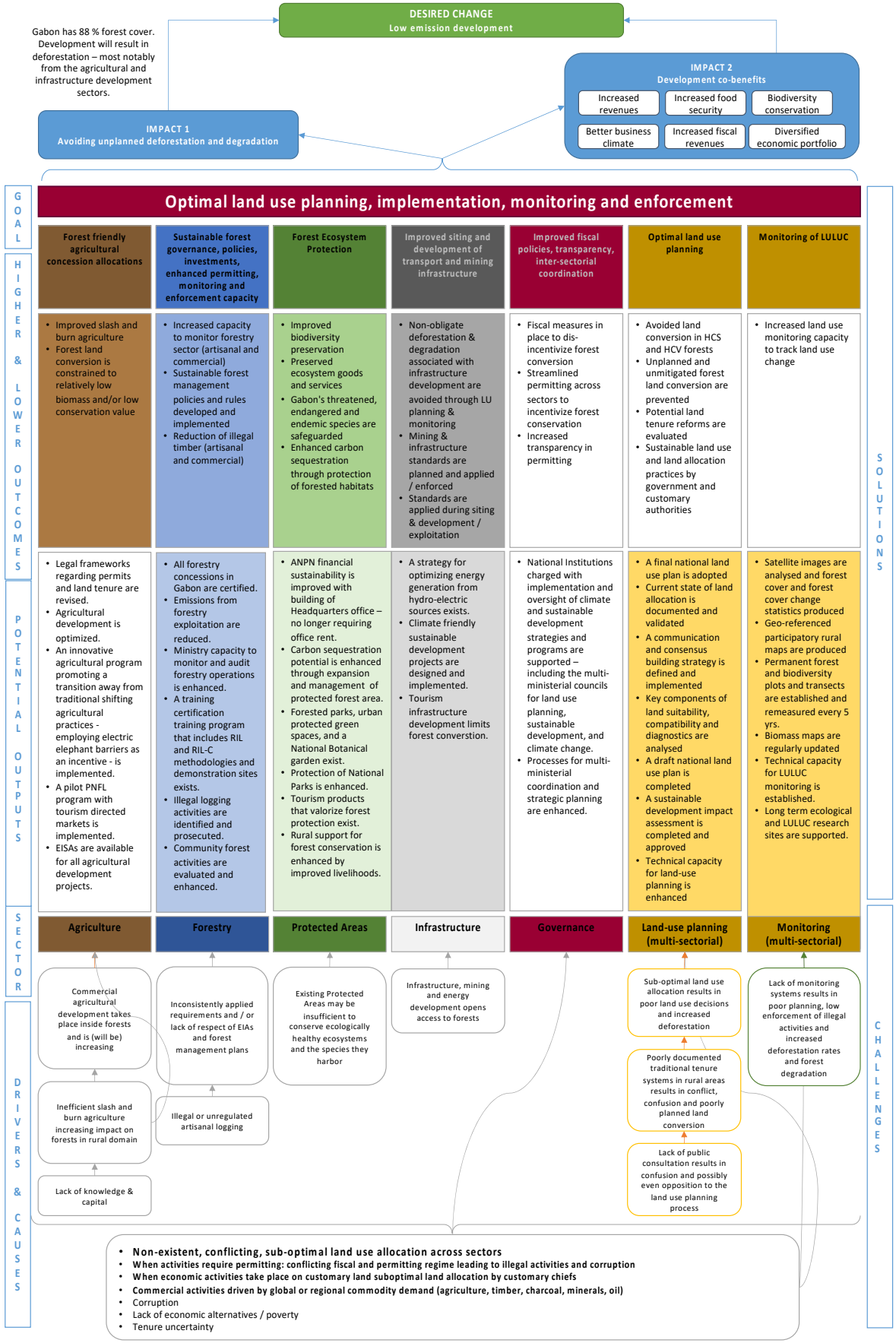


Figure 3. CAFI theory of change for the Conservation, Forestry, and Agricultural sector

RESULTS FRAMEWORK

A provisional results framework, defining current baselines, targets and means of verification for each of the impacts and outcomes defined within the NIF is provided below. Where incomplete, more specific baseline and targets will be defined during the program development phase.

Impact 1: Climate change mitigated through the LULUCF sector and impacts understood				
Impact indicator (5 years)	**Reference situation**	**Targets after 5 years**	**Verification**	**Assumptions and critical conditions**
Sub impact 1.1: greenhouse gas emissions are reduced				
Tons of greenhouse gas emissions reduced	Year 2005 emissions and Gabon's INDC trend-based scenario (PR, 2015) FREL	LULUCF emissions reduced 50% by 2025	Updated SNORNF data and biennial UNFCCC reports	· Funding for conservation and sustainable forest management will continue and increase and will have real effect in the field · Agricultural expansion and mining developments will avoid conversion of HCV/HCS areas to the extent possible · Optimal inter-ministerial coordination will make it possible to resolve conflicts and finalize an PNAT that integrates low-emission development objectives · An operational SNORNF will provide for effective surveillance of the LULUCF sector, involving transmission of deforestation warnings to the agencies in charge of the forest police · Protected area expansion reduces emissions from logging and other drivers of degradation and deforestation · Land-use optimization for agricultural development results in significant emissions avoided from development of this sector
Sub impact 1.2: future CO2 emissions avoided or minimized				
Tons of future CO2 emissions avoided or minimized				

Sub impact 1.3: carbon sequestration enhanced and conserved through conservation of HCS and HCV forests				
Tons of carbon sequestrated		To be determined by programs		
Sub impact 1.4: **Capacities strengthened to design, implement and monitor national climate change mitigation programs**				
Availability of nationally-produced data	SNORF conception finalized	National communications to the UNFCC,		
Impact 2: Development co-benefits increased and livelihood improved				
Impact indicators	**Reference point**	**Objectives after 5 years**	**Verification**	**Assumptions and critical conditions**
Proportion of population with revenues below 1.25 dollars a day	3.4% in 2017 (SDG database)	AS per SDG national targets	UN stats – SDG report19 has not provided any updated data Poverty rate survey, World Bank data, SDG database [1]	· Production and gas prices stabilize at a level favorable to the Gabonese economy · Economic diversification provides positive results in terms of jobs and increased income for the population · Poor rural residents benefit from new opportunities linked to agricultural expansion, forestry and development of the mining sector
Indicator: Food imports volumes and spending	Gabon imports over 275,000 tons of food products annually, spending approximately CFAF 350 billion per year (about 600M USD).	Decrease	African Development Bank reports on food security	

[19] https://unstats.un.org/sdgs/indicators/database

Indicator 2.3: Increase in smallholders revenues		Increase by XX (target to be set)	Ministry of Agriculture reports	
Indicator 2.4: Improved livelihoods of forest-dependent people	Needs to be completed in year 1 of programs	Increase by XX% of the number of people having benefited from improved access (target to be set)	Surveys by end of programs	

Results	**Indicators, baseline, targets and means of verification**
Sub-Impact 1.1 : GHG emissions reduced	
Outcome 1.1.1. Improved forest management through national certification	Indicator : % of concessions certified (measured on a yearly basis) Baseline: 3 out of 40 major companies are FSC-certified Target: 100% by 2022 MoV: Agence Filer du Bois , registry of operators
	Indicator: number of permits revoked due to non-certification Baseline: N/A Target: all non-certified companies have their permits revoked by XX MoV: Ministry of Forests
	Indicator: something on improved forestry techniques?
Output 1.1.1.1. Registry of operators engaged in the certification process maintained	Indicator: existence and updates of the registry Baseline: no such registry exists Target: registry exists and is updated every 6 months MoV:
Output 1.1.1.2. Institutional support for certification program implementation provided	Indicator: Baseline: Target: MoV:
Output 1.1.1.3. Institutional capacity strengthened of the Agence Filière du Bois to implement field oversight, monitoring and audit protocols	Indicator: Number of agents trained to provide oversight, monitoring and audit (gender disaggregated) Baseline: Target: to be determined MoV: training reports

Output 1.1.1.4. Government agents and private sector employees trained to implement and monitor national certification standards	Indicator: number of agents and employees trained (gender disaggregated) Baseline: Target: to be determined by programs MoV:
Outcome 1.1.2. Law enforcement improved (proxy for decrease in illegal logging)	Indicator: Number of investigations by Elite Unit staff Baseline: initial trainings initiated under CAFI 2 Target: MoV: investigation reports
	Indicator: number of dismantled criminal networks / (or proxy : cases prosecuted ?) Baseline: Target: MoV:
Output 1.1.2.1. 'Elite' Forestry Law Enforcement Unit to reduce illegal activity supported	Indicator: Number of fully trained staff and detection dogs Baseline: initial trainings under CAFI 2 Target: MoV:
Outcome 1.1.3. Community forests are developed	Indicator: hectares and % of community forests in compliance with their management plans (and their GPS location) Baseline Target (by year 5): 100% MoV
Output 1.1.3.1. Community forest area for each village identified	Indicator: hectares of potentially community forests identified and their GPS coordinates Baseline :0 Target (by year 5): to be determined by programs MoV
Output 1.1.3.2. management plans developed and implemented by rural communities	Indicator: number of rural communities that develop and implement a management plan and their GPS coordinates Baseline: 0 Target: to be determined by programs MoV

Results	Indicators, baseline, targets and means of verification
Sub-Impact 1.2: future emissions avoided or minimized	
Outcome 1.2.1. Industrial agriculture is intensified in areas of high suitability but low carbon, low conservation value (also contributes to impact 2)	Indicator: hectares of land identified as low carbon low conservation that are converted to agriculture land Baseline: Target: to be determined MoV:
Output 1.2.1.1. Land tenure and agricultural permitting are better regulated	Indicator: Existence of regulations Baseline: legal unit created under CAFI 2 Target: MoV
Output 1.2.1.2. Agricultural suitability understood for 5 priority crops	Indicator: Baseline: Target: MoV
Output 1.2.1.3. Agricultural Ministry has tools to make long-term forest, climate and biodiversity friendly land-use decisions	Indicator: GIS lab fully functional Baseline: Lab is run by two national GIS experts Target: to be determined by program MoV
Output 1.2.1.4. Impact of agriculture programs evaluated	Indicator: existence of impact studies Baseline Target : MoV
Outcome 1.2.2. Impact of shifting cultivation decreases and revenues increase (also contributes to impact 2)	Indicator: annual hectares of forests lost to shifting cultivation Baseline: Target MoV: SNORF reports
	Indicator: Improved small holders farming productivity (or proxy) (volumes produced per hectares) Baseline Target MoV

Output 1.2.2.2. Sustainable alternatives to slash-and-burn agriculture piloted	Indicator : number of hectares (or number of plots) where alternatives are tested Baseline: Target: MoV:
Output 1.2.2.3. Abandoned fields transitioned to agroforestry or regenerating forest	Indicator : hectares of cropland liberated to regenerate or be converted to sustainable agroforestry Baseline: Target: MoV:
Outcome 1.2.3. Energy generation and transmission is optimized to minimize impacts on forests (also contributes to impact 2)	Indicator: Energy plan revised Baseline: Target: MoV: Energy plan
Output 1.2.3.1. Multi-stakeholder plan elaborated and validated and metrics defined	Indicator : existence and uptake of multi-stakeholder, multi objectives strategic environmental assessment that considers environmental and social impacts of hydropower plans Baseline: None have been put in place so far by the power sector Target: MoV:

Results	Indicators, baseline, targets and means of verification
Sub-Impact 1.3: carbon sequestration enhanced and conserved through conversation of HCS and HCV forests	
Outcome 1.3.1. The National Park Network is well managed and protected from encroachment	Indicator: surface (in hectares) of parks encroached Baseline: Target: annual decrease to eventually reach zero MoV: Law Enforcement Monitoring reports
Output 1.3.1.1. National Park Headquarters able to operate in modern facility headquarters	Indicator: New facility provides adequate office space for the executive, financial, logistical, human resources, communications, technical, and scientific departments and their staff Baseline: does not exist Target: MoV: satisfaction survey from all departments staff
Output 1.3.1.2. National Parks regularly patrolled by air and foot	Indicator: number of (wo)man-hour deployed to patrol Baseline: Target:

	MoV: ANPN reports
Outcome 1.3.2. Protected areas and buffer zones are established and protected from encroachment along disputed border regions between Gabon and Congo	Indicator: Hectares of forest with protected status and their GPS location Baseline: current number of hectares of protected areas Target: Increase by 400,000 ha MoV: ANPN reports
	Indicator: Parks retain or enhance pre-programme standing biomass, populations of important species and habitats. Baseline: to be determined through baseline surveys Target: Retained or enhanced MoV:
	Indicator: Hectares of forestry concessions reclassified as PA's or HCV forests and their GPS location Baseline: 0 Target: Increase by at least 500,000 ha MoV:
	Indicator: Number of conflicts among villagers and park staff with respect to park limits Baseline: to be estimated Target: annual decrease of number of conflicts MoV : Conflict reports (by ?)
Output 1.3.2.1. Baseline surveys of each proposed Protected Area and Buffer Zone regions conducted.	Indicator 1.1.1 a) Number of biological and ecological field reports and hectares they cover b) number of reports with Biomass estimates c) Number of reports with Carbon stocks estimates Baseline : No biomass, vegetation or camera tracking work has been completed and with few exceptions much work remains to understand distribution of rare and/or wide-ranging species and their ranges. Targets : to be defined MoV : Species lists for each park, NRI biomass estimates and maps, Camera trap results, Population estimates for important species.
Output 1.3.2.2. transboundary parks delimited and patrolled	Indicator : Number of new ecoguard recruited and trained to patrol transboundary parks borders Baseline Target : 20 MoV:
	Indicator: number of in-air or ground interventions successfully conducted Baseline: Target: to be determined MoV

Outcome 1.3.3. A profitable tourism industry is developed that contributes to the financial management of protected areas and reduces encroachment. (also contributes to sub impact 2.3.)	Indicator: Number of eco-tourists per year Baseline: Target: 100,000 eco-tourists per year MoV: stats from ANPN
	Indicator: Revenues generated by sustainable tourism Baseline: in 2014, the tourism industry contributed just 2.4% of the country's GDP Target after 5 years: increase by XX MoV: Ministry of Tourism
	Indicator: hectares of surface encroached Baseline: to be determined Target after 5 years: as few as possible MoV: ANPN's aviation program
Output 1.3.3.1. Eco-tourism products developed	Indicator: number of products deployed at scale to ensure that visitors can spot wildlife Baseline: Target: at least 3 products developed (to be confirmed by programs) MoV: program reports
Output 1.3.3.2. Positive interactions between tourism guides and visitors	Indicator: % visitors happy about the knowledge of their eco-guide and their overall experiences Baseline: no such baseline exists Target: at least 70% of respondents MoV: satisfaction surveys by tourism service providers
Output 1.3.3.3. Gabon's tourism experience is world-known	Indicator: % f eco-tourists worldwide that are aware of Gabon's offer Baseline Target: increase MoV: eco-tourism market reports [20]
Outcome 1.3.4. Access of forest-dependent people to basic services is improved (also contributes to impact 2)	Indicator: Number of people with increased access to I) education ii) health services iii) markets iv) energy v) Income generating activities Baseline: to be completed by programs in targeted areas Targets: to be defined by programs MoV: surveys
Output 1.3.4.1. Grant program established to improve the livelihoods of forest-dependent people	Indicator: existence of grant program Baseline: does not exist Target: existence by Year 1 of implementation MoV: ToR of grant program, through the CNC

[20] Such as https://www.adroitmarketresearch.com/industry-reports/ecotourism-market

Output 1.3.4.2. Beneficiaries access grant	Indicator: % of 5 million annual allocation allocated to projects put forward by Village communities, organizations, or local NGOs Baseline: Target: as high as possible (gradual increase annually) MoV: financial report of grant portfolio of projects
Outcome 1.3.5. Urban people have access to forests and parks	Indicator: positive perception by urban peoples towards forests Baseline: survey to be conducted at beginning of NIF implementation Target: increase by XX % MoV: surveys on urban population sample
Output 1.3.5.1. Trees are planted in urban areas	Indicator: Number of trees planted Baseline: 0 Target: at least 100,000 planted seedlings/saplings MoV:
Output 1.3.5.2. Green spaces and urban parks are created	Indicator: hectares of urban parks created, and number of trees planted Baseline: 0 Target: approximately four 3-ha parks, i.e. at least 12,000 trees MoV:
Output 1.3.5.3. Botanical diversity celebrated, plant production and conservation ensured at new National Botanical Gardens and National Herbarium	Indicator: number of species produced and conserved in new National Botanical Gardens and National Herbarium Baseline: National Botanical Gardens and Herbarium not built Target: new National Botanical Gardens and Herbarium host at least XX species MoV: NBGH catalogue

Sub-Impact 1.4: Capacities strengthened to design, implement and monitor national climate change mitigation programs	
Outcome 1.4.1. Institutional and human capacity strengthened to adapt projects to the latest scientific information	Indicator: number of updated reports submitted by the CNC to the UNFCC Target : National communications submitted to the UNFCCC in (YEAR)
	Indicator : CNAT remains fully functional to implement full PNAT Baseline : PNAT under development Target: MoV: CNAT reports
	Indicator: AGEOS and IRET remain fully functional to implement the SNORF Baseline: SNORF being implemented Target: MoV: AGEOS and IRET reports
Outcome 1.4.2. Science, monitoring and capacities are enhanced	Indicator : SNORF supported for activities that directly relate to meeting Gabon's NDC
	Indicator: Long term climate change research sites established
	Indicator : Number of publications by Gabonese nationals on studies and research related to climate change and sustainable development
Outcome 1.4.3. Climate-friendly sustainable development projects developed to benefit all people	TBD during program development phase of the program

Table 4. Provisional budget and activities calendar for financing and implementation of NIF programs[21]

	Total 2021	Total 2022	Total 2023	Total 2024	Total 2025	Total 2026	Total 2027	8 Yr. Total
Sub-Impact 1.1. Greenhouse gas emissions reduced								
Outcome 1.1.1. Improved forest management through national scale concession certification								
Activities								
1.1.1.1. Maintain the registry of operators engaged in the certification process			$265,000	$240,000	$240,000	$240,000	$240,000	$1,225,000
1.1.1.2. Provide institutional support for certification program implementation			$135,000	$135,000	$85,000	$85,000	$85,000	$525,000
1.1.1.3. Reinforce institutional capacity of the Agence Filière du Bois to implement field oversight, monitoring and audit protocols			$897,360	$695,880	$673,880	$645,880	$645,880	$3,558,880
1.1.1.4. Support training of government agents and private sector employees to implement and monitor national certification standards: National Certification Training Center	$500,000	$500,000	$4,649,600	$549,600	$549,600	$549,600	$549,600	$7,848,000
Subtotal outcome 1.1.1.	*$500,000*	*$500,000*	*$5,946,960*	*$1,620,480*	*$1,548,480*	*$1,520,480*	*$1,520,480*	$13,156,880
Outcome 1.1.2. Law enforcement improved								

[21] Budgets provided reflect provisional estimates and implementation schedules based on prioritization exercises conducted in 2020. They are subject to both temporal and financial re-allocation, within general constraints defined within the LOI and NIF.

Activities								
1.1.2.1. Support the 'Elite' Forestry Law Enforcement Unit to reduce illegal activity through improved law enforcement	$100,000	$100,000	$999,200	$634,200	$799,200	$634,200	$634,200	$3,901,000
Su total outcome 1.1.1.	*$100,000*	*$100,000*	*$999,200*	*$634,200*	*$799,200*	*$634,200*	*$634,200*	$3,901,000
Outcome 1.1.3. Community forests developed								
Activities								
1.1.3.1. Development of community forests throughout Gabon	$1,075,000	$1,075,000	$2,150,000	$3,200,000	$3,175,000	$3,425,000	$3,175,000	$17,275,000
Subtotal outcome 1.1.3.	*$1,075,000*	*$1,075,000*	*$2,150,000*	*$3,200,000*	*$3,175,000*	*$3,425,000*	*$3,175,000*	$17,275,000
Sub-Impact 1. 2. Future emissions avoided or minimized								
Outcome 1.2.1. Industrial agriculture intensified in areas of high suitability but low carbon, low conservation value								
Activities								
1.2.1.1. Support the agricultural legal unit to facilitate regulation of questions pertaining to land tenure and agricultural permitting			$103,000	$103,000	$103,000	$103,000	$103,000	$515,000
1.2.1.2. Provide continued technical support to engage in the land-use optimization process			$136,000	$88,000	$88,000	$88,000	$88,000	$488,000
1.2.1.3. Provide support to GIS lab and reinforce technical capacity within the Ministry			$507,400	$325,800	$325,800	$325,800	$325,800	$1,810,600
1.2.1.4. Provide technical support to complete EISA's to evaluate impact of agriculture program			$150,000	$150,000	$150,000	$150,000	$150,000	$750,000

Subtotal outcome 1.2.1.	*$0*	*$0*	*$896,400*	*$666,800*	*$666,800*	*$666,800*	*$666,800*	$3,563,600
Outcome 1.2.2. Impact of shifting cultivation decreases and revenues increase								
Activities								
1.2.2.1. Protect community agricultural plots from elephants to increase production and reduce deforestation			$1,850,000	$1,850,000	$1,850,000	$1,850,000	$1,850,000	$9,250,000
1.2.2.2. Pilot sustainable alternatives to slash-and-burn agriculture			$570,000	$420,000	$520,000	$620,000	$720,000	$2,850,000
1.2.2.3. Transition abandoned fields to agroforestry or regenerating forest			$62,500	$87,500	$87,500	$87,500	$87,500	$412,500
Subtotal outcome 1.2.2.	*$0*	*$0*	*$2,482,500*	*$2,357,500*	*$2,457,500*	*$2,557,500*	*$2,657,500*	$12,512,500
Outcome 1.2.3. Energy generation and transmission optimized to minimize impacts on forests								
Activities								
1.2.3.1. Initial scoping assessment			$100,000					$100,000
1.2.3.2. Technical system-scale, multi-objective analysis			$730,000					$730,000
1.2.3.3. Stakeholder consultations			$210,000					$210,000
1.2.3.4. Re-analysis and stakeholder report			$160,000					$160,000
Subtotal outcome 1.2.3.	*$0*	*$0*	*$1,200,000*	*$0*	*$0*	*$0*	*$0*	$1,200,000
Sub Impact 1. 3. Carbon sequestration enhanced and conserved through conservation of HCS and HCV forests								
Outcome 1.3.1. The National Park Network is well managed and protected from encroachment								
Activities								

1.3.1.1. Build ANPN headquarters at the Raponda Walker Arboretum			$3,000,000	$2,000,000				$5,000,000
1.3.1.2. Improve ANPN's capacity for rapid deployment to monitor and halt park encroachment by air	$300,000.00	$300,000.00	$4,173,826	$654,000	$654,000	$654,000	$654,000	$7,389,826
1.3.1.3. Strengthen ANPN's ability to respond to encroachment on-the-ground	$3,815,000	$3,815,000	$4,881,500	$4,959,500	$4,881,500	$4,959,500	$4,881,500	$32,193,500
Subtotal outcome 1.3.1.	*$4,115,000*	*$4,115,000*	*$12,055,326*	*$7,613,500*	*$5,535,500*	*$5,613,500*	*$5,535,500*	$44,583,326
Outcome 1.3.2. Protected areas and buffer zones established and protected from encroachment along disputed border regions between Gabon and Congo								
Activities								
1.3.2.1. Continue support to transboundary parks			$1,145,400	$1,052,080	$1,001,080	$992,080		$4,190,640
Subtotal outcome 1.3.2.	*$0*	*$0*	*$1,145,400*	*$1,052,080*	*$1,001,080*	*$992,080*	*$0*	$4,190,640
Outcome 1.3.3. A profitable tourism industry developed that contributes to the financial management of protected areas and reduces encroachment								
Activities								
1.3.3.1. Develop world class tourism products			$1,950,000	$2,100,000	$2,100,000	$1,950,000	$1,950,000	$10,050,000
1.3.3.2. Build capacity of tourism guides through cultural, social and ecological training			$500,000	$150,000	$150,000	$150,000	$150,000	$1,100,000
1.3.3.3. Promote nature tourism in Gabon through media, including creating development plans for tourism sites to attract investors			$200,000	$200,000	$200,000	$200,000	$200,000	$1,000,000
Subtotal outcome 1.3.3.	*$0*	*$0*	*$2,650,000*	*$2,450,000*	*$2,450,000*	*$2,300,000*	*$2,300,000*	$12,150,000
Outcome 1.3.4. Access of forest-dependent people to basic services is improved								
Activities								

1.3.4.1. Establish a grant program to improve the livelihoods of forest-dependent people			$5,000,000	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$25,000,000
Subtotal outcome 1.3.4.	*$0*	*$0*	*$5,000,000*	*$5,000,000*	*$5,000,000*	*$5,000,000*	*$5,000,000*	$25,000,000
Outcome 1.3.5. Urban People have access to forests and parks								**$19,813,827**
Activities								
1.3.5.1. Trees are planted in urban areas			$2,194,300	$979,800	$358,400	$374,400		$3,906,900
1.3.5.2. Green spaces and urban parks created			$1,029,200	$336,700	$1,010,100	$1,346,800		$3,722,800
1.3.5.3. Botanical diversity celebrated, plant production and conservation ensured at new National Botanical Gardens and National Herbarium	$814,850	$814,850	$6,582,439	$3,572,619	$1,214,219			$12,998,977
Subtotal outcome 1.3.5.	*$814,850*	*$814,850*	*$9,805,939*	*$4,889,119*	*$2,582,719*	*$1,721,200*	*$0*	$20,628,677
Sub-Impact 1.4. Capacities strengthened to design, implement and monitor national climate change mitigation programs								
1.4.1. Institutional and human capacity strengthened to adapt projects to the latest scientific information								
Activities								
1.4.1.1. Support of the National Climate Council (Conseil national climat; CNC)	$500,000	$500,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$6,000,000
1.4.1.2. Support of the National Commission on Land Use Planning (CNAT)			$300,000	$300,000	$300,000	$300,000	$300,000	$1,500,000
1.4.1.3. Support of the Gabon space Agency (AGEOS)	$500,000	$500,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$6,000,000
1.4.1.4. Support of the Institute of Tropical Research (IRET)			$300,000	$300,000	$300,000	$300,000	$300,000	$1,500,000

Subtotal outcome 1.4.1.	*$1,000,000*	*$1,000,000*	*$2,600,000*	*$2,600,000*	*$2,600,000*	*$2,600,000*	*$2,600,000*	$15,000,000
Outcome 1.4.2. Science, monitoring and capacities are enhanced								
Activities								
1.4.2.1. Support the National Natural Resources and Forestry Observation System (SNORF)		$1,645,870	$1,219,354	$1,251,726	$1,373,408	$1,286,031	$1,286,031	$8,062,420
1.4.2.2. Increase national capacity and increase understanding of the effects of climate change on Gabonese ecosystems	$680,000	$680,000	$1,694,828	$1,694,828	$1,694,828	$1,694,828	$1,694,828	$9,834,140
1.4.2.3. Build national scientific capacity and knowledge of Gabon's environment and effects of and responses to climate change			$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$5,000,000
Subtotal outcome 1.4.2.	*$680,000*	*$2,325,870*	*$3,914,182*	*$3,946,554*	*$4,068,236*	*$3,980,859*	*$3,980,859*	$22,896,560
Outcome 1.4.2. Climate friendly sustainable development initiatives benefit all people								
Activities								
1.4.2.1. Support climate friendly sustainable development programs			$5,000,000	$5,000,000	$5,000,000	$5,000,000		$20,000,000
Subtotal outcome 1.4.2.	*$0*	*$0*	*$5,000,000*	*$5,000,000*	*$5,000,000*	*$5,000,000*	*$0*	$20,000,000
Total by year	**$8,284,850**	**$9,930,720**	**$55,845,907**	**$41,030,233**	**$36,884,515**	**$36,011,619**	**$28,070,339**	**$216,058,183**
Total 2021-2022 Budget	**$18,215,570**							

GOVERNANCE FRAMEWORK

Context: As part of the amendment to the Letter of Intent (LOI) signed between Gabon and the Central African Forest Initiative (CAFI) to provide results-based payments of up to 150 million dollars to Gabon for both reducing its greenhouse gas emissions from deforestation and degradation, and maintaining and increasing absorptions of carbon dioxide by natural forests, several conditions for receiving the funds were established. Among the established requirements was the development of an Investment Plan detailing the use of these funds in programs / projects contributing to climate change mitigation. In parallel, an initiative created in partnership with the Forest Carbon Partnership Fund (FCPF) of the World Bank, launched a preparatory project for the establishment of the necessary mechanisms for REDD+. Together, these programs have put in place the country's REDD+ framework to access Results-Based Payments under the United Nations Framework Convention on Climate Change.

Organizational Structure for decision making and program implementation:

The decision making and management bodies for the implementation of the Investment Plan associated with the results-based payments within the Central African Forest Initiative, hereinafter referred to as Investment Plans CAFI 3, are:

- The Climate Council
- The CAFI Steering Committee
- The CAFI Program management Unit

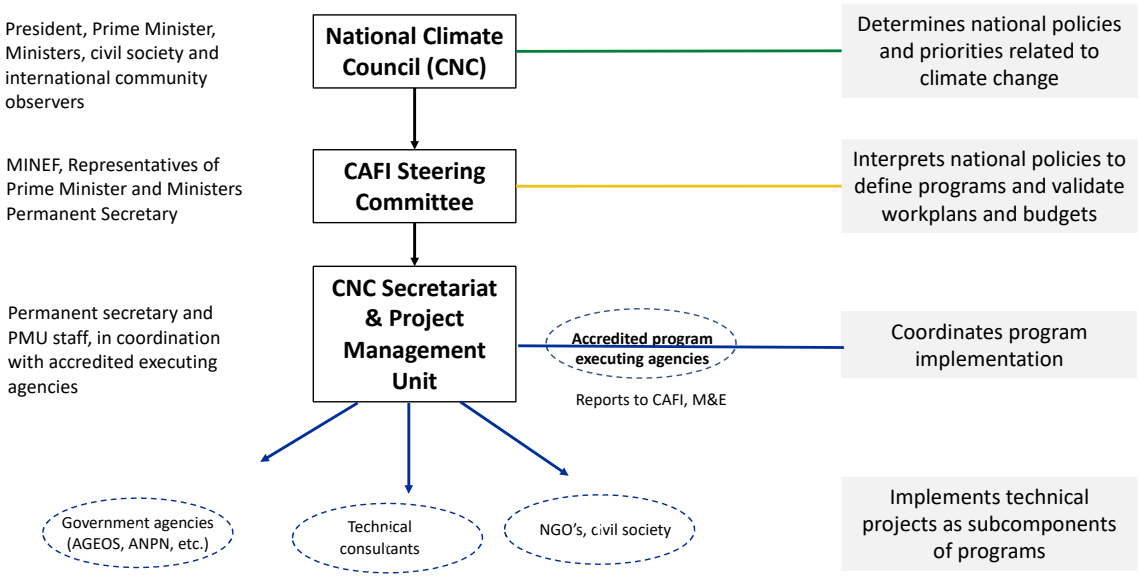


Figure 4. Illustration of the CAFI governance structure, composition, and general responsibilities

Composition, Responsibilities and Operational structure for decision making, implementation, oversight and management:

i. The Climate Council

The National Climate Council (CNC), created by Decree number *0122/PR/MRPICIRNDH of 23 April 2010* **is the political decision-making body for the implementation of the CAFI 3 investment plan** (Annex C)**.** The CNC determines national policies and priorities related to climate change.

Its main goals are to:

- Define the strategic direction and program prioritization for implementation of the CAFI 3 Investment Plan, in accordance with the country's priorities (see prioritization section below);
- Ensure that the initiatives and programs supported under the Investment Plan comply with the commitments made by the country internationally, particularly within the framework of REDD+;
- Manage inter-ministerial differences related to the implementation of programs and projects related to climate change.

The Climate Council is composed of:

- The President of the Republic;
- The Prime Minister, Vice President;
- The Minister in charge of the Environment, member;
- The Minister in charge of Foreign Affairs, member;
- The Minister in charge of the Economy, member;
- The Minister in charge of the Budget, member;
- The Minister in charge of Regional Planning, member;
- The Minister responsible for scientific research, member;
- The Minister in charge of Energy, member;
- The Minister in charge of Water and Forests, member
- The Minister in charge of Mines and Hydrocarbons, member;
- The Minister in charge of Agriculture, member;
- The Minister in charge of Communication, member;
- The Minister in charge of Transport, member;

The Climate Council meets once a year in a meeting to which national institutions, international partners and civil society are invited to observe.

ii. The Steering Committee

The CAFI Steering Committee is the body responsible for oversight, coordination and monitoring of the CAFI 3 Investment Plan programs and projects[22]. It interprets national policies and priorities as defined by the CNC to develop and supervise CAFI programs.

Its main goals are:

- Coordinate development and approve detailed program documents and workplans for the Investment Plan;
- Assume a supervisory role over the budgets and use of the financing obtained for the implementation of the Investment Plan and approve financial reports prior to submission to the Trust Fund;
- Examine and evaluate the results from Investment Plan projects and programs;
- Monitor the implementation of the guidance and decisions of the Program Management Unit and Technical sub-committees;
- Monitor the mobilization of funding;
- Evaluate the implementation of activity programs and project and their budgets in concert with implementing agencies/organizations and third party auditors;
- Ensure the creation of monitoring indicators for projects and programs;
- Propose and validate documents to the Minister in charge of the Climate Plan for presentation in the Presidential cabinet and CNC.

The Steering Committee includes:

- The Minister in charge of the Climate Plan, his capacity as President;
- Representatives of the Presidency, the Prime Minister's Office and the other Ministers who are members of the National Climate Council;
- The Permanent Secretary of the Climate Council, in his capacity as secretary;

Additional members called specifically for meetings related to CAFI programs/projects are:

- The Presidents of the Technical Sub-Committees, members;
- The Coordinators of the Project or Program Management Units, member;
- Referents of government implementing agencies;
- A representative of the private sector, member;
- A representative of Civil Society, member[23];

[22] Coordination and monitoring refers to higher level oversight and validation of program activities. Day to day coordination and monitoring of activities to be conducted by the PMU.

[23] Civil Society and private sector will be asked to each elect a representative.

- Representatives of accredited program executing agencies (or the representative of the fund management agency) will participate in the steering committee meetings as observers.
- Representatives of the Central Africa Forest Initiative Secretariat or Board will participate in the Steering Committee as observers.

The Steering Committee meets bi-annually, with additional meetings convened by its President as needed. All members retain voting rights. The decisions of the Steering Committee are taken on a consensual basis, with two-thirds of the committee constituting a quorum to do business.

iii. The Program Management Unit (PMU)

The CAFI Program Management Unit is placed under the authority of a Permanent Secretary of the Climate Council, assisted by Technical Advisers[24]. It serves as a secretariat to the Steering Committee.
Its main goals are:

- Coordinate the day to day implementation of programs and projects;
- Prepare the working sessions of the technical sub-committees;
- Write the minutes of the meetings;
- Contribute to the collection and dissemination of information related to the implementation of the Investment Plan;
- Ensure coordination among sectors;
- Prepare program/project annual and quarterly budgets and execute the expenses of program and project expenses;
- Ensure the archiving of documents.

iv. Technical Sub-Committees

Additional Technical sub-Committees may be appointed to ensure compliance with the guidance and decisions of the Steering Committee in the implementation of programs and projects. Committee composition would be sector specific, and specific roles would be defined within individual program documents at the program development phase.

[24] The PMU is currently composed of a seven-person team, housed at the CNC Secretariat. The team includes a national coordinator, technical assistant at the international level, two junior staff, procurement manager, administrative and financial manager, CAFI monitoring/evaluation and reporting manager, secretariat manager and driver. The PMU has computer equipment, two vehicles and a budget sufficient to meet its operating needs and perform its duties (Annex B), with support of CAFI 1 and 2. Funds required to expand the PMU with additional staff as the CAFI programs grow and sustain the unit through CAFI 3 implementation have been included in the Investment Framework provisional budgets. The national coordinator will be responsible to the Steering Committee and the executing Agency to ensure that all CAFI programs operates properly and that funds are used as intended. The executing Agency will disburse funds directly to the PMU. The latter will receive funding requests from the implementing agencies, which it will validate before issuing payment, either directly or via the executing agencies.

Through the CAFI 1 program, the PMU has a specific budget to rent office space throughout the project's duration and hire independent external consultants to conduct a mid-term program review and semi-annual financial audits. It may also issue calls to tender, as needed, allowing it to use consultant services on specific occasions to address potential shortcomings or ensure that certain objectives are achieved.

Each committee would be composed of specialists appointed by the institutions to which they belong and may be assisted by national and international experts appointed by the Project Management Unit.

Program prioritization, financial management, agency selection, and consultative processes

As results-based payments are agreed upon for transfer (see Gabon National Results Report, 2020 for technical review of the process by which payment calculations will be agreed upon between partners), the Climate Council will determine how the revenue will be used and a detailed program documents will be prepared and validated by the CAFI Steering Committee to detail specific activities, budgets, executing agencies, government implementation entities, and partner arrangements. Program priorities for inclusion in the program document will be determined by an annual priority reflection, based on program activities defined within the NIF, but reflecting dynamic country strategic priorities and/or the availability of co-funding.

During the program document preparation phase, opportunities for stakeholder consultation will be provided following protocols outlined within the Gabon Safeguard Strategy (supplementary material 1 and 2). To identify the accredited executing agencies selected to oversee financial management program implementation oversight, a competitive expression of interest will be prepared by the CNC Secretariat. The Steering Committee will select the best suited implementation partner from among applicants. Program documents will then be prepared by appropriate technical committees and the selected executing agency. The management of the financial resources of the management bodies for the implementation of the CAFI 3 Investment Plan will be subject to the rules of the accredited executing agencies. The completed program document, the annual budget report, as well as the budgeted annual work plan, will be adopted and approved by the members of the Steering Committee, following independent review[25].

Program prioritization and selection criteria

As result based payments are received, the Climate Council will make decisions regarding which of the various program activities defined within the National Investment Framework will be prioritized as follows.

During the first several years of the NIF implementation, Gabon will prioritize the use of funds to consolidate forest governance and ensure the security of additional results-based payments by prioritizing activities that actively contribute to reduced emissions and protection of forests most important to removal of carbon dioxide from the atmosphere. Long term climate change and forest monitoring systems will be also be supported. Finally, extension of the national forest certification program to include community forests will be of high priority.

[25] The review process will be agreed upon within the CAFI Steering Committee. Reviewers may be selected with support from the CAFI Executive Secretariat.

Factors related to (a) potential for shifting threats to tropical forests and/or (b) the availability of co-financing opportunities require that a somewhat dynamic and flexible decision-making process is allowed and structurally facilitated. This will occur during the annual Climate Council reflection process. The 4 impacts defined within the Investment Framework for CAFI 3 will remain fixed, though their relative importance could contextually change and the specific details and/or activities prioritized to meet those impact goals could be modified. Any modification of reflection or priority activities defined within the NIF will be discussed and approved by the CAFI Steering Committee, then defined in detail through a program development document.

In general, however, highest priority for program approval will be given to*,**,***:

- Programs that *directly* contribute the emissions reductions from the forestry sector [e.g halt illegal logging and improved forest management].
- Programs that *directly* contribute to removal of CO2 from the atmosphere via conservation and protection of standing forest biomass.
- Support for institutions *directly* engaged in the strategic development and implementation of Gabon's PGV, NDC, and SD programs.
- Programs that that *indirectly* contribute to emission reductions and forest conservation by building a strong constituency of support - through public education, outreach and urban tree planting and park initiatives.
- Continuation and expansion of CAFI 1 and 2 programs – including the SNORF, AGEOS satellite monitoring, IRN, and the addition of a long term forest research, monitoring, and modeling programs.

Second tier priority will be given to:

- Programs that *indirectly* contribute to emission reductions and forest conservation by improving livelihoods [and food security] of forest-dependent rural communities[26]
- Programs that *indirectly* contribute to emission reductions and forest conservation by generating national revenue from protected forests (e.g. tourism development)

Third tier priority will be given to:

- New avoided emissions programs
- Sustainable development projects
- Research capacity building and scholarship programs

[26] Rural livelihood improvement programs selected will prioritize community forest initiatives, PNFL development, and other activities designed to retain forest structure and diversity. Programs that result in forest conversion will not be considered.

* All programs and projects defined within the NIF are aligned with program guidelines defined with the LOI.

** Many also contribute to Impact 2 - Development co-benefits increased and livelihood improved (Table 1).

*** High priority activities are reflected in the first 1-3 yrs. of provisional budgets (Table 4) and will be retained through the first 5 years, irrespective of funding level. Mid-lower priority programs/projects have not been reflected in provisional budgets until at least year 3; though the timing for commencement of these activities will be determined by availability of funds.

Table 5. Provisional prioritization of projects/programs defined within the NIF[27]

Provisional Tier 1 Priority Programs/Projects
Sub-Impact 1.1. Greenhouse gas emissions reduced
Outcome 1.1.1. Improved forest management through national scale concession certification
Output 1.1.1.1. Registry of operators engaged in the certification process maintained
Output 1.1.1.2. Institutional support for certification program implementation provided
Output 1.1.1.3. Institutional capacity strengthened of the Agence Filière du Bois to implement field oversight, monitoring and audit protocols
Output 1.1.1.4. Government agents and private sector employees trained to implement and monitor national certification standards
Outcome 1.1.2. Law enforcement improved (proxy for decrease in illegal logging)
Output 1.1.2.1. Support the 'Elite' Forestry Law Enforcement Unit to reduce illegal activity through improved law enforcement
Outcome 1.1.3. Community forests developed
Output 1.1.3.1. Community forest area for each village identified
Output 1.1.3.2. Management plans developed and implemented by rural communities
Sub-Impact 1.3. Carbon sequestration enhanced and conserved through conservation of HCS and HCV forests
Outcome 1.3.1. The National Park Network is well managed and protected from encroachment
Output 1.3.1.2. National Parks are regularly patrolled by air and foot
Outcome 1.3.2. Protected areas and buffer zones established and protected from encroachment along disputed border regions between Gabon and Congo
Output 1.3.2.1. Baseline surveys of each proposed Protected Area and Buffer Zone regions conducted
Output 1.3.2.2. Transboundary parks delimited and patrolled
Outcome 1.3.5. Urban people have access to forests and parks[28][29]
Output 1.3.5.3. Botanical diversity celebrated, plant production and conservation ensured at new National Botanical Gardens and National Herbarium
Other. Any required continuation funding for CAFI 1 and 2 programs; if not included in outputs above
Sub-Impact 1.4. Capacities strengthened to design, implement and monitor national climate change mitigation programs
Outcome 1.4.1. Institutional and human capacity strengthened to adapt projects to the latest scientific information
Output 1.4.1.1 National Climate Council (Conseil national climate; CNC), Commission on Land Use Planning (CNAT), AGEOS and IRET retain sustainable funding
Outcome 1.4.2. Science, monitoring and capacities are enhanced
Output 1.4.2.1. National Climate Monitoring programs are executed and results reported to UNFCCC

[27] Project prioritization may be subject to change with respect to National Climate Council strategic planning and/or for reasons such as co-funding opportunities.

[28] Due to the requirement that a significant number of seedlings be available for the implementation activities defined within outcome 1.3.5, the nursery portion of this project will require pre-funding. Thus, we include support of the nursery as a tier one priority; a sole exception to the definition of relative importance as defined within the text. Costlier phases of the project will occur after year 3 of CAFI implementation.

[29] CAFI funds mobilized for implementation of this outcome will not surpass 10% of the cumulative total of results-based payments.

Output 1.4.2.2. Long term climate research and forest monitoring sites are established
Provisional Tier 2 Priority Programs/Projects
Sub-Impact 1.2. Future emissions avoided or minimized
Outcome 1.2.1. Industrial agriculture intensified in areas of high suitability but low carbon, low conservation value
Output 1.2.1.1. Land tenure and agricultural permitting better regulated
Output 1.2.1.2. Agricultural suitability understood for 5 priority crops
Output 1.2.1.3. Agricultural Ministry equipped with tools to make long-term forest, climate and biodiversity friendly land-use decisions
Output 1.2.1.4. Impact of agriculture programs evaluated
Outcome 1.2.2. Impact of shifting agriculture decreases and revenues increase
Output 1.2.2.1. Agricultural plots protected from elephants
Output 1.2.2.2. Sustainable alternatives to slash-and-burn agriculture piloted
Output 1.2.2.3. Abandoned fields transitioned to agroforestry or regenerating forest
Outcome 1.3.3. A profitable tourism industry developed that contributes to the financial management of protected areas and reduces encroachment.
Output 1.3.3.1. World class eco-tourism products developed
Output 1.3.3.2.positive interactions fostered between guides and visitors
Output 1.3.3.3. Gabon's eco-tourism experience becomes world renowned
Outcome 1.3.4. Access of forest-dependent people to basic services is improved
Output 1.3.4.1. Grant program established Establish a grant program to improve the livelihoods of forest-dependent people
Output 1.3.4.2 Grant accessed by beneficiaries
Outcome 1.3.5. Urban people have access to forests and parks
Output 1.3.5.1. Trees planted in urban areas
Output 1.3.5.2. Green spaces and urban parks created
Provisional Tier 3 Priority Programs/Projects
Sub-Impact 1.2. Future emissions avoided or minimized
Outcome 1.2.3. Energy generation and transmission is optimized to minimize impacts on forests
Output 1.2.3.1. Multi-stakeholder plan elaborated and validated and metrics defined
Sub-Impact 1.3. Carbon sequestration enhanced and conserved through conservation of HCS and HCV forests
Outcome 1.3.1. The National Park Network is well managed and protected from encroachment
Output 1.3.1.1. National Park Headquarters able to operate in modern facility
Outcome 1.4.3. Climate friendly sustainable development initiatives benefit all people
Output 1.4.3.1 Climate-friendly sustainable development projects developed
Outcome 1.4.2. Science, monitoring and capacities are enhanced (scholarship programs)

Reporting, Monitoring and Evaluation

Each program will be subject to monitoring, control and evaluation in accordance with rules and best international practices as defined by the partner executing agency (e.g. AFD, UNDP, World Bank, INGO). A monitoring and evaluation plan will be developed prior to the program launch and then implemented, evaluated and, if necessary, modified annually.

The plan will organize the monitoring and technical and financial evaluation of the implementation of program activities, based on the indicators presented in the program's results framework. The PMU, COPIL and executing agency will use it to ensure strict monitoring and evaluation at all steps of the process, in accordance with Article X of the Letter of Intent.

SUB-IMPACT 1.1. GREENHOUSE GAS EMISSIONS REDUCED

REDUCE EMISSIONS FROM FORESTRY SECTOR THROUGH IMPROVED FOREST MANAGEMENT AND FOREST CERTIFICATION

OUTCOME 1.1.1. IMPROVED FOREST MANAGEMENT THROUGH NATIONAL SCALE CONCESSION CERTIFICATION

Unsustainable logging accounts for 30-70 percent of carbon emissions across Africa, Southeast Asia, and South America, sometimes even changing forests from carbon sinks to carbon sources[30]. Degradation emissions globally are equivalent to about a third of those from deforestation; in Gabon, where deforestation is low, degradation accounts for a much greater proportion of national emissions.

In the Congo-Ogooué Basin, logging occurs across nearly all forests outside of protected areas: in 2020, 516 forest permits covered 14.7 million ha[31] or more than 50 percent of the total forested area[32]. Forestry is the second largest employer after the government[33], and the timber industry contributes importantly to GDP and foreign exchange. Gabon's forestry industry exported roughly 4 million cubic meters of industrial logs in 2000. In 2009, prior to the 2010 log export ban, logging companies produced an estimated 3.4 million m^3 of industrial logs, 60 percent of which was

[30] Pearson, T, S Brown, L Murray, G Sidman. 2017. Greenhouse gas emissions from tropical forest degradation: an underestimated source. Carbon Balance Manage 12:3 DOI 10.1186/s13021-017-0072-2.

[31] Situation des titres forestiers au 15 Septembre 2020.

[32] de Wasseige, C., Tadoum, M., Eba'a Atyi, R., Doumenge, C., 2015. The Forests of the Congo Basin - Forests and climate change, 6840th ed. Weyrich Belgium.

[33] de Wasseige, C., Flynn, J., Louppe, D., Hiol, F., Mayaux, 2009. The Forests of the Congo Basin - State of the Forest 2008, Weyrich. Belgium. doi:10.2788/32259.

exported, making Gabon the world's second largest exporter of tropical hardwoods that year[34,35]. Not surprisingly, in Gabon forest degradation from logging is more important than deforestation for minimizing carbon emissions. Historically, emissions from timber harvest have far outweighed those from deforestation (Figure 4); although recently it was estimated that fifty-four percent of total emissions from deforestation and forest degradation are from selective logging in Gabon[36].

Recognizing the importance of the forestry sector, *in September 2018 the President of Gabon, Ali Bongo Ondimba, took an important step towards sustainable forest management by declaring that all forest concessions operating in Gabon must be certified by 2022.*

Forest certification is a voluntary process of evaluating and validating forest management practices using a set of pre-determined standards. The standards vary by certifying agency but address issues such as management plans, protection of resources, harvesting and management practices, social-economic impacts and monitoring. Evaluation of the standards is typically performed by an objective, third party and, if successful, results in a certificate of compliance. Certification provides managers with independent recognition of their responsible management practices and potentially improves market access and price points in environmentally-aware markets. The Forest Stewardship Council (FSC) is the best-known international certification body of forestry, but many others exist including the program for the Endorsement of Forest Certification (PEFC) and the Sustainable Forestry Initiative (SFI). To date, 3 out of 40 major companies in Gabon are FSC-certified even though producers can earn an extra $1.80 for every cubic meter of FSC-certified round wood or equivalent, over and above the certification costs[37]. On average, companies break even on their investment in FSC certification after 6 years; thus, the investment costs of entering the process can be considerable in the short-term, but good for the bottom line in the long-term.

[34] Blaser, J., Sarre, A., Poore, D., Johnson, S., 2011. Status of tropical forest management. 2011. ITTO Technical Series, No 38. International Tropical Timber Organization, Yokohama, Japan.

[35] Rana, P., Sills, E., 2017. Does certification change the trajectory of tree cover in working forests in the tropics ? An application of the synthetic control method of impact evaluation (No. CEnREP Working Paper No. 17-018). Raleigh, NC. doi:10.13140/RG. 2.2.23121.22887.

[36] Umunay PM, TG Gregoire, T Gopalakrishna, PW Ellis, FE. Putz. 2019. Selective logging emissions and potential emission reductions from reduced impact logging in the Congo Basin. For. Ecol. Manage. 437, 360-371.

[37] WWF (2015) Profitability and Sustainability in Responsible Forestry: Economic impacts of FSC certification on forest operators. (Also available at http://wwf.panda.org/wwf_news/?250330).

SITUATION DES TITRES FORESTIERS AU 15 SEPTEMBRE 2020

Permis forestiers	Nombre permis	Nombre lot	Surface (ha)
Permis en aménagement	516	736	14 740 167
Permis hors aménagement	4	7	180 040
Réservations (GSEZ + GMDC)	45	65	1 498 832
Total Permis forestiers attribués	565	808	16 419 039
Etat (Retour au Domaine)	24	24	325 388
Concessions forestières	**Nombre permis**	**Nombre lot**	**Surface (ha)**
CFAD	475	646	13 542 057
CPAET	41	90	1 198 110
Forêts Communautaires	**Nombre**	**Surface (ha)**	
Forêts Communautaires (convention définitive)	48	232 251	
Forêts Communautaires (convention provisoire)	44	135 254	
Total Forêts Communautaires	92	367 505	
Superficie totale Forêts Communautaires et Permis Forestiers		16 786 544	

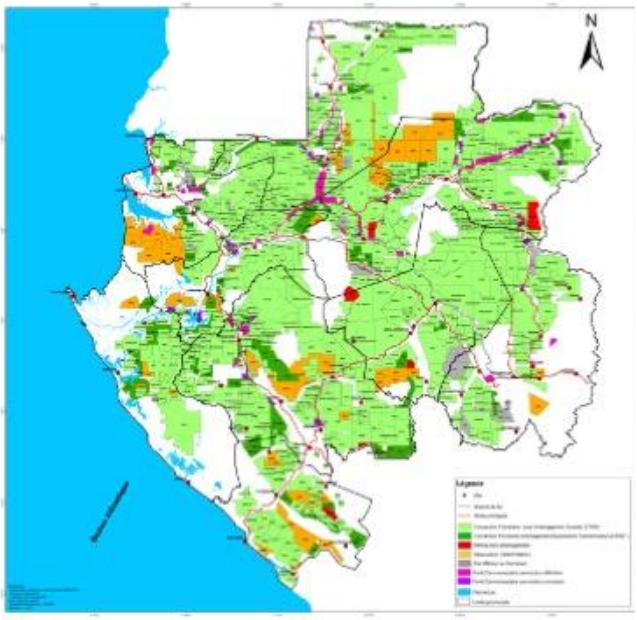


Figure 5. Map and current calculations of forestry permits for Gabon

Forest certification has enormous benefits such as biodiversity conservation, protection of high conservation value forest (HCVF), and safeguarding the rights of workers, communities, and indigenous peoples, *but additional steps may need to be taken to significantly reduce carbon emissions from forestry*. Medjibe et al. (2013)[38] found that an FSC-certified concession produced fewer emissions than a non-certified concession in Gabon; but 23 FSC-certified and non-certified concessions did not differ in average emissions, with one FSC-certified concession in Gabon emitting higher levels of CO_2 than the other concessions[39]. Throughout the logging process in Gabon, 60% of emissions come from roads, 36% from felling, and 4% from skidding[40].

Certified concessions may fail to reduce emissions compared to non-certified concessions because FSC criteria and indicators, and associated reduced impact logging (RIL) practices, were not designed with emissions reductions in mind. By contrast, RIL-C explicitly focuses on RIL practices that can result in measurable emissions reductions[41]. The RIL-C

[38] Medjibe, V.P., Putz, F.E., Romero, C., 2013. Certified and uncertified logging concessions compared in Gabon: changes in stand structure, tree species, and biomass. Environ. Manage. 51, 524–540. https://doi.org/10.1007/s00267-012-0006-4.

[39] Umunay PM, TG Gregoire, T Gopalakrishna, PW Ellis, FE. Putz. 2019. Selective logging emissions and potential emission reductions from reduced impact logging in the Congo Basin. For. Ecol. Manage. 437, 360-371. (although it should be noted that the FSC company concerned by the high result protested and argued that the data were taken before timber extraction was complete, resulting in erroneously high emissions factors)

[40] Umunay PM, TG Gregoire, T Gopalakrishna, PW Ellis, FE. Putz. 2019. Selective logging emissions and potential emission reductions from reduced impact logging in the Congo Basin. For. Ecol. Manage. 437, 360-371.

[41] Griscom, B., Ellis, P., Putz, F.E., 2014. Carbon emissions performance of commercial logging in East Kalimantan. Indonesia. Glob. Chang. Biol. 20, 923–937. https://doi.org/10.1111/gcb.12386.

protocol consists of measuring emissions from selective logging by their main sources (felling, skidding, or hauling) to estimate the possible reductions from adoption of improved logging practices[42,27]. With RIL-C, Gabon could potentially reduce its emissions from logging by 62%[43]. Road-related emissions could be cut by more than half by limiting road widths. Additional reductions could be achieved by limiting collateral damage, avoiding felling of non-timber trees, and bucking wood to maximize yield. Thus, coupling RIL-C practices with certification standards could likely reduce the negative environmental and social impacts of logging and reduce current CO_2 emissions in Gabon.

In addition to carbon emissions from poor harvest practices, illegal logging is an important, but largely unquantified source of carbon emissions[44]. As much as 72% of logging is illegal in the Brazilian Amazon, 61% in Indonesia and 65% in Ghana[45]. In 2017, ANPN audited forestry concessions in the provinces of Estuaire, Ogooué-Ivindo and Woelu-Ntem, finding evidence of annual losses to tax evasion on the order of $50 million and an illegal forestry industry of approximately $200 million per year. At its height in 2017, illegal logging accounted for 10-15 million tons of CO_2 emissions.

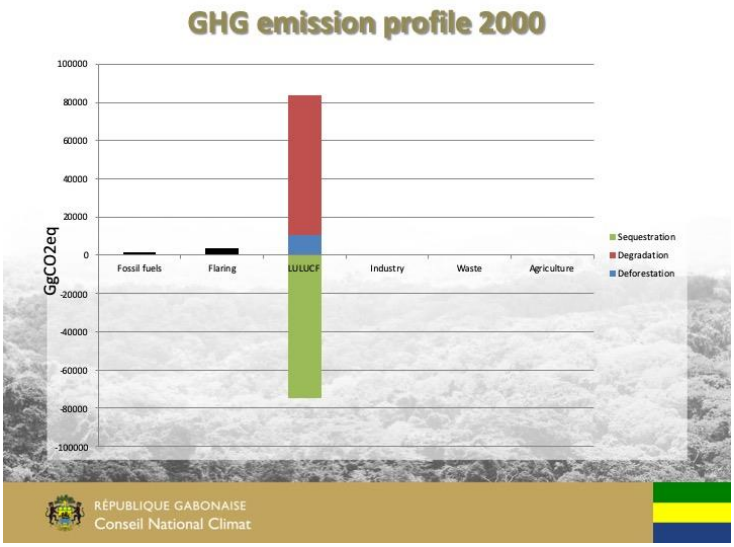


Figure 6. Greenhouse house gas emission profile for 2000.

[42] Ellis, P., Griscom, B., Walker, W., Gonçalves, F., Cormier, T., 2016. Mapping selective logging impacts in Borneo with GPS and airborne lidar. For. Ecol. Manage. 365, 184–196.

[43] Umunay PM, TG Gregoire, T Gopalakrishna, PW Ellis, FE. Putz. 2019. Selective logging emissions and potential emission reductions from reduced impact logging in the Congo Basin. For. Ecol. Manage. 437, 360-371.

[44] See the export volume model of the 2020 Gabon National Results Report for information regarding how the country is proposing to capture and account for emissions from illegal logging.

[45] Lawson S, L MacFaul. Illegal logging and related trade; indicators of the global response. London: Chatham House; 2010.

ACTIVITY *1.1.1.1. MAINTAIN THE REGISTRY OF OPERATORS ENGAGED IN THE CERTIFICATION PROCESS*

As part of CAFI 2 program implementation, Gabon is creating a registry for operators intending to engage in the certification process. The registry will be housed within the DGF at the Ministry of Water, Forests, Sea and Environment (MINEF). It will be coupled with a well-organized archive to facilitate the monitoring of stepwise progress towards certification in each concession. By creating a certification registry and identifying companies not engaged in certification, Gabon can adopt strong field oversight, monitoring and auditing protocols to ensure company compliance. CAFI 3 will maintain the registry to monitor the progress of operators working towards certification.

Provisional Budget: $1.225,000

ACTIVITY *1.1.1.2. PROVIDE INSTITUTIONAL SUPPORT FOR CERTIFICATION PROGRAM IMPLEMENTATION*

As Gabon progress towards national scale certification, several meetings and workshops will be conducted to promote collaboration and communication among stakeholders and to clearly define institutional arrangements and project implementation protocols. Legal reform must be transparent and the system for oversight and monitoring of logging operations must be formalized. Importantly, the implication of private sector operators into regular and structured dialogue will be imperative to successful policy implementation. Following CAFI 2, CAFI 3 will support regular workshops and meetings to:

1. Reinforce institutional arrangements among government partners – including the SGG and MFME, the CNC and government implementation agencies (including ANPN, AEAFFB, and the AGNOR).
2. Reinforce the project implementation and field oversight structure (AFD+MFME+CNC+ANPN+ AEAFFB + AGNOR, third party collaborators (FSC, IFT) and civil society).
3. Facilitate structured dialogue and information exchange among government administrations and private sector operators and unions (note this is an extension of pre-program activity 2[46]).
4. Hire a technical expert and coordinator to provide punctuated support to the program and to ensure alliance linkages and coordination of multi-actor activities.

Provisional Budget: $525,000

[46] As of March 15, 2020, the Ministry of Forest has facilitated meetings with UFIGA, the Chinese syndicat and the Gabonese syndicat. Concerns of the private sector operators regarding specific abilities to meet the FSC certification standards have been exchanged. As such, the Ministry has committed to completing an evaluation of the status of all permits with respect to certification and document legality (see Activity 1.2) and to have prepared a technical document comparing the relative strengths and weaknesses of various certification schemes, with a view to making a recommendation about whether to extend certification options more broadly and/or evaluate potential for differential implementation timelines for different categories of operators. Though the Ministry is engaged in this dialogue and evaluation, the decision will ultimately rests with the Head of State.

ACTIVITY 1.1.1.3. REINFORCE INSTITUTIONAL CAPACITY OF THE AGENCE FILIÈRE DU BOIS TO IMPLEMENT FIELD OVERSIGHT, MONITORING AND AUDIT PROTOCOLS

The Agence Filer du Bois is responsible for overseeing the implementation of national certification by ensuring that companies' practices meet national standards. The initial work of the agency, funded through CAFI 2, largely involves oversight as companies phase out their existing permits to make sure they do not 'cut and run'. A longer term, more permanent aim of the Agence Filer du Bois will be to verify information provided by operators within management plans and monitor progress in achieving certification benchmarks defined in the registration process. Field-level evaluations will be conducted by the audit teams with participation of third-party observers and civil society representatives for transparency. To achieve these objectives, CAFI 3 will support:

- On the job training of MINEF personnel
- Audit operations in the field by teams of field auditors, third-party observers, and civil society representatives
- Development and maintenance of management systems (financial, human resources, logistical, etc.)

Provisional Budget: $3,558,880

ACTIVITY 1.1.1.4. SUPPORT TRAINING OF GOVERNMENT AGENTS AND PRIVATE SECTOR EMPLOYEES TO IMPLEMENT AND MONITOR NATIONAL CERTIFICATION STANDARDS: NATIONAL CERTIFICATION TRAINING CENTER

Gabon has invested in the development of a National Certification Training Center and Certified Demonstration Site at Booué. The training center will be based within the National School of Forestry (ENEF) and will replicate the TFF/ITF[47] 'modular' intensive training approach. Training modules will focus on technical aspects of certification and emphasize "hands-on" learning through "learning-by doing". By coupling an intensive training center with a forestry school and demonstration site, the program will use the harvest process as a real world classroom, following the harvest cycle from inventory and mapping through each step of removal (road and skid trail planning, felling, skidding, landing, and transformation) to markets[48].

[47] The Tropical Forest Foundation (TFF) is an international, non-profit, educational institution committed to advancing environmental stewardship, economic prosperity, and social responsibility through sustainable forest management (SFM). For 20 years, TFF has fostered dialogue and alliances among industry, government, and academia, as well as the research and conservation communities to improve tropical forest management and increase the economic value of these forests. TFF is widely recognized for the establishment of demonstration models and training schools to teach the principles and the advantages of sustainable forest management. TFF regional programs have become synonymous with the promotion and training of Reduced Impact Logging (RIL). Rather than simply talk about what others could or should do, TFF trainers provide on the ground support to actively make a difference in rainforest conservation and forest management.

[48] The training center framework first developed within the CAFI 2 program document meets program regional objectives defined within the ADEFAC project, supported by AFD. Specifically, one of the components identified by the ADEFAC concerns the organization of continuous training programs to support specific skills development throughout the forest-wood sector (from logging to final processing and placing on the market). This is precisely the goal of the Certification Training Center defined here. Further, by providing this training service to both private sector and government actors, the program meets ADEFAC program priorities to support joint public-private sector activities.

The training center will hold concessionary rights to its demonstration site, comply with national standards and become FSC-certified, and be equipped with requisite machines and tools for logging. It will also include demonstration carbon monitoring plots and modules on forest carbon estimation, carbon markets and the reporting of emissions reductions to UNFCCC.

Timber harvested from the demonstration site during training courses will be sold to help finance the training center in the long-term, contributing to the financial sustainability of the program. Moreover, investment in the certification training center by the government could offset the upfront private sector costs of achieving and maintaining certification by offering courses free-of-charge or at low cost.

Discussions with the Tropical Forest Institute (IFT)[49] in Brazil and the USFS indicate that the establishment of this training center/demonstration site model typically takes ~3 years. We thus propose a rapid start training model be implemented in parallel to the establishment of the training center. Pedagogical materials developed during the rapid start activities will be given to the training center, and a 'training of trainers' will be conducted as part of the rapid start training program.

MINEF selected Booué for the Certification Training Center because it capitalizes on an existing, partially completed structure originally built as an Ecole des Métiers du Bois. Construction of the school started in 2013 but was not finished. Through CAFI 3, the training center will be completed in two phases. In the first phase, buildings necessary to lodge personnel working on certification for the surrounding concession (demonstration site) will be completed, with co-funding from the African Development Bank. The CAFI 3 supported second phase, scheduled to begin in 2023, will support the remaining classrooms, and administration buildings required to fully operationalize the center. Both phase 1 and 2 are expected to be completed by 2024.

Provisional Budget: $7,848,000 [with 4M dedicated to construction and equipment or the demonstration site in Yr. 3]

[49] The process by which a training partner/organization is selected will follow AFD regulations for competitive bidding and selection.

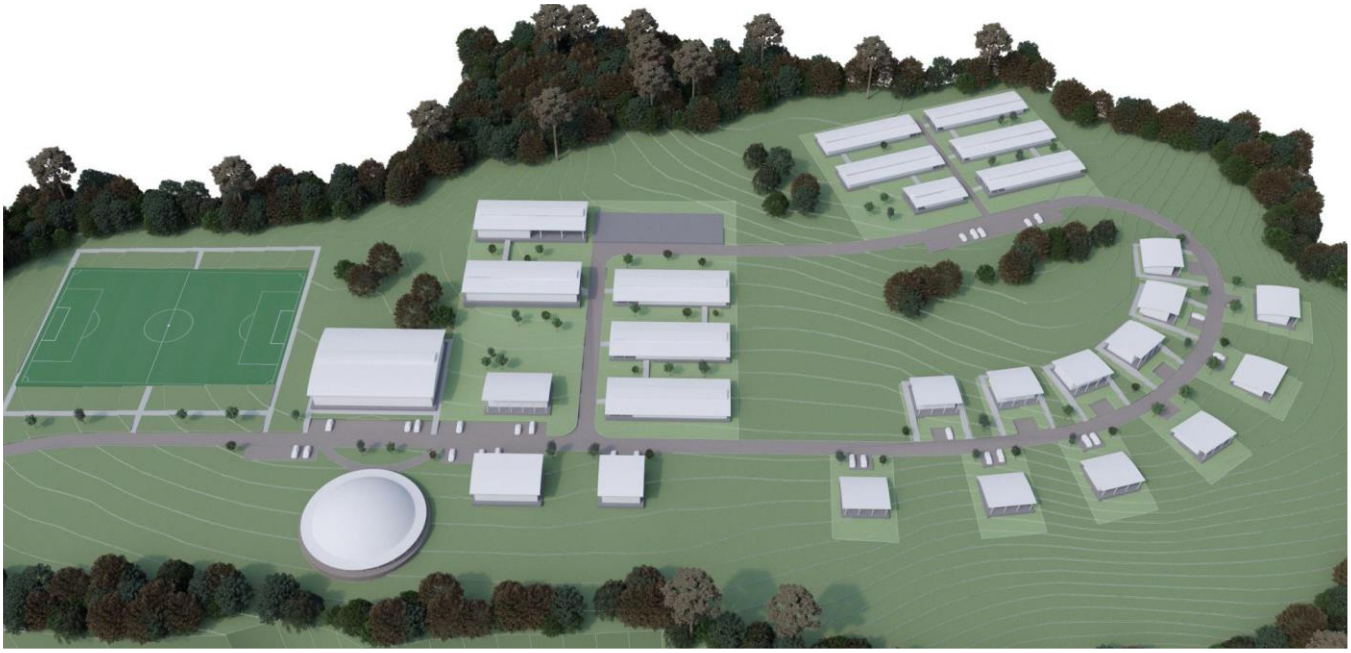


Figure 7. Layout of the ENEF Certification Training Center in Boué.

Figure 8. Already constructed lodging for 200 students at the ENEF Certification Training Center.

OUTCOME 1.1.2. LAW ENFORCEMENT IMPROVED (PROXY FOR DECREASED ILLEGAL LOGGING

ACTIVITY 1.1.2.1. SUPPORT THE 'ELITE' FORESTRY LAW ENFORCEMENT UNIT TO REDUCE ILLEGAL ACTIVITY

In response to illegal logging and deep-seeded corruption within the forestry sector, the Minister of Forest, Sea, and Environment established an Elite Forestry Law Enforcement Unit to enforce forest laws and dismantle criminal networks trafficking in wood, ivory, and other forest-based products. The Libreville-based unit is composed of 30 elite members who can respond rapidly to information from intelligence gathering networks and field agents. Unlike agents from the Agence Filière du Bois charged with oversight of logging management, the Elite Unit is a "special ops" team with law enforcement training that investigates illegal activity. Under CAFI 2, the Elite Unit will undergo initial training

and be equipped with tracking dogs to search export containers at ports, train stations and logging yards. CAFI 3 will support the Elite Unite by:

- Funding Elite Unit activities, salaries and mission costs
- Lodging, equipping, and training detection and tracker dogs to work in law enforcement
- Building the skills and knowledge of Elite Unit agents via in-service trainings

Provisional Budget: $3,901,000

OUTCOME 1.1.3. COMMUNITY FORESTS DEVELOPED

ACTIVITY 1.1.3.1. DEVELOPMENT OF COMMUNITY FORESTS THROUGHOUT GABON

Gabon's 2001 Forest Code provides for community forests under the *rural forest domain*. Community forests foster sustainable development of forests, sustainable conservation of natural resources, and greater local stakeholder involvement in management of natural resources.

> "The community forest is a portion of the rural forest estate allocated to a village community with a view to carrying out activities or undertaking dynamic processes for the sustainable management of natural resources from a simplified management plan[50]."

Strong community forest rights help communities protect their forests, reducing CO_2 emissions from deforestation and improving forest health. Currently, there are 48 existing community forests with management plans and 44 provisionally created community forests, totaling 16.7 million ha. All 2560 villages in Gabon have the right to community forests (though not all communities select to engage in community forestry as a management strategy).

MINEF is responsible for the development of community forest management plans in concertation with local communities.

> "The delimitation, classification and management of community forests are carried out free of charge by the Water and Forest Administration[51]."

Unfortunately, the Ministry has not historically engaged in the process of creating community forests. Critics of the few existing community forests in Gabon claim that their promise for improved rural incomes or repatriation of customary

[50] Gabon Code Forestier. Loi n°16-01 du 31 décembre 2001. Article 156.

[51] Gabon Code Forestier. Loi n°16-01 du 31 décembre 2001. Article 159.

land has been perverted, with private interests using them as a new land grab opportunity. Most communities lack the funding or technical expertise to draft a management plan; therefore, logging companies and entrepreneurs have applied for forest permits on the behalf of communities in exchange for exploitation rights and pay nominal rents, if any, on the harvested wood. In other words, logging investors see community forests as a way to access timber at a greatly reduced cost[52].

Through CAFI 3, the audit and development of community forests will avoid and reverse the misuse of community forests. The objective is to transform this part of the forest/forestry sector by providing the MINEF with the necessary funding and technical capacity to: 1) identify the community forest area for each village; 2) engage with rural communities in the development of a management plan for their community forest, which could vary from wood production to strict conservation; 3) support communities in the implementation of management plans; and, 4) monitor forest activities and compliance with adopted management plans. Note that in addition to defining new community forests, the Ministry must audit existing and provisionally created community forests to ensure that they meet the Ministry's standards and comply with the goals of community forests.

Properly created and managed community forests can reduce pressure on forests and reduce CO_2 emissions:

1. *Reducing deforestation for agriculture*: Establishment of community forests is a form of local land use planning that spatially organizes activities based on community priorities. By limiting agriculture to community agriculture plots (see 3.2) or the most degraded forest, managed community forests can reduce deforestation from slash-and-burn agriculture and avoid CO_2 emissions.
2. *Reducing degradation from illegal logging*: Community-based management of forests can reduce CO_2 emissions from illegal encroachment by logging operations onto community forests.
3. *Building carbon stocks through natural regeneration*: Natural regeneration through active fire management, replanting, and timber management can restore natural forests on abandoned fields and degraded lands that were previously forested and for which there is a natural seed bank in the soil.
4. *Sequestering carbon and reducing emissions through conservation of forests and enrichment planting*[53]. Some communities may select to conserve already intact forests for cultural, environmental, or economic reasons such as receiving payments for future carbon or biodiversity credits. Protection of intact forests increases carbon sequestration and reduces expected emissions.

[52] Dove, MR, A Johnson, M Lefebvre, P Burow, W Zhou, L Kanoi. 2019. "Who Is in the Commons: Defining Community, Commons, and Time in Long-Term Natural Resource Management." Global Perspectives on Long Term Community Resource Management. Ed. L. R. Lozy and T. H. McGovern. Cham: Springer, 2019. 23-40. DOI: 10.1007/978-3-030-15800-2_3.

[53]MINEF decision makers are especially excited about programs, like enrichment planting of trees important elephant for elephants (e.g. Moabi, Douka etc. cf. the Berzaghi paper) which could decrease resource stress of elephant populations from relative fruit scarcity resulting from climate change.

Developing community forests will reduce CO_2 emissions if local communities control access to their forests and commit to abiding by management plans. To minimize the risks of leakage (risk that deforestation, degradation and CO_2 emissions are not reduced because agricultural production or illegal logging is merely relocated to a nearby forest), the program will take a landscape approach, will work with communities to formally secure the tenure rights of their forests, and dispose of a defined and non-disputed community forest.

To expand and improve community forests in Gabon, MINEF will:

a) *Train and equip Ministry Agents to transform the community forest sector*. Although the Ministry has adequate staff, they need to be specifically trained in participatory mapping, forest inventory, and the development and management of community forests. In addition, the Ministry will require equipment and materials (e.g., vehicles, GPS, inventory equipment, etc.) to work with communities over several years.
Integrate community forests in participatory mapping of Gabonese villages. Through CAFI 1, participatory mapping is underway across Gabon. Participatory mapping is a map-making process that combines modern cartography with participatory methods to record and represent the spatial knowledge of local communities. It provides the opportunity to represent a socially and culturally distinct understanding of the landscape, including the perceptions and priorities of stakeholders, adding information that is excluded from mainstream maps[54]. MINEF will ensure that participatory mapping includes the land around villages so they can be used for creating community forests.

b) *Inventory, mapping and tagging of trees in community forests by local people*. For communities that decide to establish community forests, Ministry Agents will train and assist them in inventorying their forests, including mapping and tagging all trees. Inventorying forest resources is essential for management whether activities consist of logging, agroforestry, conservation, regeneration, or some combination thereof. The level and type

[54] CANADIAN INTERNATIONAL DEVELOPMENT AGENCY (2008): Participatory Appraisal Techniques. Canadian International Development Agency (CIDA).

of forest inventory will depend on the priorities of the communities. For example, forestry inventory will focus on mapping all large timber trees throughout the community forest, whereas carbon or biodiversity inventory would tag and measure all adult trees and use sampling to estimate stocks for the entire community forest.

c) *Development of management plans*. MINEF is responsible for developing community forest management plans with local communities. Ministry Agents will create the plans through an adaptive process consisting of gathering information and documenting community goals and priorities, formalizing the information into maps and a draft plan, and further discussing, verifying and validating the draft plan with communities. Some of the potential management plan activities could include:

- Timber harvest
- Conservation of forests for carbon and/or biodiversity credits
- Agroforestry, including fruit-trees such as citrus or mango, or plantation woods/products such as eucalyptus or rubber
- Development of nurseries of fruit-producing trees or timber species for sale to local farmers and logging companies
- Enrichment planting
- Production of Non-Timber Forest Products (NTFP's) for local use and sale such as Okoumé resin, Moabi and Doula oil, Iboga, *Irvingia gabonensis* seeds and oils, and *Dacyrodes* fruit.
- Integration of wildlife conservation and management for sensitive species (e.g. apes and elephants)

d) *Implementation of management plans*. Once management plans have been formally adopted, Ministry Agents will assist communities in their implementation. For example, the Ministry could provide portable sawmills for timber extraction from community forests, including RFID coding of timber to facilitate transparency and stop illegal logging. In addition, the Ministry could provide training and technical support in agroforestry, carbon analysis, production of NTFP's, and marketing of all products.

e) *Monitoring of forestry activities and compliance with adopted management plans.* CAFI 2 creates a forestry monitoring/auditing unit[55], and this unit will be expanded to oversee the community forest sector. Results will be verified in terms of reduced deforestation and degradation and number of hectares under management plans. An independent body will verify results through satellite images, GPS-tagged photos and field visits. Results will be made publicly available in real-time through a web-based portal.

Provisional Budget: $17,275,000

[55] Activity 1.3 in CAFI. 2019. Reducing Emissions Through Improved Forestry Management: Implementation of a National Scale Certification Process in Gabon.

SUB-IMPACT 1.2. FUTURE EMISSIONS AVOIDED OR MINIMIZED

AVOID FUTURE EMISSIONS THROUGH LAND-USE OPTIMIZATION FOR FOOD CROP PRODUCTION, SUSTAINABLE FARMING, AND REVISION OF THE MASTER ENERGY PLAN

OUTCOME 1.2.1. INDUSTRIAL AGRICULTURE INTENSIFIED IN AREAS OF HIGH SUITABILITY BUT LOW CARBON, LOW CONSERVATION VALUE

Small-scale forest clearing for agriculture is the largest direct driver of forest cover loss in Central Africa, contributing about 84% of the total forest loss area between 2000 to 2014[56]. Generally, farmers clear land using slash-and-burn techniques. Burning releases nutrients locked up in vegetation and produces a layer of nutrient-rich material above otherwise poor, acidic soil. The cleared area can support agriculture for 3-5 years, but once the nutrient stock is depleted, a new plot must be cleared. At 29%, Gabon has the lowest level of small-scale driven forest loss, whereas small-scale clearing dominates in the Democratic Republic of Congo and Central Africa Republic[57]. Clearing of primary and mature secondary dense forest is prevalent in Gabon, leading directly to deforestation and CO_2 emissions.

Whereas encroachment of small-scale agriculture has increased in most Central African countries since 2000, it has fallen in Gabon[58]. Gabon's agricultural sector has been in decline for decades, decreasing in economic importance from ~15 percent of GDP in the 1960's to less than 5 percent today. Gabon does not have a strong agricultural tradition,

[56] Tyukavina, A., Hansen, M.C., Potapov, P., Parker, D., Okpa, C., Stehman, S. V., et al. (2018). Congo Basin forest loss dominated by increasing smallholder clearing. Sci. Adv., 4, eaat2993.

[57] Tyukavina, A., Hansen, M.C., Potapov, P., Parker, D., Okpa, C., Stehman, S. V., et al. (2018). Congo Basin forest loss dominated by increasing smallholder clearing. Sci. Adv., 4, eaat2993.

[58] Tyukavina, A., Hansen, M.C., Potapov, P., Parker, D., Okpa, C., Stehman, S. V., et al. (2018). Congo Basin forest loss dominated by increasing smallholder clearing. Sci. Adv., 4, eaat2993.

despite being endowed with arable land and suitable climatic conditions, and only 2% of the total land area is farmed[59]. Most farming is local and consists of shifting cultivation of cassava, plantain, taro and yam for consumption. This downward trend in the sector's value is predominately due to the dominance of the oil sector in the economy, which over time has resulted in a rural-urban migration to population centers. Combined, these trends have resulted in chronic food insecurity across the country. The food deficit is offset by imports. Gabon imports over 275,000 tons of food products annually, spending approximately CFAF 350 billion per year (about 600M USD)[60].

Agro-industry is also relatively poorly developed and represented by only a few private companies like OLAM and SIAT. Large-scale clearing for industrial agriculture accounts for 11 percent of clearing in Gabon, mostly for rubber tree and palm plantations[61,62]; however, agroindustry in the region has been experiencing a new wave of development since 2004[63] and is likely to become a more significant contributor to forest loss or conversion in the future.

The potential is strong for increasing agricultural production of food crops, which would improve food security broadly and decrease reliance on imports. Strengths include: (1) a wealth of natural resources and the availability of arable land; (2) generally favorable agro-ecological conditions; (3) a favorable equatorial climate; and (4) strong demand for food, market garden and livestock products.

Yet, development of the sector has been impeded by constraints, including: (1) low population density; (2) an ageing, unskilled and scarce rural labor force; (3) traditional, non-intensive production systems; (4) remoteness of production areas, which results in high transport costs; (5) weak organization of producers; and (6) weak institutional capacity within the Ministry of Agriculture and implementation Agencies.
In Gabon's Emerging Gabon Strategic Plan 2025[64], the government articulated its goal of transforming the agricultural sector to prioritize activities that help meet the country's food needs, create jobs and promote least-cost marketing of primary food products by producing them locally. The challenge is to balance increased food production with preserving the environment and decreasing emissions from the land-use sector. The solution, as articulated by Gabon's CNAT, is to limit emissions from the agricultural sector by optimizing land use planning such that regions of high forest cover and conservation value are avoided while areas with high yield potential in degraded forest regions are identified and put into production.

[59] FAO. 2018. Stratégie Nationale de Mécanisation Agricole du Gabon. Libreville.

[60] African Development Bank, AHAI/PGCL January 2017

[61] Austin, K., M. Lee, C.J. Clark, B. Forester, D. Urban, L.J.T. White, P. Kasibhatla, J.R. Poulsen. 2017. An assessment of high carbon stock and high conservation value approaches to sustainable oil palm cultivation in Gabon. Environmental Research Letters 12(1): 014005.

[62] Burton, M.E.H., J.R. Poulsen, M.E. Lee, V.P. Medjibe, C. Stewart, A. Venkataraman, L.J.T. White. 2017. Reducing carbon emissions from forest conversion for oil palm agriculture in Gabon. Conservation Letters 10(3): 297-307.

[63] L. Feintrenie, Agro-industrial plantations in Central Africa, risks and opportunities. Biodivers. Conserv. 23, 1577–1589 (2014).

[64] Office of the President of the Republic, 2012. Plan stratégique Gabon émergent : Vision 2025 et orientations stratégiques 2011-2016. République gabonaise. Libreville, 149 p.

To achieve this goal, the Ministry of Agriculture is promoting the development of agricultural production zones (PAZ) across the country[65]. A total of 40 potential zones exist, with three priority areas serving as the current focus (Idemba, Remboue, Andem). Crop land that could be put into production without significant deforestation (defined as less than 118 T of standing biomass) is estimated at several million hectares. The Minister of Agriculture holds that this available agricultural land far surpasses that required to meet Gabon's food and cash crop goals.

CAFI 3 agricultural initiatives support the Ministry of Agriculture's national strategy (see: http://www.agriculture.gouv.ga/8-ministere/2-autres-contenus-ministere/544-strategie-de-developpement-de-l-agriculture-au-gabon) to decrease reliance on the importation of produce from other countries through the intensification of agricultural production that achieves a zero net emissions target. Specifically, this program will: (1) facilitate the regulation of land tenure and the permitting process for agricultural production zones; and, (2) provide technical support to the Ministry of Agriculture to engage in the land-use optimization process. This latter component will further Gabon's climate model, ameliorate the existing soil map (completed in 1963), and complete a detailed agricultural suitability analyses for rice, corn, soybeans, cassava and banana intensification.

ACTIVITY 1.2.1.1. SUPPORT THE AGRICULTURAL LEGAL UNIT TO FACILITATE REGULATION OF QUESTIONS PERTAINING TO LAND TENURE AND AGRICULTURAL PERMITTING

One potential constraint to achieving the agricultural production goals defined by the PSGE is the absence of land tenure security. Resolving these legal questions is a critical first step to agricultural reform. To facilitate the resolution of questions pertaining to land occupancy titles, land tenure and agricultural permitting, CAFI 2 creates a legal unit within the Ministry of Agriculture. CAFI 3 will support the continued work of the legal unit by funding salaries, workshops, and resources.

Provisional Budget: $515,000

ACTIVITY 1.2.1.2. PROVIDE CONTINUED TECHNICAL SUPPORT TO ENGAGE IN THE LAND-USE OPTIMIZATION PROCESS

Avoiding emissions from increased production of food crops requires data on the country's soil structure and fertility for crop specific agricultural suitability studies. CAFI 2 supports agricultural suitability analysis for 5 priority crops. CAFI 3 will continue to support this team to gather information to optimize agricultural planning.

Provisional Budget: $488,000

[65] A You Tube and Facebook description of how the PAZ strategy might be rolled out regionally can be observed at https://www.facebook.com/biendimaganga/videos/890701361275846/UzpfSTQxNzExNjk0NTU1NjE1Mzo0MTcxNDUzMTg4ODY2NDk

ACTIVITY 1.2.1.3. PROVIDE SUPPORT TO GIS LAB AND REINFORCE TECHNICAL CAPACITY WITHIN THE MINISTRY

CAFI 2 supports the creation of a GIS lab to transfer the capacity to conduct agricultural suitability and land-use optimization studies to the Ministry of Agriculture. In so doing, the enabling conditions are be created in the Ministry to ensure long-term forest, climate and biodiversity friendly land-use decisions are made as the agricultural sector expands. The GIS lab is housed within the Agence de Développement Agricole du Gabon (ADAG) and run by two national GIS experts. CAFI 3 will continue to support the GIS lab by funding salaries, training, and additional equipment.

Provisional Budget: $1,810,600

ACTIVITY 1.2.1.4. PROVIDE TECHNICAL SUPPORT TO COMPLETE ESIA'S TO EVALUATE IMPACT OF AGRICULTURE PROGRAM

Environmental and Social Impact Assessments (ESIA) are required for all industrial agricultural programs. CAFI 3 will support the creation, training and activities of an ESIA unit within the Ministry of Agriculture.

Provisional Budget: $750,000

OUTCOME 1.2.2. IMPACT OF SHIFTING AGRICULTURE DECREASES AND REVENUES INCREASE

Rural, forest-dependent people are the most directly affected by forest protection and other conservation policies intended to safeguard Gabon's national heritage and mitigate climate change. The destruction of crops by animals, for example, is particularly common near protected areas. Crop raiding by wildlife, particularly elephants, decreases agricultural productivity and hinders efforts to reduce poverty and improve food security[66]. At best, it is a nuisance with which smallholders, industrial producers, and government must deal. At worst, it directly threatens Gabon's efforts to protect forested habitats by generating intense resentment toward conservation efforts and stifling legislation in support of forest protection at the parliamentary level.

Throughout central Africa, traditional subsistence agriculture involves cutting and burning a forest patch every year - a significant driver of deforestation. Because of the low rural population in Gabon, deforestation from agriculture has been limited to date. As currently practiced, a 0.5 to 1-ha field is typically cleared annually, cultivated for 1-2 years, and then left fallow for approximately 10 years. As such, to cultivate 0.5 - 1ha annually each farmer uses 10-ha of land and

[66] Ngama, S., J. Bindelle, J.R. Poulsen, J.-L. Hornick, A. Linden, L. Korte, J.-L. Doucet, C. Vermeulen. 2019. Do topography and fruit presence influence occurrence and intensity of crop-raiding by forest elephants (Loxodonta Africana cyclotis)? *PLoS One* 14(3): e0213971.

emits 50 – 100 T CO_2 annually. This shifting cultivation practice has remained relatively unchanged for over 2,500 years. Even though it results in carbon emissions, soil degradation, and relatively low productivity, rural people are reluctant to change age-old traditions of farming.

This project explores the potential of using elephant exclosures as an incentive to transform and modernize rural agricultural practices, decreasing deforestation from smallholders in the long-term while improving livelihoods of rural populations and enhancing support for forest conservation policies.

In response to increasing human-elephant conflict[67], Gabon launched a program to build electric fences for rural populations most severely impacted in 2017. To date five electric fences are operational, with each fence protecting approximately 50-60 ha of land. To qualify for a fence, farmers within a village must agree to adopt alternative farming practices, including consolidating their farms in a discrete area, rather than spreading them across the landscape in isolated patches. In a pilot fence that has operated for three years, people have accepted innovations such as planting palm and fruit trees.

Figure 9. Smallholder agriculture in Gabon.

Gabon proposes to expand upon these initial experiences with elephant fences to decrease reliance on slash-and-burn farming practices. The government will initially build fences in communities living near protected areas – regions that are most affected by elephant crop raiding. Once farmers have established plots within the electric fenced area, agricultural extension agents will work with them to introduce modern tropical farming methods that conserve and enrich the soil, enabling them to abandon shifting cultivation methods and continue to farm the same plot of land protected from elephants. Various agricultural strategies and products will be piloted within the elephant-free areas, with demonstration sites for teaching alternative agricultural methods.

[67] A recent publication in the esteemed scientific journal "Science" demonstrates an 81% crash in fruit production by rainforest trees in Lopé, Central Gabon, many of which are consumed by elephants. A corresponding 10% decrease in elephant body condition was measured – the elephants are hungry. The scientists hypothesized that the decrease is related to climate change and that this startling and alarming result may partly explain why elephant crop raiding is increasing whilst the elephant population has been reduced by about a third by ivory poachers. Increased Human Elephant conflict is therefore a climate change adaptation issue.

ACTIVITY 1.2.2.1. PROTECT COMMUNITY AGRICULTURAL PLOTS FROM ELEPHANTS TO INCREASE PRODUCTION AND REDUCE DEFORESTATION

Each year, 25 large electric fences (50-60 ha) will be constructed to exclude elephants from agricultural fields near villages bordering the following national parks: Louango, Lopé, Pongara, Ivindo, Moukalaba Doudou and Mayumba (125 fences over five years). These areas were selected based on a high number of reported incidents of crop raiding and their potential for tourism development. Surplus produce and NTFP yields can potentially be locally marketed to serve tourists in lodges.

An additional 10 electric fences will be constructed annually in villages reporting high rates of crop raiding near other protected areas (50 fences over five years). The locations of these fences will be selected to guarantee food security of forest-dependent populations living near parks, to decrease conflict between villagers and conservation initiatives, and to decrease forest encroachment. Because of lack of access to the tourism market, NTFP and tourism development initiatives are less likely to be implemented at these sites.

Provisional Budget: $9,250,000

Figure 10. Electric fences to keep elephants out of fields.

ACTIVITY 1.2.2.2. PILOT SUSTAINABLE ALTERNATIVES TO SLASH-AND-BURN AGRICULTURE

Within each elephant fence, one to several plots will be dedicated to the development and implementation of context specific, appropriate alternatives to slash-and-burn farming. These alternatives could include use of fertilizer, different combinations of crops, or higher densities of planting. Identification of the types of alternatives to be tested will be determined by a team of expert consultants after consultation with local communities. Agricultural Extension Agents,

hired and trained by the Ministry of Agriculture, will implement the alternative techniques. As the Extension Agents implement new farming techniques within the community plots they will educate and train local farmers.

Provisional Budget: $2,850,000

ACTIVITY1. 2.2.3. TRANSITION ABANDONED FIELDS TO AGROFORESTRY OR REGENERATING FOREST

When fields are relocated to the fenced community plot, old slash-and-burn fields will be abandoned. After at least two years of harvest have been achieved within the fenced, elephant-free agricultural plots, the Agricultural Extension Agents will work with the communities to derive a plan for the abandoned fields. Communities might, for example, choose to conduct agroforestry, planting citrus, avocado, mango, *Dacryodes edulis*, or other fruit trees. Alternatively, abandoned fields could be converted to cash crops like rubber, or left to regenerate in exchange for carbon credits.

Provisional Budget: $412,500

OUTCOME 1.2.3. ENERGY GENERATION AND TRANSMISSION IS OPTIMIZED TO MINIMIZE IMPACTS ON FORESTS

Emissions caused by fossil combustion are the largest contributor to global warming. Approximately 40% of global CO_2 emissions are emitted from electricity generation through the combustion of fossil fuels like coal, oil, and natural gas to generate the heat needed to power steam-driven turbines. Burning these fuels results in the production of carbon dioxide - the primary heat-trapping, greenhouse gas responsible for global warming, in addition to other nitrogen and sulfur oxides responsible for various environmental impacts[68]. Thus, one possible approach to reducing the level of CO_2 emissions from fossil fuel combustion involves the transition from fossil fuels to low-carbon energy sources on the supply side.

Africa emits less than 4% of global CO2, but African nations struggle to provide electricity to their people and their populations are expected to double in the next three decades. Energy infrastructure built today could have massive impacts on future emissions and living standards. Because they are less encumbered by having to upgrade or repurpose existing infrastructure and power plants, African countries are in a unique position to "leapfrog" industrialized nations and build greener infrastructure from scratch.

Currently, Gabon's power supply comes from diesel and gas generators and from hydropower facilities that feed into four distinct electrical grids, or *Réseau Inter-Connecté* (RIC). Gabon's high precipitation, topography and abundant rivers

[68] International Energy Agency (IEA). 2011. CO2 Emissions from Fuel Combustion, Imprimerie Centrale, Luxembourg.

provide ideal conditions for the generation of electricity from hydropower; yet it is estimated that only 3% has been exploited. Over the next 30 years, Gabon plans to expand its electricity production from its current 2,000 GWh/yr to 8,800. To address the expanding energy requirements for Gabon, the Ministry of Energy prepared a National Energy Master Plan (*Schéma Directeur d'Électricité*) in 2010 and updated it in 2017. This plan articulates the priorities for the energy sector to fulfil Gabon's national strategic plan, the "*Plan Stratégique Gabon Émergent – Vision 2025*" [69]. The master plan presents a series of potential hydropower projects, an analysis of the current and projected demand growth, and several scenarios to achieve the expansion and modernization of energy production to reach 8,800 GWh/yr in the next 30 years. Scenarios range from satisfying the demand through the four separate existing grids – and doing so with a mix of new thermal plants and hydropower facilities, or only new hydropower projects – as well as creating a single national integrated grid that meets Gabon's needs and eventually produces enough electricity to also export to neighboring countries.

Figure 11. Rivers in Gabon, untapped energy potential?

The master plan is based on a traditional 'least-cost' power generation and transmission analysis that only considers investments for infrastructure and transport lines development and costs for facilities' operation and maintenance and assesses individual projects one-by-one, independent to each other. The plan does not take into consideration costs associated with environmental and social impacts of individual projects or the accumulated impacts and benefits of a combination of projects that would result from a more comprehensive and integrated planning approach.

[69] Office of the President of the Republic, 2012. Plan stratégique Gabon émergent: Vision 2025 et orientations stratégiques 2011-2016. République gabonaise. Libreville, 149 p. [Gabon Emergent Strategic Plan: Visions 2025 and Strategic Guidance 2011-2016]

The updated national legal framework, enacted through the 2014 Law for Sustainable Development, calls for the implementation of strategic environmental assessments (SEA) for different policies, programs and sectors. None have been put in place so far. Given both the strategic importance and potential high impact of energy projects, there is a tremendous opportunity power sector planning to develop a first SEA, paving the way for SEAs in other key sectors of the economy.

Gabon has committed to making meaningful contributions to the Paris Climate Agreement, the United Nations Sustainable Development Goals (SDGs), and is also a signatory of the Convention on Biological Diversity (CBD) among other global agreements. Specifically, Gabon plans to reduce 50% of its greenhouse gas emissions by 2025 (République Gabonaise 2015); to provide universal access to affordable and clean energy by 2030; and to ensure the conservation and sustainable use of terrestrial and inland freshwater ecosystems and their services. Expansion and modernization of the power sector should, therefore, be concomitant to these pledges.

Development of a sustainable renewable energy future for Gabon that optimizes a mix of lower-carbon and lower-impact energy sources to address energy needs and meet demand could likely be achieved through a national-level, system-scale, multi-objective power sector planning. This type of planning compares cumulated impacts and benefits of a wide range of electricity generation and transmission configurations (including hydropower, wind, solar and biomass), and uses both traditional energy and financial planning criteria, but also *broader economic, environmental and social values and metrics* that provide for more balanced outcomes across sectors and societal interests.

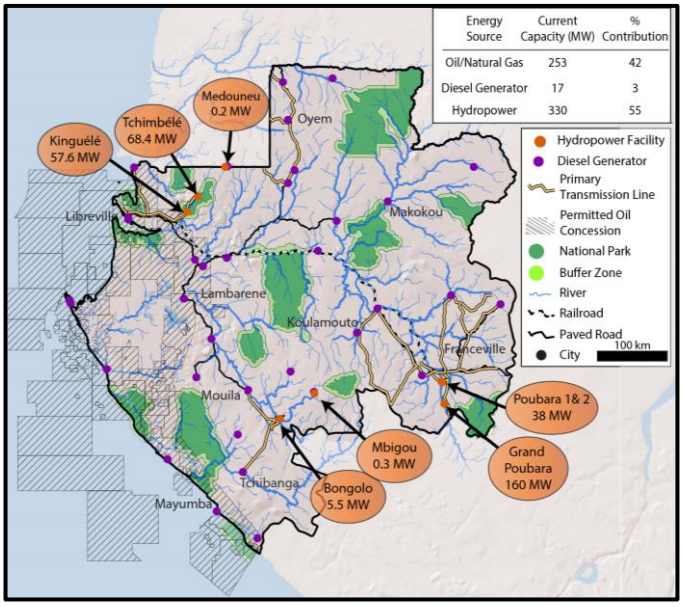


Figure 12. Map of Gabon's current energy production by source and transmission lines

While hydropower can provide much-needed clean and renewable energy, poorly sited or designed projects could significantly alter water quality and flow regime, disrupt environmental processes and freshwater ecosystems, and decimate fish populations that nourish communities. Significant risks and challenges surrounding hydropower planning and management can be exacerbated by rainfall and river discharge variability due to climate change (e.g., shifting and altered streamflow due to drought, increase risk of flooding, and reduced reliability of flow for electricity generation)[70,71].

[70] Hamududu, B., and A. Killingtveit. 2012. Assessing Climate Change Impacts on Global Hydropower. Energies 5:305–322.

[71] Vliet, M. T. H. Van, L. P. H. Van Beek, S. Eisner, M. Flörke, and Y. Wada. 2016. Multi-model assessment of global hydropower and cooling water discharge potential under climate change. Global Environmental Change 40:156–170.

In addition to these environmental concerns, some socio-economic activities can be affected by energy infrastructure development. Flooding of priority areas for agriculture expansion, high-value forestry concessions, or road and rail-road network that would isolate critical economic hubs, are just some examples of the type of impacts across other sectors that are important to consider. Proactive energy planning that helps avoid social and environmental impacts and reduces conflicts has the potential to minimize delays and lower mitigation and compensation requirements, hence reducing potential unexpected development costs and costs overrun.

ACTIVITY 1.2.3.1. INITIAL SCOPING ASSESSMENT

Conduct in-depth analysis to identify key stakeholders and decision-makers in Gabon that need to be consulted (e.g., government agencies, environmental and social authorities, industry and commerce representatives, renewable energy developers, and local communities). This process would increase support across a broad section of stakeholders. This stakeholder assessment would also initiate the process of defining environmental and social issues related to the implementation of the National Energy Master Plan.

Provisional Budget: $100,000

ACTIVITY 1.2.3.2. TECHNICAL SYSTEM-SCALE, MULTI-OBJECTIVE ANALYSIS

Work with The Nature Conservancy (TNC) to design a national-level multi-objective optimization tool that provides Government with options to help minimize cost, ecological and socio-economic disruption. The available tool[72] accounts for potential impacts from a variety of renewable energy development configurations (e.g., hydropower, biomass and transmission lines) based on current and future climate conditions. This step would use all available information, including the results of the recently launched assessment of a national production, transport and distribution system, which includes a revision of the energy demand growth projection. Other essential information to be folded into this step include available energy resources, proximity to energy demands centers, current and proposed transmission networks, management of variable energy resources, investment costs and power output costs, among others. One focus would be understanding how different Climate Change scenarios for Gabon could impact the reliability, pertinence and resiliency of different energy generation and transmission infrastructure.

Stakeholders' objectives, values and interests would also be translated into metrics (e.g., MW of capacity, cost of kWh, GHG emissions, hectares of forest concession or potential agricultural land inundated, Km of road or rail-road potentially flooded, Km of river with altered flow and connectivity, increased sedimentation and habitat loss). Next, multiple options for renewable energy mix and siting would be assessed against impacts on defined metrics, and trade-offs quantified. This step would enable the Ministry of Energy, international lending agencies, bilateral development

[72] The multi-objective tool has already been developed for the Estuaire Province, so the challenge is to scale up to the national level.

groups, and other key stakeholders to identify potential impacts of proposed energy development (e.g., current scenarios in Gabon's Energy Master Plan) and reveal new configurations that expand renewable energy access while protecting ecologically valuable ecosystems and local communities.

Importantly, this analysis will determine the activities upriver of dam sites that are likely to reduce energy production so that they can be stopped or prohibited. Deforestation and forest degradation, particularly logging on slopes, that occur upriver of dams increase sedimentation and reduce rainfall, decreasing energy production and the lifespan of the dams. Once optimal sites have been selected for dams, *watershed management plans will be developed by MINEF to maintain forest cover and reduce emissions and sedimentation, thereby increasing energy production*.

Provisional Budget: $730,000

ACTIVITY 1.2.3.3. STAKEHOLDER CONSULTATIONS

The Gabonese government, TNC and other key stakeholders would review the initial metrics and scenarios. Based on stakeholder's feedback, additional metrics and scenarios could be identified for the multi-objective decision-support tool.

Provisional Budget: $210,000

ACTIVITY 1.2.3.4. RE-ANALYSIS AND STAKEHOLDER REPORT

The multi-objective decision-support tool would be updated based on stakeholder consultation. TNC would facilitate capacity building in government agencies to operate the tailored multi-objective tool. Responsible government agencies would then communicate to stakeholders the wide range of trade-offs for renewable energy plans.

Provisional Budget: $160,000

SUB-IMPACT 1.3. CARBON SEQUESTRATION ENHANCED THROUGH CONSERVATION OF HCS AND HCV FORESTS

ENHANCE CARBON DIOXIDE ABSORPTION AND CARBON SEQUESTRATION POTENTIAL OF NATURAL FORESTS THROUGH PROTECTED AREAS AND CREATION OF URBAN FORESTED PARKS

OUTCOME 1.3.1. NATIONAL PARK NETWORK IS WELL MANAGED AND PROTECTED FROM ENCROACHMENT

Protected areas are the cornerstones of biodiversity conservation[73] and have the potential to both reduce carbon emissions by protecting forests and enhance carbon sequestration. Protected areas worldwide store 15.2% of global terrestrial carbon stocks and reduce carbon emissions[74]. In 2010, at the tenth COP on Biodiversity, held in Aichi, Japan, the world's governments committed to conserving 17 percent of land by 2020 through well-connected systems of protected areas[75]. When well designed, financed and enforced, protected areas are effective in slowing the impacts of

[73] Coetzee BWT, Gaston KJ, Chown SL (2014) Local Scale Comparisons of Biodiversity as a Test for Global Protected Area Ecological Performance: A Meta- Analysis. PLoS ONE 9(8): e105824. doi:10.1371/journal.pone.0105824.

[74] Bebber, D.P. & Butt, N. (2017). Tropical protected areas reduced deforestation carbon emissions by one third from 2000-2012. Sci. Rep., 7, 1–8.

[75] CBD (2012) Convention on Biological Diversity: Aichi Biodiversity Targets. Available: http://www.cbd.int/sp/targets/.

industrial logging[76], land clearance[77], deforestation[78], and over-hunting[79]. One of the essential roles of protected areas in the tropics is the conservation of intact forest landscapes (IFL): ecosystems that exhibit no remotely detected signs of human activity or habitat fragmentation and are large enough to maintain all native biological diversity, including viable populations of wide-ranging species[80]. Protected areas can slow the reduction of IFL area: in Africa, the reduction of IFL area is more than four times higher outside than inside protected areas[81].

Gabon creates a world-class protected area network

In 2002 Gabon created a network of 13 national parks[82], setting a new standard for conservation in Africa. By conserving a combined area of more than 26,000 square kilometers – roughly the area of Belgium – Gabon protected 11 percent of its land area[83], making it second only to Costa Rica in terms of the percent area conserved. Even before the importance of IFL's was recognized, Gabon delineated its parks with the notion of protecting large intact landscapes, even cancelling logging permits within the new parks (except for a grandfather clause for one permit in Lopé). Six of the national parks, Lopé, Ivindo, Loango, Moukoulaba-Doudou, Mwagne, and Minkébé, protect exceptional populations of large mammals, particularly elephants. Moukalaba-Doudou, Lopé, and Loango National Parks also encompass habitats with high densities of great apes with promise for ape habituation and tourism development. The Pleistocene refuges of Monts de Cristal and Waka harbor high plant and animal biodiversity. Akanda and Pongara conserve vital mangroves that support fish reproduction critical to Gabon's fishery. Finally, Mayumba and Pongara are among the most important leatherback turtle nesting beach on earth and host seasonally important populations of humpback whales and other ocean giants.

Gabon's forest ecosystems are among the richest in Africa in terms of botanical diversity and endemism, with more plant species (approximately 8,000-10,000) than all the forests of West Africa combined. They also support the greatest remaining stronghold of forest elephants, important populations of two great ape species (chimpanzee and Western lowland gorilla), mandrills (*Mandrillus sphinx*) and a faunal community of more than 190 mammal species, 600 species of birds, 70 species of reptiles, and 100 species of amphibians. Likewise, the region's coast is one of the most

[76] Potapov, P. et al. The last frontiers of wilderness: tracking loss of intact forest landscapes from 2000 to 2013. Sci. Adv. 3, e1600821 (2017).

[77] Watson, J. E. M., Dudley, N., Segan, D. B. & Hockings, M. The performance and potential of protected areas. Nature 515, 67–73 (2014).

[78] Burivalova, Z., Allnutt, T.F., Rademacher, D., Schlemm, A., Wilcove, D.S., and Butler, R.A. (2019). What works in tropical forest conservation, and what does not: effectiveness of four strategies in terms of environmental, social, and economic outcomes. Conserv. Sci. Pract. 1, e28.

[79] Maisels, F. et al. Devastating decline of forest elephants in Central Africa. PLoS ONE 8, e59469 (2013).

[80] P. Potapov, A. Yaroshenko, S. Turubanova, M. Dubinin, L. Laestadius, C. Thies, D. Aksenov, A. Egorov, Y. Yesipova, I. Glushkov, M. Karpachevskiy, A. Kostikova, A. Manisha, E. Tsybikova, I. Zhuravleva, Mapping the world's intact forest landscapes by remote sensing. Ecol. Soc. 13, 51 (2008).

[81] Potapov, P. et al. The last frontiers of wilderness: tracking loss of intact forest landscapes from 2000 to 2013. Sci. Adv. 3, e1600821 (2017).

[82] To create the parks, over 800,000 ha of logging concessions were canceled and compensated [at an estimated cost to Gabon of over $US 20-30 million], but not one person was evicted from his/her traditional home.

[83] Selection of the parks was based on Dr. J. Michael Fay's Megatransect, across Central Africa in 1999 and by an evaluation of Gabon's protected areas by over 100 scientists under the leadership of Gabon's wildlife department. Both projects had similar goals, including to identify and quantify the remaining blocks of pristine rainforest habitat in Central Africa and to focus the world's attention and conservation resources on threats to the region's biodiversity.

productive marine ecosystems in the world, hosting whales, dolphins, and sea turtles, among other aquatic species and resources.

Gabon's protected areas are an important component of its climate mitigation strategy. The country's forests contain among the highest densities of carbon globally[84,85], making them important for storage and sequestration of carbon and regulation of climate. *Gabon's national parks and reserves, 18.4% of the country's landmass, store significantly higher densities of aboveground carbon (AGC) than forests outside of protected areas[86]*. The 49,256 km^2 of forested lands in parks and reserves store approximately 0.84 Gt C or 25.4 percent of AGC[87]. Natural forests that do not have some form of protected status are usually allocated to commercial forestry, the source of most CO2 emissions in Gabon[88]; thus, Gabon's protected areas ensure the long-term carbon sequestration potential of its tropical forests.

To manage its protected areas, the National Park Service (Agence Nationale des Parcs Nationaux - ANPN) was created in 2007 and has been working to establish itself as the premier Parks Agency on the African continent. ANPN is responsible for establishing sound management practices and partnering with tourism investors to help Gabon work towards its target of 100,000 eco-tourists per year.

With funding from CAFI 2, Gabon is currently extending its park network to include transboundary parks. The project will translate confused country boundaries and illegal cross-border activities into trans-boundary Peace Parks and buffer zones that benefit both countries. The creation of these parks will also enhance Gabon's carbon sequestration potential by placing approximately 300-350,000 ha of forests currently classified for logging into protected area status.

Securing the future of Gabon's protected areas

Unfortunately, protected areas and the forests they harbor often face an uncertain future. Nearly one-third of protected areas globally are under intense human pressure[89], with more than 50 percent of protected lands under

[84] Saatchi, S.S., Harris, N.L., Brown, S., Lefsky, M., Mitchard, E.T.A., Salasf, W., et al. (2011). Benchmark map of forest carbon stocks in tropical regions across three continents. Proc. Natl. Acad. Sci., 108, 9899–9904.

[85] Poulsen, J.R., Vincent P. Medjibe, Lee J.T. White, Zewei Miao, Ludovic Banak-Ngok, Chris Beirne, Connie J. Clark, Aida Cuni-Sanchez, Mathias Disney, J.-L. Doucet, Michelle E. Lee, Simon L. Lewis, Edward Mitchard, Chase L. Nuñez, Jan Reitsma, Sassan Saatchi, Charles T. Scott. In press. Old growth Afrotropical forests critical for maintaining forest carbon. Global Ecology and Biogeography.

[86] Poulsen, J.R., Vincent P. Medjibe, Lee J.T. White, Zewei Miao, Ludovic Banak-Ngok, Chris Beirne, Connie J. Clark, Aida Cuni-Sanchez, Mathias Disney, J.-L. Doucet, Michelle E. Lee, Simon L. Lewis, Edward Mitchard, Chase L. Nuñez, Jan Reitsma, Sassan Saatchi, Charles T. Scott. In press. Old growth Afrotropical forests critical for maintaining forest carbon. Global Ecology and Biogeography.

[87] Poulsen, J.R., Vincent P. Medjibe, Lee J.T. White, Zewei Miao, Ludovic Banak-Ngok, Chris Beirne, Connie J. Clark, Aida Cuni-Sanchez, Mathias Disney, J.-L. Doucet, Michelle E. Lee, Simon L. Lewis, Edward Mitchard, Chase L. Nuñez, Jan Reitsma, Sassan Saatchi, Charles T. Scott. In press. Old growth Afrotropical forests critical for maintaining forest carbon. Global Ecology and Biogeography.

[88] Umunay PM, TG Gregoire, T Gopalakrishna, PW Ellis, FE. Putz. 2019. Selective logging emissions and potential emission reductions from reduced impact logging in the Congo Basin. For. Ecol. Manage. 437, 360-371.

[89] Jones, K.R., Venter, O., Fuller, R.A., Allan, J.R., Maxwell, S.L., Negret, P.J., and Watson, J.E.M. (2018). One-third of global protected land is un- der intense human pressure. Science 360, 788–791.

intense pressure in three-quarters of nations. Similarly, the global extent of intact forest landscapes has decreased by 7.2 percent. Tropical regions account for 60 percent of the total reduction in IFL's.

If not managed and protected, Gabon's national parks could face significant threats from encroachment, including poaching, slash-and-burn agriculture, and illegal logging and mining. Currently, the most intense threats occur along Gabon's borders with neighboring countries where law enforcement efforts have failed to control cross-border illegal activities. As an example, in 2011 ANPN discovered that an artisanal gold mine in the Minkébé National Park had expanded to over 5,000 miners, poachers, and arms and drug dealers. Park authorities estimated that 50-100 elephants were killed daily for the ivory trade, and indeed, the population of forest elephants in Minkébé fell by 85% in just ten years[90]. Poor protection of natural resources can create an atmosphere of lawlessness, encouraging trans-boundary crime and unrestrained access to natural resources, including ivory, gold, diamonds, and coltan. At the local level, encroachment by outsiders erodes the ability of rural Gabonese to sustainably benefit from their forests, savannas, and waters.

While management and financing of Gabon's protected areas has improved in the last several years, ANPN remains under-resourced, under-staffed and unable to respond effectively to a multitude of conservation challenges. ANPN's ability to rapidly and efficiently respond to encroachment will strongly affect the country's ability to meet its NDC commitments. To bolster ANPN, CAFI 3 outputs including improving the agency's infrastructure, maintaining activities in newly created transboundary parks, and increasing its ability to respond to park encroachment.

ACTIVITY 1.3.1.1. BUILD ANPN HEADQUARTERS AT THE RAPONDA WALKER ARBORETUM

ANPN does not own its offices in Libreville, spending roughly $500,000 per year on rent which could be applied to conservation. Construction of a headquarters building will contribute significantly to effective management of national parks by (1) contributing to the financial security of the agency, (2) providing a permanent structure constructed to reflect the Agency's values and mission, increasing pride in the institution, (3) improving the logistical efficiency of the Agency.

Several architectural plans have been developed by Cresolus (www.cresolus.com), a green design firm dedicated to providing clients with sustainable planning and design services for architecture, landscaping and interior design projects across the tropics. Cresolus has been involved in the development of Gabon's protected areas since 2003.

The architectural plans (Appendix 1), to be finalized with ANPN, include up to 19 buildings and structures providing adequate office space for the executive, financial, logistical, human resources, communications, technical, and scientific

[90] Poulsen, JR. et al (2017). Poaching empties critical Central African wilderness of forest elephants Current Biology 27, R1–R3.

departments and their staff. It also includes a carpentry workshop and vehicle repair garage, a cafeteria, general workspace, and secure storage for firearms and seizures (i.e., ivory).

Provisional Budget: $5,000,000

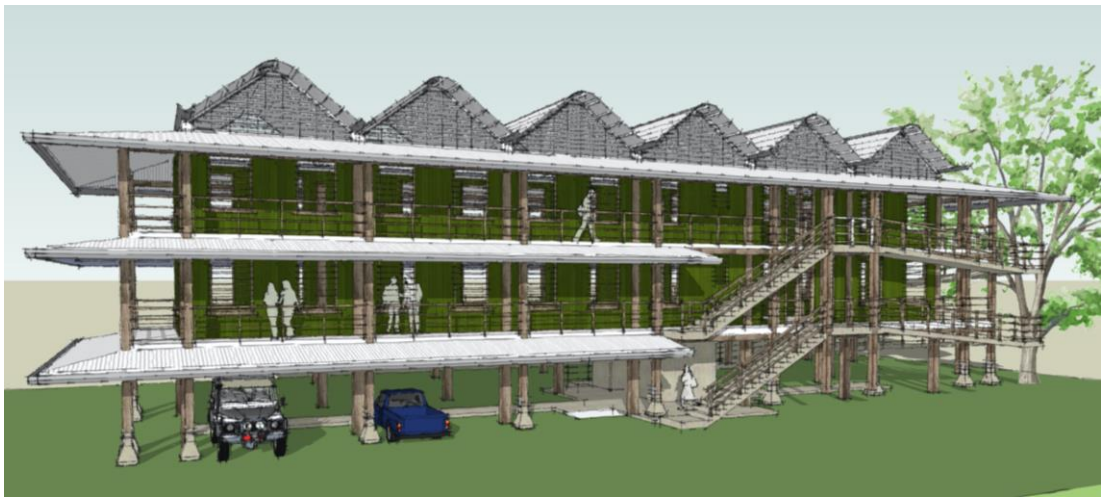


Figure 13. A rendering of the ANPN headquarters to be built at the Raponda Walker Arboretum.

ACTIVITY 1.3.1.2. IMPROVE ANPN'S CAPACITY FOR RAPID DEPLOYMENT TO MONITOR AND HALT PARK ENCROACHMENT BY AIR

An effective conservation aviation program is essential to monitoring encroachment in Gabon's protected areas. Given their size and relative remoteness, large portions of most of the parks are inaccessible by vehicle and take days to reach by foot. ANPN's aviation program serves several purposes, including rapid deployment of park staff and ecoguards to remote camps or areas of encroachment; monitoring wildlife in parks with forest-savanna matrix; and most importantly, detecting encroachment such as illegal logging, roads, mining camps, and poaching camps in and around protected areas. Without aerial surveillance, encroachment in Gabon's intact forest landscapes could go undetected for quite some time.

A few specific examples of the impact of ANPN's aviation program include the detection of two illegal gold mining camps in northern Gabon and in Ivindo National Park, as well as road encroachment and timber harvest in the park by a nearby logging company. Illegal logging was also discovered in the Moukoulaba-Doudou, Pongara and Batéké National Park during overflights. Finally, pilots observed mangrove destruction in Pongara and Akanda National Parks caused by illegal fishing camps. The camps were run by West African immigrants who were trafficking humans at the same time. *Note that these examples of encroachment involve the cutting, clearing, and destruction of forests, resulting in CO_2 emissions into the atmosphere.*

ANPN's aviation program currently consists of six operational aircraft, including a Piper-Geronimo, Piper-Apache, Helicopter Gazelle SA-341, Sky Leader 200, and two Skyranger Nynja's. To be able to monitor encroachment in parks in a timeframe consistent with threats, ANPN's aviation program needs maintained and expanded.

- Fleet management needs to be strengthened by hiring a fleet manager, additional pilots and supporting pilot training. Professionalization of the fleet management will be the initial focus of the program.
- The aviation program requires at least two additional aircraft: (1) Grand Caravan EX, which can carry 14 occupants and a payload of 3,532 pounds, to transport people and cargo; and, (2) Cessna 206, a bush plane described as the 'sport-utility vehicle of the air', equipped with amphibious floats for water landing.

Figure 14. ANPN aviation program.

- For optimal functioning, aviation infrastructure needs updated and increased, including construction of a hangar, a mezzanine for additional office space, a storage shelter, and bathrooms.
- Finally, funds are necessary to ensure that the fleet can operate continuously. This includes purchase of communication and navigation equipment and aircraft supplies (batteries, manuals, scales, first-aid kits, etc.).

Estimate cost: $7,389,826 (Included operational cost of fleet and purchase of new airplanes)

ACTIVITY 1.3.1.3. STRENGTHEN ANPN'S ABILITY TO RESPOND TO ENCROACHMENT ON-THE-GROUND

Stopping encroachment into parks depends on long-term presence of activities on-the-ground[91]. In addition to serving their primary roles, law enforcement and research/monitoring teams can detect illegal activities and their presence scares transgressors who do not want to get ticketed or arrested for illegal activities. Regular foot patrols by ecoguards and the delineation of park boundaries will improve ANPN's ability to detect and respond to encroachment.

- Constant patrols of national parks and their buffer zones are necessary to observe signs of encroachment and to establish a presence in neighboring communities and logging concessions so that encroachment does not occur. Park patrols are often limited by the failure of the Government to pay ecoguards and/or limited materials and equipment such as vehicles, boats, and fuel. Moreover, ecoguards need frequent job training to learn new skills and technologies to respond to new types or strategies of encroachment.
- To decrease encroachment on national parks, and thus avoid forest destruction and emissions, all parks need to be physically delineated with markers and signs so that their boundaries can be clearly distinguished.

Provisional Budet: $ 32,193,500

OUTCOME 1.3.2. PROTECTED AREAS AND BUFFER ZONES ESTABLISHED AND PROTECTED FROM ENCROACHMENT ALONG DISPUTED BORDER REGIONS BETWEEN GABON AND CONGO

ACTIVITY 1.3.2.1. CONTINUE SUPPORT TO TRANSBOUNDARY PARKS

The creation of transboundary parks will be started during CAFI 2 with the formalized definition of new protected area boundaries. Once the parks are created, their borders must be physically demarcated to discourage entry or encroachment. Border delimitation will include ANPN staff, village representatives, and third-party observers to ensure transparency. Demarcation of entire protected areas is cost prohibitive, so areas where parks are bordered by villages and industrial operations will be prioritized.

- Boundary demarcation will use a combination of tree painting and signage
- Video and photos will be taken to record the process
- Access regulations will be broadly communicated to all stakeholders

[91] Tranquilli S, Abedi-Lartey M, Abernethy K, Amsini F, Asamoah A, et al. (2014) Protected Areas in Tropical Africa: Assessing Threats and Conservation Activities. PLoS ONE 9(12): e114154. doi:10.1371/journal.pone.0114154.

Following delimitation of park borders, law enforcement patrols will be regularly deployed to raise awareness of the parks and prevent encroachment. Approximately 20 new Eco-guards will need to be recruited, trained and deployed for border delimitation and subsequent law enforcement.

Provisional Budget: $4,190,640

OUTCOME 1.3.3. A PROFITABLE TOURISM INDUSTRY DEVELOPED THAT CONTRIBUTES TO THE FINANCIAL MANAGEMENT OF PROTECTED AREAS AND REDUCES ENCROACHMENT

Worldwide, tourism has been estimated to account for roughly 10% of gross domestic product (GDP)[92,93], with wildlife viewing and outdoor recreation (much of it centered on protected areas) making up one of the fastest growing sectors[94, 95]. Nature-based tourism is an important ecosystem service[96], capable of generating substantial resources for both conservation and local economic development[97]. This is important given the recurring costs of managing protected areas and the substantial opportunity costs of foregoing extractive industries[98]. A global evaluation of the magnitude of visits to protected areas found that the world's terrestrial PA's receive roughly 8 billion visits per year, generating $600 billion per year in direct in-country expenditure and $250 billion per year in consumer surplus. The economic value of PA visitation, therefore, dwarfs expenditure[99], which is widely considered grossly inadequate[100,101]. Visits to protected areas are lowest in Africa[102], suggesting that there is an enormous untapped potential for tourism. Developing the tourism sector is a priority for the Gabonese government as it aims to diversify its economy through low emissions development[103]. As stated in the country's tourism plan, *Vision Pour Le Gabon*[104]:

[92] World Travel and Tourism Council (2007) The global travel and tourism summit. London: World Travel and Tourism Council.

[93] https://www.statista.com/statistics/1099933/travel-and-tourism-share-of-gdp/

[94] Mastny L (2001) Treading lightly: new paths for international tourism. Washington: Worldwatch Institute.

[95] Davenport L, Brockelman WY, Wright PC, Ruf K, Rubio del Valle FB (2002) Ecotourism tools for parks. In: Terborgh J, van Schaik C, Davenport L, Rao M, eds. Making parks work. Washington (D.C.): Island Press. pp 279–306.

[96] Millennium Ecosystem Assessment (2005) Ecosystems and human wellbeing: biodiversity synthesis. Washington (D.C.): World Resources Institute.

[97] Gossling S (1999) Ecotourism: a means to safeguard biodiversity and ecosystem functions? Ecol Econ 29: 303–320.

[98] Wilkie DS, Carpenter JF (2002) Can nature tourism help finance protected areas in the Congo Basin? Oryx 33: 333–339.

[99] James AN, Gaston KJ, Balmford A (1999) Balancing the Earth's accounts. Nature 401: 323–324. PMID: 16862091.

[100] Bruner AG, Gullison RE, Balmford A (2004) Financial costs and shortfalls of managing and expanding protected-area systems in developing countries. BioScience 54: 1119–1126.

[101] 24. McCarthy DP, et al. (2012) Financial costs of meeting global biodiversity conservation targets: current spending and unmet needs. Science 338: 946–949. doi: 10.1126/science.1229803 PMID: 23065904

[102] James AN, Gaston KJ, Balmford A (1999) Balancing the Earth's accounts. Nature 401: 323–324. PMID: 16862091.

[103] Office of the President of the Republic, 2012. Plan stratégique Gabon émergent: Vision 2025 et orientations stratégiques 2011-2016. République gabonaise. Libreville, 149 p. [Gabon Emergent Strategic Plan: Visions 2025 and Strategic Guidance 2011-2016]

[104] Vision pour le Gabon : Le tourisme, les parcs, et le développement durable au 21ième siècle. 2007. ISBN 978-0-9792418-5-7.

> "Sustainable tourism generates substantial income and jobs, like extractive industries, such as oil or timber, but with the added benefit of providing long-term economic and social benefits to Gabon and to its citizens, generation after generation."

But in 2014, the tourism industry contributed just 2.4% of the country's GDP. The government intended to increase visitor numbers to 100,000 nature-based tourists by 2020, an ambitious goal since only 100,000 tourists visited the country between 2006 and 2011[105]. While development of the sector has not met expectations, potential remains high: areas like Loango for instance provide views of elephants and gorillas roaming the dunes, while buffaloes stroll the beach and sea turtles and hippos ride the waves.

The government's strategy is to develop high-end tourism through collaborations with private operators to develop new resorts and hotels and transport infrastructure. The arrival of international investors like Aman Resorts underline the potential for development in the industry. Gabon's network of national parks is the focus of the industry's development plans, but tourism in the parks is taking off slowly. This is, in part, because building the sector depends first on increasing access to the parks, reducing poaching, training industry personnel, and developing tourism products. In the case of recreation sites in tropical forests, failure to identify the right mix of attributes can have serious consequences for the achievement of conservation, tourism, and economic development goals[106].

For this outcome, CAFI 3 will support Gabon's plan for park-based tourism, *Vision Pour Gabon*[107], by focusing on a first phase of development in the Akanda, Loango, Lopé, Pongara, and Ivindo National Parks. The goal in most parks is to develop high-end tourism with infrastructure developed by the private sector. To both attract investors and prepare the parks for tourists after infrastructure development, ANPN will create guaranteed tourism products, train nature guides to interact with tourists, and promote Gabon's ecotourism through media.

ACTIVITY 1.3.3.1. DEVELOP WORLD CLASS TOURISM PRODUCTS

Success of ecotourism in tropical forests will depend on the ease, comfort and safety with which tourists can view charismatic animals likes apes and elephants, visit unique landscapes, and enjoy a mix of attractions such as beaches, historical and cultural attractions[108]. ANPN will work to develop tourism products including:

- Habituating animals, particularly apes and monkeys, so that tourists can be guaranteed wildlife viewing

[105] https://oxfordbusinessgroup.com/overview/opening-doors-investment-restructuring-and-expansion-are-expected-boost-visitor-arrival-numbers.

[106] Carson RT, JR DeShazo, KA Schwabe, JR Vincent, I Ahmad. 2015. Incorporating local visitor valuation information into the design of new recreation sites in tropical forests. Ecological Economics 120: 338-349. http://dx.doi.org/10.1016/j.ecolecon.2015.10.009

[107] Vision pour le Gabon : Le tourisme, les parcs, et le développement durable au 21ième siècle. 2007. ISBN 978-0-9792418-5-7.

[108] Wilkie DS, Carpenter JF (2002) Can nature tourism help finance protected areas in the Congo Basin? Oryx 33: 333–339.

- Geo-tagging or satellite collaring pangolins, mandrills, and elephants for easy detection
- Creating trail systems (and maps of the trails) for easy access to areas of interest (rare bird nesting sites, water falls, bais, inselbergs and unique landscape features, etc.).

Figure 15. A bai in Gabon where tourists can see forest elephants.[109]

Provisional Budget: $10,050,000

[109] Image taken from: Vision pour le Gabon : Le tourisme, les parcs, et le développement durable au 21ième siècle. 2007. ISBN 978-0-9792418-5-7.

Figure 16. Touristic excursions abound on land and in the sea.

ACTIVITY 1.3.3.2. BUILD CAPACITY OF TOURISM GUIDES THROUGH CULTURAL, SOCIAL AND ECOLOGICAL TRAINING

Along with creating tourism products, guides need to be trained to help tourists stay safe, understand, and enjoy Gabon's natural wonders. Because of the near lack of tourism in Gabon, guides will be trained in how to interact with foreign visitors and build their knowledge in the cultural and ecological information to share with tourists. Emphasis will be put on hiring guides both from local villages, to give value to their traditional knowledge of the environment and university graduates able to interact on a different level with ecotourists, who tend to be highly educated and curious. After a six-month foundational course, guides can undergo additional trainings in specific areas of interest. For example, they could achieve different levels of expertise in bird guiding or plant identification: level 1 (basic), level 2 (intermediate), level 3 (advanced), and gold standard. The Foundation course has been developed by ANPN in collaboration with the CEDAMM training center in Lopé run by WCS and has already been given successfully twice. The higher-level training modules need to be developed and tested.

Provisional Budget: $1,100,000

ACTIVITY 1.3.3.3 PROMOTE NATURE TOURISM IN GABON THROUGH MEDIA, INCLUDING CREATING DEVELOPMENT PLANS FOR TOURISM SITES TO ATTRACT INVESTORS

In the *Vision Pour Le Gabon*[110], the first phase in tourism development involves developing five model parks that together will offer an extraordinary 'experience' to visitors. Rather than basing tourism on a visit to a single site, the vision is to offer a well-connected circuit spotlighting the many wonders of Gabon. To realize first phase development, ANPN will hire photographers and consultants to create promotional materials with development plans, including hi-resolution maps of sites and plans for the tourist products, to attract private operators to invest in Gabon. At the same time, media and promotional materials will be created for global marketing of Gabon's emerging tourism industry.

Figure 17. Conception of tourist infrastructure overlooking Koungou Falls in Ivindo National Park. To develop a thriving tourism industry around its remarkable biodiversity and landscapes, Gabon will attract investors to build the necessary infrastructure to accommodate visitors.

Provisional Budget: $1,000,000

[110] Vision pour le Gabon : Le tourisme, les parcs, et le développement durable au 21ième siècle. 2007. ISBN 978-0-9792418-5-7.

OUTCOME 1.3.4 ACCESS OF FOREST-DEPENDENT PEOPLE TO BASIC SERVICES IS IMPROVED

Despite global increases in protected area coverage and the area of community-managed forest lands[111,112], natural tropical forests are still in decline worldwide[113]. In addition to threatening biodiversity and carbon stocks, the loss or degradation of forests negatively affects the livelihoods and food security of forest-dependent communities that are the poorest and most vulnerable[114,115]. Forest-dependent people rely on the forest resources, particularly non-timber forest products (NTFPs), for food (fruit, game, fish, mushrooms), building materials (rattan, bamboo), medicines and spices. Moreover, NTFPs can be traded in markets, diversifying household income, and contribute to the cultural and religious value associated with forests[116]. Therefore, although protection is necessary to avoid and offset the effects of deforestation and forest degradation, most natural forests are inhabited by human communities[117], and conservation initiatives must serve both ecological objectives and the needs of local people.

There are numerous ways of incorporating ecological and socioeconomic goals at the community level that depend on the circumstances[118]. If communities passively rely on forest resources such as clean water and soil qualities, then conservation can be beneficial with minimal attention given to livelihood development. But in communities that rely heavily on forest resources, such as foraging or hunting, strict protection will increase poverty. In these settings, community-led, local management that allows moderate use of buffer zones or that include community forests (see 2.1.3) can lead to ecological and economic benefits[119]. Alternatively, providing alternative livelihoods or pursuing other strategies of poverty reduction may also benefit conservation objectives. In many instances, providing basic healthcare, education facilities, and access to markets can deter communities from extracting natural forest for income.

[111] Zimmerer K.S., R.E. Galt, and M.V. Buck. 2004. Globalization and multi-spatial trends in the coverage of protected-area conservation (1980–2000). AMBIO: A Journal of the Human Environment 33(8): 520-529.

[112] Molnar A., M. Liddle, C. Bracer, A. Khare, A. White, and J. Bull. 2007. Community-based forest enterprises their status and potential in tropical countries. ITTO technical series. Rome: Food and Agriculture Organization of the United Nations.

[113] Hansen M.C., P.V. Potapov, R. Moore, M. Hancher, S.A. Turubanova, A. Tyukavina, D. Thau et al. 2013. High-resolution global maps of 21st-century forest cover change. Science 342(6160): 850-853.

[114] Kummer D.M. 1992. Upland agriculture, the land frontier and forest decline in the Philippines. Agroforestry Systems 18(1): 31-46.

[115] FAO. 2017. Living in and from the forests of Central Africa. Rome.

[116] Lescuyer, G., Karsenty, A., Eba'a Atyi, R. 2009a. Un nouvel outil de gestion durable des forêts d'Afrique centrale: les paiements pour services environnementaux. Dans: De Wasseige et al. (Eds.). 2009. Les forêts du bassin du Congo – État des forêts 2008. Office des publications de l'Union européenne. Luxembourg.

[117] Nagendra H., S. Paul, S. Pareeth, and S. Dutt. 2009. Landscapes of protection : Forest change and fragmentation in northern West Bengal, India. Environmental Management 44: 853-864.

[118] Chechinaa, M, Y Neveux, JR. Parkins, A Hamanna. 2018. Balancing Conservation and Livelihoods: A Study of Forest-dependent Communities in the Philippines. Conservation and Society 16(4): 420-430.

[119] Wilshusen P.R., S.R. Brechin, C.L. Fortwangler, and P.C. West. 2002. Reinventing a square wheel: critique of a resurgent "Protection paradigm'' in international biodiversity conservation. Society & Natural Resources 15(1): 17-40.

The goal of this program is to deliver benefits to forest-dependent communities to improve livelihoods and reduce unsustainable extraction, encroachment or exploitation of forests. Appropriate activities should be community-driven and dependent on their environmental, social, cultural, and economic contexts.

ACTIVITY 1.3.4.1. ESTABLISH A GRANT PROGRAM TO IMPROVE THE LIVELIHOODS OF FOREST-DEPENDENT PEOPLE

CAFI 3 will support the establishment of a grant program worth $5 million annually for five years to improve the livelihoods of forest-dependent peoples in Gabon. The grant program will be flexible and support projects such as:

1. Community forest development programs, such as NTFP development and marketing
2. Health and sanitation infrastructure and services
3. Education facilities and/or student scholarships
4. Access to or construction of markets
5. Provision of alternative energy, such as solar power
6. Alternative activities to forest and wildlife harvest for income generation (e.g. artisanal product development for tourism markets, small-scale gardens, etc.)

Specific criteria for the selection and prioritization of these funds, as well as the modalities of disbursement, will be determined by the National Climate Council, in collaboration with appropriate Ministries during the annual strategic planning meeting. A multi-ministerial steering committee will develop guidelines for the application process and determine criteria for the selection and prioritization of funding during the program development phase of implementation[120]. Program proposals that identify and develop synergies with other priority actions defined within this investment framework will be given high priority (e.g. linkages with 1.1.6 -community forests; 2.2.2.1- PNFL production in elephant exclosures; 3.2.1 – tourism development; 2.2.3 – transitioning abandoned fields to agroforestry, etc.).

Village communities, organizations, or local NGO's will be able to propose projects and apply for funding.

Provisional Budget: $25,000,000

[120] Details of the administration of the grant program necessitate discussions with local NGO leaders, Ministries of Health and Agriculture, which were not possible during the COVID shutdown, but which will be conducted during the program development phase.

OUTCOME 1.3.5. URBAN PEOPLE HAVE ACCESS TO FORESTS AND PARKS

Human populations are increasingly living in urban areas. In fact, the first 30 years of the 21st century are likely to experience more urban land expansion than all of history, with most growth projected to be in low-income countries in Africa and Asia[121]. By 2050 two-thirds of the world's people are expected to live in urban areas. Despite Gabon's heritage as a forested nation, most of the country's current population, roughly 64 percent of people, inhabit the largest cities, Libreville and Port Gentil, with others living in smaller, regional capitals.

While urban living offers many benefits to residents including job opportunities and access to education, health, and social services, it also has strong effects on the environment[122]. The clearing of land for cities and roads, and the demand for goods and resources by urban residents, are the major drivers of regional land use change. Land clearing for new urban areas in the tropics is expected to result in the loss of 1.38 Pg C between 2000 and 2030 (0.05 Pg C per year), representing approximately 5 percent of tropical deforestation and land use change emissions[123].

The urban environment is an important factor in determining the quality of life in cities. Parks are key elements of sustainable urban landscapes, providing environmental, social, health and economic benefits to urban areas[124]. Green space offers important ecosystem services, including providing habitat for flora and fauna, storing carbon, improving air quality, reducing noise, helping stormwater management, and moderating temperatures[125]. Green spaces also reduce the urban heat island, especially when they include diffused trees and water, which is particularly important as an adaptation measure as climate change results in extreme temperatures in many urban areas[126]. Socially, urban parks can contribute to quality of life for park visitors by providing places to gather and to experience nature[127]. They also encourage positive social interactions that cultivate social cohesion and have also been linked to positive health behaviors and outcomes[128], including increased physical activity, stress reduction, short-term restorative effects, and

[121] Seto, KC, B Güneralp, LR Hutyra. 2012. Global forecasts of urban expansion to 2030 and direct impacts on biodiversity and carbon pools. Proceedings of the National Academy of Sciences of the United States of America 109(40): 16083-16088.

[122] Jaeger, JAG, R Bertiller, C Schwick, F Kienast. 2010. Suitability criteria for measures of urban sprawl. Ecological Indicators 10: 397–406.

[123] Seto, KC, B Güneralp, LR Hutyra. 2012. Global forecasts of urban expansion to 2030 and direct impacts on biodiversity and carbon pools. Proceedings of the National Academy of Sciences of the United States of America 109(40): 16083-16088.

[124] Chiesura, A. 2004. The role of urban parks for the sustainable city. Landscape and Urban Planning, 68, 129–138. http://doi.org/10.1016/j.landurbplan.2003.08.003.

[125] Wolch, J. R., Byrne, J., & Newell, J. P. (2014). Urban green space, public health, and environmental justice: the challenge of making cities just green enough. Landscape and Urban Planning, 125, 234–244. http://doi.org/10.1016/j. landurbplan.2014.01.017.

[126] Norton, B. A., Coutts, A. M., Livesley, S. J., Harris, R. J., Hunter, A. M., & Williams, N. S. G. (2015). Planning for cooler cities: a framework to prioritise green infrastructure to mitigate high temperatures in urban landscapes. Landscape and Urban Planning, 134, 127–138. http://doi.org/10.1016/j.landurbplan.2014. 10.018.

[127] Chiesura, A. 2004. The role of urban parks for the sustainable city. Landscape and Urban Planning, 68, 129–138. http://doi.org/10.1016/j.landurbplan.2003.08.003.

[128] Hartig, T, R Mitchell, S de Vries, H Frumkin. 2014. Nature and health. Annu. Rev. Public Health 35:207–28.

social engagement[129]. Many studies demonstrate that children (and people in general) living in urban settings where access to green spaces are available suffer much less from stress, psychological illnesses and allergies and generally are healthier than those without green spaces. Finally, urban parks provide economic value to cities, including a boost to property value of real estate located in their proximity[130].

The high density of people and a lack of planning in the past in Gabon's cities, particularly Libreville, means that they are largely living without green spaces, shaded streets, and the benefits of well-being trees provide. People are also disconnected from nature and the natural systems around them, breaking the intricate relationship they once had with forests. To simultaneously enhance Gabon's carbon sequestration potential, improve urban health and well-being and return the Gabonese people to their heritage, the government aims to 'green' its cities through city reforestation and development of green spaces.

ACTIVITY 1.3.5.1. LAUNCH THE ONE PERSON, ONE TREE INITIATIVE

The government will launch a *one person, one tree initiative, in which every Gabonese citizen plants a tree on a day.* Though the details of such an event remain to be determined, one way to raise awareness of the importance of trees for ecosystem and human health, while also conducting a large scale planting initiative, would be to couple a high profile event (e.g. a parade, sporting event or cultural ceremony attended by high level government officials, civil servants, civil society and school children) with education and outreach events throughout the city. By planting trees in urban areas that were deforested decades ago, the program will increase Gabon's carbon sequestration.

Activities planned as part of the one-person one-tree initiative will focus on planting of trees around homes, schools, and businesses. If only 10% of the population based in LBV were to participate in this initiative, it would result in an additional 100,000 planted seedlings/saplings. The National Botanical Garden professional-scale nursery (1.4.3) will provide the seedlings and saplings for the one person, one tree initiative.

Provisional Budget: $3,906,900

ACTIVITY 1.3.5.2. CREATE CITY PARKS AND JOIN THE CITIES4FOREST PROGRAM

[129] Jennings, V, O Bamkole. 2019. The Relationship between Social Cohesion and Urban Green Space: An Avenue for Health Promotion. International Journal of Environmental Research and Public Health 16(3) DOI: 10.3390/ijerph16030452.

[130] Harnik, P and JL Crompton. (2014). Measuring the total economic value of a park system to a community. Managing Leisure, 19(3), 188–211. http://doi.org/10. 1080/13606719.2014.885713.

Cities4Forests helps cities around the world connect with and invest in *inner forests* (such as city trees and urban parks), *nearby forests* (such as green corridors and watersheds) and *faraway forests* (such as tropical and boreal forests)[131]. Gabon will join this initiative to develop inner forests, parks and green spaces within its urban centers, thereby increasing the country's carbon sequestration potential while providing numerous benefits to urban residents.

The first two years of the program will require a great deal of technical mapping, tree-specific pilot work, nursery creation and large-scale planning. The second year of the program will be marked with the planting of one pilot, forested city-park and three tree-lined avenue planting projects (park size estimated initially at 2 ha). During the second year, event planning for the *one person, one tree* initiative will begin and education materials will be created. School classrooms will be incorporated through an educational program of school-scale nursery/seedling stewardship to help provide seedlings and saplings to *the one person, one tree* initiative. Year three of the program will be punctuated with the implementation of the *one person, one tree* education and outreach campaign and city-wide planting festival. Three additional urban tree parks and a minimum of five-ten additional tree avenues will be planted during the third and fourth years of the program, with a goal of planting 15% of the city of Libreville with tree cover and community-friendly open space over time. Water-courses flowing through cities will be demarcated both to prevent people building in areas likely to suffer flooding now or in the future, and to enable garden development in these areas.

Back of the envelope estimations conducted in consultation with Island Planning Corporation (who have completed large scale tree planting and urban parks internationally) suggest that each hectare of urban park in Gabon will require approximately 1,000 Trees (50 trees of 20-30cm dbh + 100 trees of 10-20cm dbh + 300 trees of 6-10 cm dbh and 550 trees of 2-6 meter height)[132], 5,000 understory shrubs (1000 of 1-2 m height + 4000 of .2-1m height) , and 10,000 perennial ground cover plants. Assuming development of 4 3-ha parks, 12,000 trees, 60,000 understory trees/shrubs, and 120,000 perennial ground cover plants would be planted.

Tree lined streets will require 2 trees every 7m (one on each side of the road.), equating to approximately 286 trees per km of road planted. By planting 10 km of roads and boulevards over the course of the project, approximately 2860 additional trees would line the streets of Libreville.
This output would consist of the following steps:

[131] https://cities4forests.com/about/

[132] Ideally an acre of to-be afforested land in the tropics would be planted at high density with a mixture of fast-growing pioneer species (usually a mixture of nitrogen fixers and biomass producing trees). These are planted at densities of up to 500 (larger size class individual trees) per acre. They are then interplanted with longer term trees (seedlings – smaller tree size classes) and shrubs. The idea is that the pioneers establish rapidly and provide quick temporary shade while improving soil composition, generating biomass, etc… Pioneers trees are gradually coppiced / sacrificed to making room for the long-term species to grow in.

a) Map the city of Libreville to identify potential areas for establishing treed parks, forested trail systems, and tree-lined boulevards, including water courses and any mangrove areas in or on the edge of cities.
b) Create program steering committee and define institutional framework for program implementation.
c) Engage consultants, specifically landscape ecologists and landscape engineers to determine potential park locations, concepts, and tree species lists
d) Present findings to relevant land-use planning ministries and agencies
e) Tour a Cities4Forest site or engage with existing Cities4Forest program leaders to learn from other successes and failures
f) Increase nursery capacity to provide seedlings, saplings and young trees
    - Enhance the capacity of the Mondah/Raponda Walker nursery
    - Create a small business model for local people already engaged in small-scale nursery/garden activities to provide plants for the initiative
g) Conduct a pilot study
    - Establish one pilot urban forested park in Libreville
    - Establish two pilot treed city boulevards
h) Event planning: Create one person, one tree education and outreach materials and plan for a national festival
    - Create a large-scale, public event that integrates high level public officials, such as the President and his family, school kids and NGOs.
i) Host one person, one tree festival
    - Create a national holiday for the event or conduct it on the internationally recognized Earth Day.
    - Create education centers that attract people with bands, music, parades and food and provide instructions for planting and free saplings for people to plant during the one person, one tree celebration.
j) Roll out program with an additional three urban parks (~3 ha each) and 10-15 streets
k) Maintain and manage new open spaces
l) Conduct studies to monitor growth and impact of the project, including carbon sequestration, microclimate, pollution control, etc.
    - Hire city workers and watering services to maintain the urban forest parks and streets until they are established and independent of public management. After establishment, the government will assure the basic cleaning and functioning of these areas.

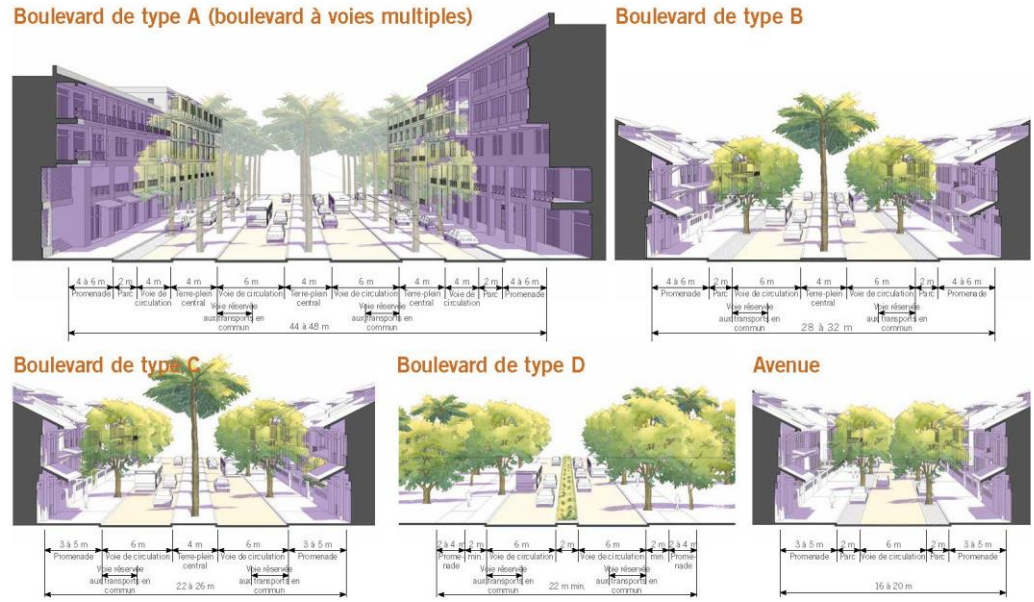


Figure 18. Example tree planting options for Libreville

Provisional Budget: $3,722,800

ACTIVITY 1.3.5.3. BUILD THE NATIONAL BOTANICAL GARDENS AND NATIONAL HERBARIUM AT MONDAH

The goal of the National Botanical Gardens at Mondah is to create a world class destination that celebrates and teaches visitors about the botanical diversity of Gabon while being a source of plant production and conservation for local and international use. The botanical garden aims to represent over 2000 species of West African plants and welcome up to 50,000 visitors and students annually once opened.

The National Botanical Garden will be a recognizable Gabonese landmark that welcomes both local and international visitors. The architectural structure and layout of the grounds will balance nature and the man-made. As buildings and structures embedded within the Mondah Forest, they will be tied to the landscape around them.
The botanical garden will be designed for the display and collection of plants to showcase biodiversity, sustainability and conservation as a means of inspiring the population of Libreville, which is almost half of the national population, to appreciate and understand nature. For example, it will:

- Provide seeds and plants for a variety of conservation uses, including the *one person, one tree* initiative, urban parks and streets
- Integrate agroforestry and ecological restoration into the gardens as a model of sustainable land cultivation

- Conserve and reuse wild plants, important tree species, food crops and medicinal plants

It will also serve as a learning environment to promote education on the outdoors. For example, through its displays and programming of outreach and cultural events, the National Botanical Garden will:

- Serve as a tool for public education, provide demonstrations of traditional agro-ecological forests and the beneficial and intricate relationships between plants, animals, and humans
- Display the botanical diversity of Gabon and the climatic region
- Promote sustainable agricultural practices for local people through examples of agroforestry
- Promote social and political change towards environmental restoration and social economic stability
- Be the nucleus for the creation of school education programs in which classrooms will be integrated into school-scale nursery/seedling stewardship
- Educate the public about the value of forests and the need to preserve them, thereby creating a constituency for Gabon's sustainable development and conservation agenda

The Botanical Garden will also be the center of the new National Herbarium and serve as an official base for ongoing research into the cataloguing of botanical species located within Gabon, of which 15% are endemic and many remain undescribed by science.

Figure 19. *Palisota leewhitei*, a new species endemic to the Mondah Forest: the botanical garden will be established in degraded land adjacent to the natural forest in which this new species, described in 2019, occurs.

Provisional Budget: $12,998,977 [Note that cost of seedling production for other tree planting initiatives is included within this activity through the botanical garden seedling program].

SUB-IMPACT 1.4. CAPACITIES STRENGTHENED TO DESIGN,IMPLEMENT AND MONITOR NATIONAL CLIMATE CHANGE MITIGATION PROGRAMS

CONDUCT SCIENCE AND MONITORING TO ADAPT PROGRAM OUTPUTS TO OPTIMIZE ENHANCEMENT OF SEQUESTRATION, REDUCTION OF EMISSIONS, AND AVOIDANCE OF FUTURE EMISSIONS

OUTCOME 1.4.1. INSTITUTIONAL AND HUMAN CAPACITY STRENGTHENED TO ADAPT PROJECTS TO THE LATEST SCIENTIFIC INFORMATION

The National Climate Council (Conseil national climat; CNC) and the National Commission on Land Use Planning (Commission national gabonaise d'affectation des terres; CNAT) are the primary national institutions for guiding the country's low emissions development strategy and meeting its NDC requirements. CAFI 3 will support the CNC and CNAT for the effective implementation of the entire CAFI 3 program.

ACTIVITY 1.4.1.1. SUPPORT OF THE NATIONAL CLIMATE COUNCIL (*CONSEIL NATIONAL CLIMAT;* CNC)

On the eve of its participation in the 2009 United Nations Framework Convention on Climate Change (UNFCCC) in Copenhagen, President Ali Bongo Ondimba confirmed the country's commitment to pursuing sustainable development by creating the National Climate Council (CNC), which was formally established in 2010. The CNC is an inter-ministerial body chaired by the President of the Republic. It includes a Technical Committee led by a representative of the

President's cabinet that serves as the CNC's board. The CNC is responsible for integrating low-carbon emission activities in all ministries, as set forth in the National Climate Plan (Plan national climat; PNC) and in support of the PGSE. The PNC specifically ensures that Gabon's commitments under the multilateral climate negotiations are compatible with the PGSE.

For each of the main sectors that produce GHG emissions/removals (forestry, agriculture, mining, oil, and housing), the PNC proposes an emissions/removal balance sheet, as well as "climate actions," or specific measures intended to limit emissions from the main sectoral programmes. The PNC also addresses the cross-cutting issue of land use and provides details of the methodology and process to prepare the PNAT, which will help to support organized land-use planning, limit potential land-use conflicts, and reduce GHG emissions from the various sectors.

As the governmental body that oversees all climate-related activities, the CNC implements CAFI 1 and CAFI 2 and is responsible for meeting Gabon's international commitments related to climate change. Discussions are being held about government reorganization, and the CNC may be fused with the Council on Sustainable Development (Conseil développement durable ; CDD) in the future. For example, the CNC reports results to the UNFCCC, such as Gabon's National Communication which includes a comprehensive listing, by source, of annual GHG emissions and removals resulting directly from human activities, a general description of steps taken to implement the Convention, and other information relevant to calculates of global emissions trends.

To support the CNC's oversight and implementation roles, funding will be provided to maintain its staff, office, travel and operations.

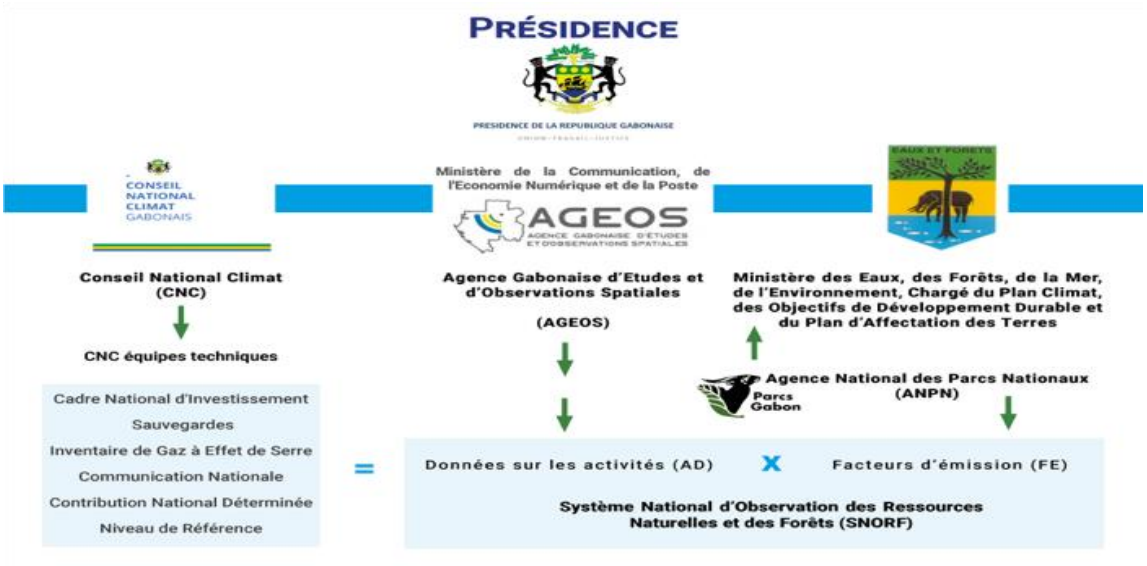


Figure 20. Institutional arrangement for data collection in CAFI 3.

Provisional Budget: $6,000,000

ACTIVITY 1.4.1.2. SUPPORT OF THE NATIONAL COMMISSION ON LAND USE PLANNING (CNAT)

The National Commission on Land Use Planning is responsible for developing a national land use plan to guarantee that economic activities are compatible with the country's management of natural resources and environmental issues. This includes developing, adopting and implementing, in a transparent and participatory manner, the PNAT that organizes and optimizes the use of land and forest resources by the various national economic sectors in a way that reduces CO_2 emissions, reduces conflicts and promotes sustainable development at the national and local level. The plan is based on the principles of non-conversion of HCS and HCV forests, limited and carbon-neutral conversion of non-HCS and HCV forest, reduced area under logging concessions, lower emissions from logging operations and rural activities and the respect of customary land tenure.

Along with forest monitoring (see below), improved land use planning addresses the major current and future drivers of deforestation and degradation in Gabon. Supporting land use planning will significantly contribute to Gabon's NDC and the Paris Agreement adopted in December 2015, as well as the 17 Sustainable Development Goals adopted in September 2015.

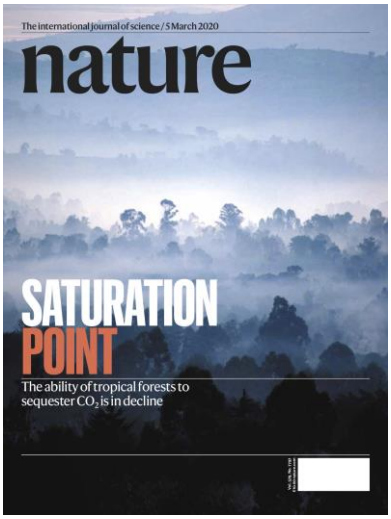
CAFI 1 supports land use plan planning activities. CAFI 2 expands land use planning for the agriculture sections. CAFI 3 will support the continued operation of CNAT.

Provisional Budget: $1,500,000

ACTIVITY 1.4.1.3 SUPPORT THE GABON NATIONAL SPACE AGENCY [*AGENCE GABONAISE D'ÉTUDES ET D'OBSERVATION SPATIALE*]

Gabon is one of the few African countries with a space program. The Agence Gabonaise d'Études et d'Observations Spatiale (AGEOS) is a public agency that specializes in collecting, analysing, and providing data based on remote satellite observations from space. AGEOS operates a satellite image reception centre, which is critical to ensure that Gabon, one of Earth's cloudiest places, has access to satellite images and to provide data on most of West and Central Africa's rain forests.

In recent years, AGEOS has benefited from several sub-regional and national satellite observation projects. The GSE Forest Monitoring Extension project (GSE FM), launched in 2010, mapped Gabon's forest cover for 1990, 2000, and 2010. Other projects, such as the Spatial Observation of Tropical Forests project (OSFT), the Satellite-



assisted Environmental Monitoring project (SEAS), and the project to build capacity and access to satellite data to monitor Central and West African forests (GEOFORAFRI), have provided satellite images, equipped AGEOS, and trained its technicians and engineers. In 2015, AGEOS produced a forest cover map for Gabon[133].

AGEOS plays a key role in the SNORF and the PNAT through the collection, processing and analysis of satellite images. CAFI 3 will support AGEOS operations, funding personnel, equipment, building maintenance, and travel.

Provisional Budget: $6,000,000

ACTIVITY 1.4.1.4 SUPPORT THE INSTITUTE OF TROPICAL RESEARCH

The Institute of Tropical Ecology Research (IRET) is one of the premier research organizations in Central Africa. IRET is a public research organization based in Gabon, which focuses entirely on the study of the ecology and biodiversity of Gabon's forests, to enhance understanding and predict the long term evolution of Congo Basin forests, with special emphasis on the study of the impact of environmental changes on forest ecosystems.

IRET oversees the Ipassa Research Station, the oldest research site in Gabon dating to 1962. In 1983, Ipassa was recognized and classified by UNESCO as a Biosphere Reserve. The aims of the Station are to reinforce scientific and technical capacities with regard to forest management and conservation in Gabon and Central Africa and to generate scientific knowledge on sustainable forest management. More than 30 doctorate theses and dozens of Master's degree reports have been conducted at IRET. Since 1962, over 200 researchers from various countries have conducted scientific studies at the station, resulting in more than 800 publications making area the around the station one of the most studied forest lands in Africa.

IRET is responsible for the coordination and management of research implemented by the national research centers defined above. General program support to IRET is thus included.

Provisional Budget: $1,500,000

[133] https://www.atibt.org/wp-content/uploads/2016/10/AGEOS-Gabon.pdf

OUTCOME 1.4.2. SCIENCE, MONITORING AND CAPACITIES ENHANCED

ACTIVITY 1.4.2.1. SUPPORT THE NATIONAL NATURAL RESOURCES AND FORESTRY OBSERVATION SYSTEM (SNORF)

Gabon has established a fully operational National Natural Resources and Forestry Observation System (SNORF) to: (i) better understand biodiversity and the consequences of climate change on species' distributions and abundances; ii) estimate carbon stocks and GHG flows and model how forests respond to climate and land-use change; (iii) support the implementation of the national land use plan, as well as monitoring and strengthening the sectoral effects on forestry, agriculture and infrastructure to reduce deforestation and forest degradation; and (iv) track, monitor and control the implementation of forest management, illegal logging, mining activities and agricultural development. Gabon's SNORF was designed to comply with Tier 3 standards to provide precise estimates of greenhouse gas emissions and removals from the LULUCF sector [134].

The SNORF consists of two complementary components, the National Resource Inventory (NRI), which collects field data, and AGEOS, which collects and analyzes remotely sensed satellite observations.

a) Support the NRI in monitoring of national biodiversity, carbon stocks and fluxes

   Gabon's N

   RI is a network of monitoring sites based on a semi-systematic sample of forestlands. By dividing the country into 135 - 50 x 50 km cells, inventory sites were randomly located within the cells. Currently, roughly 200 inventory sites have been established, each consisting of 1-ha (100 x 100 m) plot and four 0.16-ha (40 x 40 m) satellite plots spaced 250 m apart, with two satellite plots located to the east and west of the permanent plot. The NRI has already supplied initial estimates of three carbon pools, including coarse wood debris[135], soil carbon[136], and aboveground carbon stocks[137], as well as determining the impacts of ecosystem type and human activities on carbon stocks.

[134] PENMAN, J., GYTARSKY, M., HIRAISHI, T., KRUG, T., KRUGER, D., PIPATTI, R., BUENDIA, L., MIWA, K., NGARA, T., TANABE, K., & WAGNER, F. 2003. *Good practice guidance for Land-Use, Land-Use Change and Forestry - IPCC National Greenhouse Gas Inventories Programme*. Vienna – IPCC. 590p.

[135] Carlson, B., S.E. Koerner, V.P. Medjibe, L.J.T. White, J.R. Poulsen. 2017. Deadwood stocks increase with selective logging and large tree frequency in Gabon. *Global Change Biology*: 23(4)1648-1660.

[136] Wade, A.M., D.B. Richter, V.P. Medjbe, A.R. Bacon, P.R. Heine, L.J.T. White, J.R. Poulsen. 2019. Determinants and estimates of stocks of deep soil carbon in Gabon, Central Africa. *Geoderma* 341:236-248.

[137] Poulsen, J.R., Vincent P. Medjibe, Lee J.T. White, Zewei Miao, Ludovic Banak-Ngok, Chris Beirne, Connie J. Clark, Aida Cuni-Sanchez, Mathias Disney, J.-L. Doucet, Michelle E. Lee, Simon L. Lewis, Edward Mitchard, Chase L. Nuñez, Jan Reitsma, Sassan Saatchi, Charles T. Scott. In press. Old growth Afrotropical forests critical for maintaining forest carbon. *Global Ecology and Biogeography*.

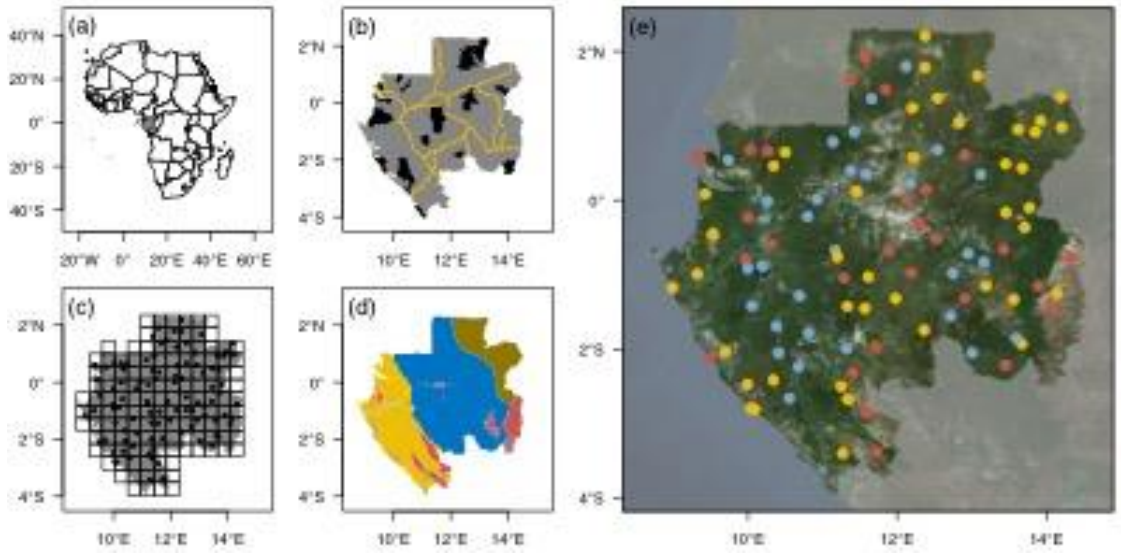


Figure 21. Maps of Gabon's NRI and the locations of 104 forest plots used to estimated national forest carbon stocks and change.

Figure 22. NRI agents measuring trees to estimate forest carbon stocks.

Mean AGC for trees (≥10 cm diameter-at-breast height) in Gabonese forestlands is 141.7 Mg C ha^{-1}, with averages of 166.6, 171.3, and 96.6 Mg C ha^{-1} in old growth, concession, and secondary forest. Gabon's protected areas store approximately 0.84 Gt C or 25.4% of AGC. At the same time, most terrestrial carbon (2.47 Gt C) lies outside of protected areas and requires concerted management as the government grows its agricultural sector and logging continues[138].

Soil carbon to a 2-m depth averages 163 Mg C ha^{-1}, accounting for roughly half of the carbon accumulated in aboveground biomass and soil pools. Nearly a third of soil carbon is stored in the second meter of soil, averaging 58 Mg ha^{-1}. Current IPCC protocols sample soil carbon from the surface 30 cm, which in Gabon would underestimate soil carbon by 60 percent and ecosystem carbon by 30 percent.

Through CAFI 1 and CAFI 2, the NRI will be grown to 500 inventory sites to refine estimates of carbon pools and existing plots will be remeasured to quantify changes in carbon pools over time due to climate change and human activities. Terrestrial mammal biodiversity will also be sampled at the plots.

[138] Poulsen, J.R., Vincent P. Medjibe, Lee J.T. White, Zewei Miao, Ludovic Banak-Ngok, Chris Beirne, Connie J. Clark, Aida Cuni-Sanchez, Mathias Disney, J.-L. Doucet, Michelle E. Lee, Simon L. Lewis, Edward Mitchard, Chase L. Nuñez, Jan Reitsma, Sassan Saatchi, Charles T. Scott. In press. Old growth Afrotropical forests critical for maintaining forest carbon. *Global Ecology and Biogeography*.

CAFI 3 will support the following activities that directly relate to meeting Gabon's NDC:

- Remeasure 150 tree plots annually to assess changes in carbon stocks over time due to climate change and human activities. Methods will follow internationally recognized standards already being implemented in the NRI.
- Improve and implement a biodiversity monitoring system to determine the distribution, diversity and abundance of Gabonese fauna, including terrestrial mammals (using camera traps) and arboreal monkeys, birds, amphibians, and insects (using acoustic sensors). Although the NRI is currently sampling large mammals using line-transect methodology, advances in technologies of *in situ* sensors, including camera traps and bioacoustic sensors, now make it possible to non-invasively and cost-effectively track multiple animal taxa at multiple sites with concurrent recorders covering large spatial extents[139].

  To do so, a biodiversity team will be added to the NRI.

b) AGEOS support for the collection, processing, analysis and distribution of geospatial data for this program is included in activity 1.4.1.3

Provisional Budget: $8,062,420

ACTIVITY 1.4.2.2. INCREASE NATIONAL CAPACITY AND INCREASE UNDERSTANDING OF THE EFFECTS OF CLIMATE CHANGE ON GABONESE ECOSYSTEMS

a) Reinforce the science and infrastructure of Gabon's premier research stations

Gabon has a long history of scientific discovery. To continue this tradition and to contribute to halting encroachment through field presence, CAFI 3 will support five long term national research centers. Four research stations are already well-known, contributing important information and knowledge of tropical forests and biodiversity. SEGC in Lopé National Park has been a leader in primatology, phenology and carbon monitoring; Ipassa in Ivindo National Park has a long history of tropical ecology and forest dynamics research; Loango is more recently known for its research on chimpanzee behavioral ecology; and, Moukoulaba-Doudou has been a long term research site for gorillas. In addition to these sites, Tchimbélé will be added to conduct research in the Crystal Mountains.

Research started at SEGC in Lopé in 1983, focusing initially on great ape ecology. Botanical plots were set up in 1983/84 to quantify ape habitat and expanded in 1989 to study the impacts of forestry. These plots have been monitored ever since and were a key contribution to the recent *Nature* paper which demonstrated that the

[139] Gibb, R, E Browning, P Glover-Kapfer, KE Jones. 2019. Emerging opportunities and challenges for passive acoustics in ecological assessment and monitoring. Methods Ecol Evol.10:169–185. DOI: 10.1111/2041-210X.13101

Congo Basin forests are more resilient to Climate Change than the Amazon. Lopé has been designated by NASA as a "Mega-Site" and has a 35-year database on weather, forest carbon, forest dynamics and phenology and wildlife that is unique in the Tropics (Barro Colorado island in Panama has some similar data sets). The oldest serving researchers have seen average temperature rise by 1 degree, rainfall drop by 200mm and fruit availability for frugivorous birds and mammals drop by over 50%.

While research in Gabon has greatly contributed to understanding of African tropical forests, these research centers are perennially underfunded. To increase understanding of the effects of climate change on Gabon's biodiversity and ecosystems, CAFI 3 will support the functioning of the five research centers including the personnel, maintenance, and equipment necessary to conduct rigorous research. The five sites will be federated under the supervision of ANPN and IRET and common research protocols to address climate change will be applied.

Finding during the first 2 years of CAFI 3 implementation will focus on standardizing and implementing national long term research and forest monitoring protocols at two sites. These two sites will then serve as training and capacity building sites as the program is implemented at the remaining 3 sites during Yr. 3 of the program.

Provisional Budget: $9,834,140; with an annual cost per site of $340,000.

ACTIVITY 1.4.2.3. BUILD NATIONAL SCIENTIFIC CAPACITY AND KNOWLEDGE OF GABON'S ENVIRONMENT AND EFFECTS OF AND RESPONSES TO CLIMATE CHANGE

To build national capacity, CAFI 3 will fund 50 Gabonese PhD and Master's students to conduct studies and research related to climate change and sustainable development at top-rated international universities. Criteria for student and university selection will be defined during the program development phase and validated by the National Climate Council. The program will be implemented by the National Grant and Internship Agency (l"Agence Nationale des Bourse du Gabon - http://www.anbg.ga) in collaboration with the National Center for Scientific and Technological Research (CENEREST) and the Research Institute for Tropical Ecology (IRET). Students will be required to conduct their research with one of the national research and monitoring institutions; which includes the 5 long-term sites defined in activity 4.3.2, AGEOS, the National Herbarium, IRET, and CENEREST.

The objective is to produce the conservation and land use experts of the future and to encourage some students to attend universities in English-speaking countries such that we can integrate them into the negotiating teams at UNFCCC and elsewhere, where French-speaking nations are at a severe disadvantage.

Provisional Budget: $5,000,000

OUTCOME 1.4.2. CLIMATE FRIENDLY SUSTAINABLE DEVELOPMENT INITIATIVES BENEFIT ALL PEOPLE

Climate change bisects every aspect of society, thus combatting climate change will require a whole-of-society and whole-of-government approach. As a high-forest, low-deforestation country, Gabon can have the greatest impact on climate change by reducing its deforestation and forest degradation, avoiding CO_2 emissions, and enhancing and conserving its sequestration potential. However, all the Gabonese people have sacrificed for its success in verified emission reductions and removals from the forest and land use sector; therefore, the benefits derived from safeguarding their forests must be shared by the entire citizenry.

ACTIVITY 1.4.2.1. SUPPORT CLIMATE FRIENDLY SUSTAINABLE DEVELOPMENT PROGRAMS

Climate-friendly sustainable development projects will be developed through formal inter-ministerial meetings and discussions so that all sectors of Gabon society will benefit from their results-based payments. Given COVID 19, these discussions could not be undertaken in the timeframe necessary for the writing of this document but will be conducted in early 2021.

Provisional Budget: $20,000,0

ANNEX A. RISK ASSESSMENT

RISK ASSESSMENT AND MITIGATION : REALISM							
GABON CAFI 3 RISK ASSESSMENT				**Risk rating**	**Mitigation**	**Timing for Mitigation**	**Risk rating**
	Risk components considered		Description	1 to 4			after mitigation
1 - REALISM							
	OPERATING ENVIRONMENT RISKS						
	Country Risk						
		Politics & Governance	The GoG is deeply committed to Sustainable Development and has embarked on a high-level political and strategic sustainable and green development strategy. The projects selective for inclusion in this NIF provide further testament to this high-level strategic support for reducing emissions from the LULUCF sector.	1	No mitigation required.	N/A	1
		Recent country history, political stability tenets, quality of government and commitment of the government towards the project	Gabon has been through a complex election, followed by the Presidents health crisis. A new government is in place and the President is back to work. Yet, some political tensions remain and Ministers are changed regularly. Should the current Minister of Forests, Sea, and Environment in charge of the Climate Plan be replaced, it could significantly slow program implementation.	1	No mitigation required. Technical teams will be hired and trained immediately to ensure private sector engagement, monitoring and oversight are in place such that program targets remain on schedule.	N/A	1

		Clear government leadership and engagement in favor of the project	Several Ministers and Agencies were actively engaged in the development and implementation of the activities defined in the NIF. The final NIF will be approved and validated by the Inter-ministerial council. Strong leadership will be taken directly by the Minister of Forest, Sea, Environment in Charge of the Climate Plan.	1	No mitigation required.	N/A	1
		Society	Rural poverty and historical marginalization from national conservation policy coupled with limited access to information in much of the country could lead to conflictual situations with respect to all forest and climate policy initiatives.	2	Several components of the NIF are dedicated to mitigating potential risk through actions designed to improve livelihoods of forest dependent people, including efforts to improve food security, decrease human wildlife conflicts, encourage community forest management, and engage local communities in the tourism sector. Further, Gabon has recently completed the Framework document for the implementationof Gabon's SIS.	Throughout Project	1
		Security	Gabon has been a historically stable country and risk of insecurity is low.	1	The governance structure is designed to ensure that even if the political situation becomes tense or complex, activities can be conducted on schedule by lower level technical committees even if the national context became tense.	N/A	1
		Civil Society Capacity	Gabonese civil society has very limited financial, technical or human resource capacity to contribute to these efforts without additional technical and financial support.	2	Funds to support capacity building of civil society participants have been included in the budgets and multiple opportunities for regular civil society engagement has been built into the NIF activities plan.	Throughout Project	1
		Systemic Fraud & Corruption	Fraud and corruption have been highlighted as an obvious risk throughout Africa. Gabon is no exception. Though the Government takes reform of these systems seriously and has demonstrated willingness to remove and even imprison government officials engaged in corruption, complete reform will not happen overnight.	3	A strict process of organizational and financial accountability will be established. The process of hiring and capacity building of program managers will be completed in collaboration with the CAFI Steering committee. A code of conduct will be developed, adhered to, and audited by 3rd parties.	Throughout Project	1

		Economic Management	Weak institutional capacity to manage and account for funds using internationally accepted verification and reporting standards could lead to difficulties with the economic management of program funds.	3	Due to the relatively low capacity and training opportunities for Gabon Nationals in internationally accepted financial management and reporting standards, it is expected that technical support and oversight will be provided by a trained program manager. A-CNC project management unit has been created to implement the CAFI 1 and 2 program and will serve as the foundation for ensuring smooth implementation and financial oversight of this program.	Throughout Project	1

	PROJECT RISKS						
	Design Risk						
		Technical Complexity	Many of the programs included within the NIF require a high degree of technical understanding of forestry, forest monitoring forest ecology, socio-economics, etc... for which current national capacity is limited. This represents a fundamental risk.	3	Each program retained in the NIF contains a strong technical training component at three levels: Ministerial, private sector, and civil society. An entire training center will be dedicated to improving forestry related technical capacity and 5M dollars has been dedicated to directly address the need for improved technical competence at all levels of the climate change and forest management sectors.	Throughout Project	1
		Complexity of the project	Programs included in the NIF encompass a range of disciplines (social, environmental, climate, biological, economic.) and results from each will likely have political, economic and legal impacts. Complexity, by definition, is inherent to the design and implementation of sustainable	3	The integration of targeted technical support at each phase of the program, coupled with the tailored and progressive capacity reinforcement and transfer components of this project should importantly mitigate the technical complexity risk.	Throughout Project	1

			development and forest conservation initiatives.		Political and economic complexity risks inherent to reform will be navigated by strong and open communication among the Minister of Forest and Presidential level government officials. This transparency and communication will be facilitated by regular briefings among program staff and the Minister.		
		Geographic Dispersion	This project covers the entire territory of Gabon and entails collaboration and several scales (national policy reform, provincial and district scale impacts for forestry operators and the villages they support, village scale where community forests may be a factor).	2	The project has been designed to specifically address cross-scale dispersion risks through the development and integration of committees and the integration of civil society representatives.	Throughout Project	1
	elo	*Design Flexibility*	The NIF encompasses activities that cross multiple disciplines and requires a great deal of coordination and collaboration. Flexibility of design is inherent to the document, which provides for program specific flexibility to be defined at the program development phase of implementation	2	No mitigation required.	Throughout Project	1
		Arrangement Complexity	The multi-ministerial and multi-disciplinary nature of this program represents inherent organizational complexity risk that could, at times, slow down or hinder progress.	1	The creation of the multi-ministerial committee to oversee all activities defined within the CAFI Investment strategy and development of clear organizational structure and terms of reference mitigates the risk of organizational complexity.		1

RISK ASSESSMENT AND MITIGATION : USE OF THE COUNTRY'S SYSTEMS							
Gabon CAFI 2 RISK ASSESSMENT				**Risk rating**	**Mitigation**	**Timing for Mitigation**	**Risk rating**
2 - USE OF THE COUNTRY'S SYSTEMS							
	STAKEHOLDER RISKS FOR THE OPERATION						
	Stakeholder Risk						
		Donor Relations	The multiplicity of potential and engaged donor organizations with sometimes disparate institutional objectives represents a risk that inadequate coordination or communication among funding agencies and Gabon could result in strained relationships or a breakdown between Gabon and donor organizations.	2	The complexity of coordinating multiple sources of technical and financial support has been acknowledged by all parties engaged in this CAFI initiative. The creation of the CAFI Secretariat and Board of Directors coupled with the direct lines of feedback between CAFI and Gabon should mitigate this risk. Further, the development of complimentary programs will be assessed during the ProDoc development phase of program design.	Throughout Project	1
		Private Sector	Market response to certification may not meet the increased revenue expected to offset upfront costs of certification	2	Gabon will continue to work with private operators and donors to identify co-financing options and/or create subsidies	Throughout project	1
		Multi-Ministerial Relations	The majority of the actions proposed within the NIF lie squarely in the mandate of the Ministry of Forest, Sea, and Environment in charge of Climate Plan. These activities have little risk of challenging multi-inisterial relationships. Where Several government Ministries, Agencies, Committees and Councils will be actively involved in the implementation of the NIF. Inter-institutional jealousy or priority disagreements could result the breakdown of relations among partners and result in project delays and implementation risks.	1	A multi-ministerial body has been defined to oversee the decision making process regarding program prioritization and program implementation. No further mitigation required	N/A	1

		Local Communities	Local communities may fail to support program implementation, due to real or perceived economic costs of activities that promote forest conservation and regulate forest conversion.	2	Several components of the NIF are dedicated to mitigating potential risk through actions designed to improve livelihoods of forest dependent people, including efforts to improve food security, decrease human wildlife conflicts, encourage community forest management, and engage local communities in the tourism sector.	Throughout the project	2

	OPERATING ENVIRONMENT RISKS						
	Technical risk						
		Teams: enough people for the size of the technical and financial management components	The number of large scale program included in the NIF represent potentially significant human resources capacity risk. There is a risk that identifying and training a merit based recruited group of national and international human resources to implement the activities will be prohibitively complex and expensive.	3	Technical capacity building is included as a significant direct action within the NIF, with nearly 5M dedicated to the end of ensuring a larger human resource base into the future. During the development phase of each program, this risk will be addressed in a contextually appropriate manner. Because a majority of the programs included within the NIF are to provide sustainable funding for activities initiated by CAFI 1 and 2, capacity building and transfer will be complete ad require no mitigation.	Throughout Project	2
		Team members - verified competences	The evaluation of competences for such a large human resource base represents a huge undertaking and will require specialists with knowledge of the value of qualifications presented in CVs. A risk of inadequate recruitment exists.	2	The program technical steering committee and project management unit will be charged with ensuring appropriate specialists are identified and consulted during the hiring process to ensure ToRs clearly state the required core competencies for each position and that CVs are reviewed by experts capable of ensuring the best candidates to fill the positions are hired.	Throughout Project	1

RISK ASSESSMENT AND MITIGATION : PREPARATION FOR PROCUREMENT							
CAFI 2 RISK ASSESSMENT				**Risk rating**	**Mitigation**	**Timing for Mitigation**	**Risk rating**
3 - PREPARATION FOR PROCUREMENT							
	OPERATING ENVIRONMENT RISKS						
	Institutional Risk (Sector / Multi-Sector Level)						
		Ownership	The CAFI NIF was envisioned and written entirely by Gabon National leaders with consultation and concertation with multiple Ministers and Agency Directors. Risk of lack of country ownership of this program is extremely low.	0-1	No Mitigation required	Throughout Project	0-1
		Accountability & Oversight	Lack of well-developed ToRs with clear attribution of responsibilities among actors could result in a situation in which activities lack supervision and individual actors' accountability. This represents risk of not achieving desired outputs.	2	Cross institutional arrangements have been defined and a dedicated program oversight committee has been established as part of CAFI 1 and 2 program implementation. Lessons learned through these processes will be applied to ensure the successful management of CAFI 3 activities.	Throughout Project	1
		Institutional Capacity	Existing Institutional Capacity to implement activities as outlined in the CAFI 3 NIF is mixed. Several institutions engaged in the proposed programs have now had great experience implementing large scale programs. Other partners have much less experience or institutional capacity.	3	An integral component of the program design is establishing a strong training and capacity building implementation plan for each program. Much of this is already occurring with CAFI 1 and 2. Additional capacity building and transfer planning will occur for new programs during the program development phase. Specific resources and opportunities have been budgeted for in Chapter 4 of the NIF.	Throughout Project	1

		Institutional Fraud & Corruption	Lack of institutional capacity, undefined responsibility chains and lack of project management and implementation protocols that meet international standards represent significant opportunities for institutional fraud or corruption to occur during project implementation.	3	A strict process of organizational and financial accountability will be established, building on lessons learned from CAFI 1 program implementation. The process of hiring and capacity building of program managers will be completed in collaboration with the CAFI Steering Committee and a strict code of conduct will be developed and adhered to, and audited by 3rd parties as appropriate. These steps and program oversight will limit corruption and fraud temptation at the scale of program implementation and management.	Throughout Project	1
		Decision Making	The NIF was designed by high-level Gabon national officials with legal mandate to make decisions. Lack of decision-making mandate is of little to no risk to project success.	0-1	No mitigation required	N/A	0-1
		Policy	All outcomes, outputs and activities defined within the CAFI NIF are integrally linked with the Gabon National Development Strategy and national policy development. Outputs will directly impact Gabon national policy.	0-1	No mitigation required	N/A	0-1

ANNEX B. CONSULTATIONS

Programs included in the CAFI 3 NIF were developed over the course of nearly two years of discussion with numerous governments private sector and civil society stakeholders. CAFI 2 and CAFI 3 Concept Notes, previously submitted to the CAFI Secretariat, served as the preparatory and initial consultation process for the NIF. Drafts of both concept documents were translated and circulated to stake-holders and comment periods provided, with several of the programs developed in the CAFI 2 concept paper developed as full program documents in 2019.
Over the course of 2019, and in Feb. 2020, consultants facilitating the development of the CAFI 2 and 3 Concept notes conducted several missions to Gabon to consult with government, private sector, agency, and civil society stakeholders. A list of people and/or organizations consulted during these missions - which provided the foundation of the current NIF, has been provided below. As detailed in the NIF Governance section, additional opportunities for stakeholder consultation will be provided during the program development stage.

- S.E. L.J White, Minister of Water and Forest, Sea and Environment, charged with the Climate Plan, Sustainable Development Objectives and the Land Use Plan
- S.E. Guy Bertrand Mapangou, Ministre d'Etat
- S.E Maganga-Moussavou, Minister of Agriculture, Livestock, Food and Programme GRAINE
- Jean Yves Teal, General Secretary of the Presidency
- Tanguy Gahouma, Executive Secretary of the National Climate Council
- Dr. Ludovic Ngok, Chef de Cabinet, Ministry of Forest, Sea, Environment
- Ghislan Moussavou, DG of Forests, Ministry of Water and Forest, Sea, and Environment
- Stephan General Director of Environment, Ministry of Water and Forest, Sea, and Environment
- Christian Tchemambela, Executive Secretary ANPN
- Hubert Ella Ekogha, Technical Director ANPN
- Serge Bongo, Financial Director ANPN
- Patrcie Alain Nkoghe Nze, Director of Operations ANPN
- Michaël Ronoubigouwa Avaro, DG AGRI
- Christophe du Castel, AFD
- Suzie Durand, AFD
- Nicolas Le Tarnec, AFD
- Alice Bardet, AFD
- Francis James, UNDP Gabon Resident Representative
- FAO Meeting with Francis James – *business cards misplaced and will fill in at version 2 of this document*
- Prof. Guy Rossatanga-Rignault, Professeur à la Faculté de Droit et Sciences Economiques de l'Université de Libreville-UOB
- Mesmin Ndong Biyo'o, Cabinet Director, Ministery of Agriculture
- Jean-Lucien Doumbeneny, Conseiller du Ministre de l'Agriculture
- Ludovic Ngok, Chef de Cabinet, Ministry of Forest, Sea, Environment
- Berta Pesti, Secrétariat CAFI
- Jostein Lindland, Norwegian Ministry of Climate and Environment
- Ellen Bruzelius Backer, Norwegian Ministry of Climate and Environment
- Quentin Meunier, OLAM
- Assa Mamadoultaibou, FAO
- Hugues Stéphane Oba Meye, FAO
- Ahmed Abdou Moulaye, FAO
- Hilde Dahl, NORAD
- Marthe Mapangu, WWF
- Eugène Ndong, WWF

- Samson Behanzin, WWF
- Herman Maissa, BCPSGE
- Jean-Louis Moubamba, BAD
- Robert Masumbuko, BAD
- Françoise Van de Ven, UFIGA
- Olivier Megard, ANPN
- Steeve Ngama, IRAF
- Dr. Edgard C. Fabre Anguilet, IRAF
- Dr. Sandrine Mariella Bayendi Loudit, IRAF
- Gerber Dossa, FAO
- Bernard Hien, FIDA
- Sébastien Koumba, IGAD
- Emmanuel Leroueil, SGG
- Jean-Baptiste Squarcini, CNC
- Francoise Van de Ven, UFIGA
- Albert Lousseau, EU
- Peter Ellis, Tropical Forestry Expert, TNC
- Francis Putz, Professor of Tropical Forestry, University of Florida
- Bronson Griscom, Conservation International Forestry Expert
- Emmanuel Leroueil, Directeur de Cabinet du Coordonnateur du BCPSGE
- Jean Huchon, European Union
- Marie-Claire Paiz, TNC Director Gabon
- Eric Nyman, Environmental Engineer, Island Planning Corporation
- Eric Chehoski, Directeur des Opérations Gabon , Island Planning Corporation
- Vincent Medjibe, Coordinator of the National Resource Inventory (IRN)
- Steve Ball, FSC Africa Director
- Natalie Bouville, FSC Gabon
- Richard Paton, Africa Director US Forest Service
- Amy Pokempaner, Africa Director US Fish and Wildlife Service
- Emma Stokes, Central Africa Director of the Wildlife Conservation Society
- John Poulsen, Professor of Tropical Ecology, Duke University
- Kath Jeffrey, Research Fellow at University of Sterling
- Alvina Okome Mbega, CAFI Coordinator CNC
- Hans Fahrini, Ecowood
- Marie-Claire Paiz, TNC Gabon Director
- Matt Brown, Director of Africa Programs, TNC
- Greg Overton, Director of Externa Affairs, Africa Region, TNC
- Mark Lambrides, Energy/hydro lead scientist, TNC
- Andrew Deutz, CBD Lead, TNC
- Kevin Bender, Sustainable Finance Lead, TNC
- Kimberly Holebrook, External Affairs Manager, TNC
- **Civil Society representatives including: Monsieur NTZANTZI MIYAGOU Yvon Martial, Haut Conseil des Acteurs non Etatique du Gabon**
  and
- **Madame ABOUGUE Marie Claire**

Note, local NGO's come together, with representation of most local Gabonese NGO's under the joint organization of Haut Conseil des Acteurs non Etatique du Gabon. Attendance records for each of these meetings were not available at the time the NIF was written. Only the delegate leaders are named in this list.

Due to social distancing, group size restrictions, and national and international travel bans associated with the COVID 19 crisis, large in-person public consultations were not possible for most of 2020. Thus, the importance of providing opportunities to institutional partners to provide written comments after reading the full concept draft was identified and implemented. A sample letter sent to stakeholders with the CAFI 3 concept note is provided in Figure 1.
A list of individuals and/or organizations provided copies of the CAFI 3 concept note for detailed review and comment (October 2020) is provided below.

- Direction Générale de l'Environnement et de la Protection de la Nature,
- Direction Générale des Forêts,
- Direction Générale de la Faune et des Aires Protégées,
- Direction Générale de l'Agriculture,
- L'Agence d'Exécution des Activités de la Filière Forêt-Bois,
- L'Agence Nationale des Parcs Nationaux,
- Le Secrétariat Général du Gouvernement
- La Caisse des Dépôts et Consignations,
- OLAM -Gabon
- L'Union des Forestiers et Industriels du Bois du Gabon
- WWF Gabon
- TNC Gabon

From November 23-27, 2020, the National Climate Council conducted a consultation workshop to present documents required for Gabon to receive results based payments, as defined within the LOI. This included presentations of Gabon's Proposed National REDD+ Forest Reference Level, Gabon's Climate Change Law, a summary of information on how REDD+ safeguards are being addressed and respected, according to relevant UNFCCC decisions (Supplementary Material 1 and 2), and the National Investment Framework (this document). A summary report, including a list of attending stakeholders is included in the workshop summary report (Supplementary Material 3).

PRESIDENCE DE LA REPUBLIQUE

CONSEIL NATIONAL CLIMAT

SECRETARIAT PERMANENT

REPUBLIQUE GABONAISE
Union – Travail – Justice

N° 00717 /PR/CNCT/CS/SP.

Libreville, le 21 OCT. 2020

Le Conseiller Spécial,
Secrétaire Permanent du Conseil Climat

A

Monsieur le Directeur Général de l'Environnement et de la Protection de la Nature
Libreville

Objet : Avis Plan d'Investissement Paiements Basés sur le Résultat-CAFI 3

PJ : Plan d'investissement CAFI 3

Monsieur le Directeur Général,

Le Gabon a signé au mois d'octobre 2019 un partenariat historique avec la Norvège, à travers, **l'Initiative pour la Forêt d'Afrique Centrale (CAFI)**, récompensant ses efforts en matière de préservation de la forêt. Cet accord, obéissant au principe des Paiements Basés sur le Résultat permet au Gabon de bénéficier d'un financement plafonné à 150 millions de dollars US à investir dans des projets contribuant à l'atténuation aux changements climatiques.

Aussi, vous trouverez en pièce jointe la dernière version Plan d'Investissement de ces paiements, qui sera soumise au Conseil d'Administration de CAFI, qui se tiendra du 9 au 13 novembre 2020.

Je vous remercie pour les dispositions que vous voudriez bien prendre afin de nous retourner un avis sur ce document dans un délai d'une semaine, dès réception de ce courrier.

Veuillez croire, **Monsieur le Directeur Général,** l'assurance de ma parfaite considération.

PRESIDENCE DE LA REPUBLIQUE
Conseiller Spécial du Président de la République
Secrétaire Permanent Conseil National Climat

Tanguy GAHOUMA-BEKALE

Conseil National Climat, B.P. 546 Libreville-Gabon, Tél. (241) 01 74 17 37,
Email: info@conseilnationalclimat.ga, Site web: www.conseilnationalclimat.ga

Figure 1. Example of letter sent to stakeholders inviting written comments on the CAFI 3 concept note.

ANNEX C. LEGAL TEXT DEFINING THE CREATION OF THE NATIONAL CLIMATE COUNCIL

1er au 15 JUIN 2010
CINQUANTE UNIEME ANNEE – N° 6 PRIX: 2.000 Francs Dépôt légal 777

JOURNAL OFFICIEL
DE LA REPUBLIQUE GABONAISE

POUR LES ABONNEMENTS ET LES ANNONCES :
"DIRECTION DES PUBLICATIONS OFFICIELLES" - LIBREVILLE - B. P. 563 - TEL. : 76.20.00 email : journalofficiel@gov.fr
Ceux-ci sont payables d'avance, mandat ou virement au nom de M. le Directeur "des Publications officielles" à Libreville
Compte courant postal N° 0101 100 2534, centre de Libreville

SOMMAIRE

ACTES DE LA REPUBLIQUE GABONAISE

COUR CONSTITUTIONNELLE

CONSEIL NATIONAL DE LA COMMUNICATION

Article 14 : Le Ministre chargé de l'Intérieur met à la disposition du Secrétariat Permanent un personnel d'exécution.

Chapitre 3 : Dispositions Diverses et Finales

Article 15 : La Commission Nationale des Frontières dispose d'un réseau de correspondants locaux.

Article 16 : La Commission Nationale des Frontières établit annuellement un rapport sur ses activités adressé au Président de la République et au Premier Ministre.

Article 17 : Les dépenses de fonctionnement et d'équipement de la Commission Nationale des Frontières sont inscrites sur une ligne spéciale du Budget du Ministère de l'Intérieur.

Article 18 : Les autres dispositions relatives à l'organisation et au fonctionnement de la Commission Nationale des Frontières sont fixées par le règlement intérieur, matérialisé par arrêté du Ministre chargé de l'Intérieur.

Article 19 : Des textes réglementaires déterminent, en tant que de besoin, les dispositions de toute nature nécessaires à l'application du présent décret.

Article 20 : Le présent décret, qui abroge toutes dispositions antérieures contraires, notamment celles du décret n°01166/PR/MI du 14 décembre 1979 susvisé, sera enregistré, publié selon la procédure d'urgence et communiqué partout où besoin sera.

Fait à Libreville, le 8 avril 2010

Par le Président de la République, Chef de l'Etat
Ali BONGO ONDIMBA

Le Premier Ministre, Chef du Gouvernement
Paul BIYOGHE MBA

Le Ministre de l'Intérieur, de la Sécurité publique, de l'Immigration et de la Décentralisation
Jean François NDONGOU

Le Ministre des Affaires Etrangères, de la Coopération Internationale et de la Francophonie
Paul TOUNGUI

Le Ministre de la Défense Nationale
Angélique NGOMA

Le Ministre du Budget, des comptes Publics et de la Fonction Publique, chargé de la Réforme de l'Etat
Blaise LOUEMBE

MINISTERE DES RELATIONS AVEC LE PARLEMENT, DES INSTITUTIONS CONSTITUTIONNELLES, DE L'INTEGRATION REGIONALE, DU NEPAD, CHARGE DES DROITS DE L'HOMME

Décret n°0122/PR/MRPICIRNDH du 23 avril 2010 portant création, attributions, organisation et fonctionnement du Conseil National sur les changements climatiques

LE PRESIDENT DE LA REPUBLIQUE,
CHEF DE L'ETAT ;

Vu la Constitution ;
Vu le décret n°0804/PR du 19 octobre 2009 fixant la composition du Gouvernement de la République ;
Vu la Convention Cadre des Nations Unies sur les changements climatiques et les instruments de ratification y relatifs ;
Vu la loi n°30/96 du 28 juin 1996 autorisant la ratification de cette Convention ;
Vu le protocole de Kyoto et les instruments de ratification y relatifs ;
Vu la loi n°1/2006 autorisant la ratification de ce Protocole ;
Vu la loi n°16/93 du 16 août 1993 relative à la protection et à l'amélioration de l'Environnement ;
Vu le décret n°913/PR/MEPN du 29 mai 1985 portant attributions et organisation du Ministère de l'Environnement et de la Protection de la Nature, ensemble les textes modificatifs subséquents ;

Le Conseil d'Etat consulté ;
Le Conseil des Ministres entendu ;

D E C R E T E :

Article 1er : Le présent décret, pris en application des dispositions de l'article 51 de la Constitution, porte création et organisation du Conseil National sur les changements climatiques.

CHAPITRE I : De la Création et des Attributions

Article 2 : Il est créé et placé sous l'autorité du Président de la République, un organe dénommé Conseil National sur les changements climatiques, ci-après désigné « Conseil Climat ».

Article 3 : Le Conseil Climat a pour mission l'élaboration et l'orientation stratégique de la politique nationale en matière de changements climatiques qui doit se traduire par la formulation d'un Plan Climat National. A ce titre, il est notamment chargé :
- de lutter contre les changements climatiques ;
- de remédier et d'anticiper la vulnérabilité du territoire et des populations face aux effets des changements climatiques ;
- d'examiner, d'évaluer et de donner un avis sur les propositions et projets en rapport avec les changements climatiques ;
- d'accompagner la politique de développement du Gouvernement en matière de changements climatiques, grâce à une approche intégrée ;
- de renforcer les capacités nationales, dans tout secteur d'activité, en matière de changements climatiques ;
- d'établir un rapport sur ses activités ;

- de veiller au respect des engagements internationaux signés par le Gabon ;
- de nommer les négociateurs représentant l'Etat gabonais dans les réunions internationales relatives aux changements climatiques.

CHAPITRE II : De l'Organisation

Article 4 : Le Conseil Climat est composé :
- du Président de la République, Président ;
- du Premier Ministre, Vice président ;
- du Ministre chargé de l'Environnement, membre ;
- du Ministre chargé des Affaires Etrangères, membre ;
- du Ministre chargé de l'Economie, membre ;
- du Ministre chargé du Budget, membre ;
- du Ministre chargé de l'Aménagement du Territoire, membre ;
- du Ministre chargé de la Recherche Scientifique, membre ;
- du Ministre chargé de l'Energie, membre ;
- du Ministre chargé des Eaux et Forêts, membre ;
- du Ministre chargé des Mines et du Pétrole, membre ;
- du Ministre chargé de l'Agriculture, membre ;
- du Ministre chargé de la Communication, membre
- du Ministre chargé des Transports, membre.

Article 5 : Le Conseil Climat comprend :
- Le Comité de Gestion ;
- le Secrétariat Permanent ;
- les Comités Techniques Sectoriels.

Section 1 : Du Comité de Gestion

Article 6 : Le Comité de Gestion est notamment chargé
- d'élaborer le règlement intérieur du Conseil Climat ;
- d'arrêter le programme d'action du Conseil Climat ;
- de contribuer à l'élaboration des politiques nationales sur les changements climatiques sous la forme d'un Plan Climat National ;
- de recueillir les informations relatives à l'exécution des décisions issues des conférences des parties ;
- d'examiner et d'évaluer les résultats trimestriels enregistrés dans la mise en œuvre des projets liés aux changements climatiques ;
- d'adopter les budgets de fonctionnement préparés par le Secrétariat Permanent ;
- de rédiger un rapport annuel sur les progrès réalisés dans la mise en œuvre des politiques nationales sur le climat.

Article 7 : Le Comité de Gestion comprend :
- un représentant du Président de la République, Président ;
- un représentant du Premier Ministre, Vice président;
- un représentant du Ministre chargé de l'Environnement, membre ;
- un représentant du Ministre chargé des Affaires Etrangères, membre ;
- un représentant du Ministre chargé de l'Economie, membre ;
- un représentant du Ministre chargé du Budget, membre;
- un représentant du Ministre chargé de l'Aménagement du Territoire, membre ;
- un représentant du Ministre chargé de la Recherche Scientifique, membre ;
- un représentant du Ministre chargé de l'Energie, membre ;
- un représentant du Ministre chargé des Eaux et Forêts, membre ;
- un représentant du Ministre chargé des Mines, membre ;
- un représentant du Ministre chargé du Pétrole, membre ;
- un représentant du Ministre chargé de l'Agriculture, membre ;
- un représentant du Ministre chargé de la Communication, membre ;
- un représentant du Ministre chargé des Transports, membre.

Article 8 : L'ordre du jour du Comité de Gestion est fixé par le Président.

Article 9 : Le Comité de Gestion se réunit, en tant que de besoin, sur convocation du Président.

Article 10 : Les décisions du Comité de Gestion sont prises à la majorité simple des membres présents.

Il ne délibère valablement qu'en présence des deux tiers au moins de ses membres.

Article 11 : Le Comité de Gestion peut recourir à toute expertise extérieure nécessaire à l'accomplissement de ses missions.

Section 2 : Du Secrétariat Permanent

Article 12 : Le Secrétariat Permanent, organe d'exécution du Conseil Climat est notamment chargé
- de préparer les dossiers techniques à soumettre au Comité de Gestion ;
- de rédiger les procès verbaux des réunions ;
- de contribuer à la collecte et à la vulgarisation des informations relatives aux questions des changements climatiques tant au plan national qu'international ;
- de participer à la diffusion des documents scientifiques et techniques ;
- de préparer le budget, d'engager et de liquider les dépenses du Conseil Climat ;
- d'assurer la conservation des documents.

Article 13 : Le Secrétariat Permanent est placé sous l'autorité d'un Secrétaire Permanent nommé par décret du Président de la République. Il est assisté d'un Secrétaire Permanent Adjoint, nommé dans les mêmes formes et conditions.

Il est également assisté de Chargés de missions nommés par décret du Président de la République.

Article 14 : Le Secrétaire permanent est l'administrateur délégué des crédits du Conseil Climat.

Section 3 : Des Comités Techniques Sectoriels

Article 15 : Les comités techniques sectoriels sont chargés de la préparation des dossiers dans leurs domaines d'activités.

Article 16 : Les comités techniques sectoriels sont notamment :
- le comité Energie ;
- le comité Industrie ;
- le comité Agriculture ;
- le comité Forêt et Pêche ;
- le comité Transport ;
- le comité Déchets ;
- le comité Sensibilisation ;
- le comité Formation et Recherche ;
- le comité Télécommunications.

Article 17 : Chaque comité est composé de deux spécialistes nommés par les institutions dont ils relèvent. Ils peuvent être assistés d'experts nationaux et internationaux désignés par le Comité de Gestion.

CHAPITRE III : Des Ressources

Article 18 : Les ressources du Conseil Climat sont constituées notamment :
- des dotations budgétaires de l'Etat ;
- des contributions des partenaires au développement ;
- des dons et legs.

CHAPITRE IV : Dispositions Diverses et Finales

Article 19 : Par l'effet des dispositions du présent décret, les dossiers relatifs aux changements climatiques dans les différentes administrations sont communiqués au Secrétariat Permanent du Conseil Climat.

Article 20 : Des textes réglementaires déterminent, en tant que de besoin, les dispositions de toute nature nécessaires à l'application du présent décret.

Article 21 : Le présent décret, qui abroge toutes dispositions antérieures contraires, sera enregistré, publié selon la procédure d'urgence et communiqué partout où besoin sera.

Fait à Libreville, le 23 avril 2010

Par le Président de la République, Chef de l'Etat
Ali BONGO ONDIMBA

Le Premier Ministre, Chef du Gouvernement
Paul BIYOGHE MBA

Le Ministre des Relations avec le Parlement, les Institutions Constitutionnelles, de l'Intégration Régionale et du NEPAD, chargé des Droits de l'Homme
Emile DOUMBA

Le Ministre des Affaires Etrangères, de la Coopération Internationale et de la Francophonie
Paul TOUNGUI

Le Ministre des Eaux et Forêts, de l'Environnement et du Développement Durable
Martin MABALA

Le Ministre de la Défense Nationale
Angélique NGOMA

Le Ministre de l'Economie, du Commerce, de l'Industrie et du Tourisme
Magloire NGAMBIA

Le Ministre du Budget, des comptes Publics et de la Fonction Publique, chargé de la Réforme de l'Etat
Blaise LOUEMBE

MINISTERE DU TRAVAIL, DE L'EMPLOI ET DE LA PREVOYANCE SOCIALE

Décret n°0126/PR/MTEPS du 23 avril 2010 portant revalorisation de la prime de transport

LE PRESIDENT DE LA REPUBLIQUE,
CHEF DE L'ETAT ;

Vu la Constitution ;
Vu le décret n°0804/PR du 19 octobre 2009 fixant la composition du Gouvernement de la République;
Vu la loi n°001/2005 du 4 février 2005 portant statut général de la Fonction publique ;
Vu la loi n°8/91 du 26 septembre 1991 portant statut général des fonctionnaires, ensemble les textes modificatifs subséquents ;
Vu la loi n°3/88 du 31 juillet 1990 fixant les conditions générales d'emploi des agents contractuels de l'Etat, ensemble les textes modificatifs subséquents ;
Vu la loi n°3/94 du 21 novembre 1994 portant Code du Travail en République Gabonaise, ensemble les textes modificatifs subséquents ;
Vu la loi n°6/75 du 25 novembre 1975 portant Code de Sécurité Sociale ;
Vu le décret n°599/PR du 17 juin 1981 fixant les modalités d'application du Code de Sécurité Sociale et des dispositions législatives complémentaires ;
Vu le décret n°173/PR du 16 février 1982 portant revalorisation de la prime de transport ;
Vu le décret n°00221/PR/MTE du 06 février 1984 portant attributions et organisation du Ministère du Travail et de l'Emploi ;
Vu le décret n°001189/PR/MRH du 19 juillet 1985 fixant les attributions et l'organisation du Ministère des Ressources humaines ;
Vu le décret n°1113/PR/MSSDE du 09 août 1982 fixant les attributions et l'organisation du Ministère de la Sécurité Sociale et du Bien-être ;
Vu le décret n°000642/PR/MTEFP du 23 juin 1997 fixant la composition de la Commission Nationale d'Etude des Salaires ;

Le Conseil d'Etat consulté ;
Le Conseil des Ministres entendu ;

D E C R E T E :

Article 1er : Le présent décret, pris en application des dispositions de l'article 51 de la Constitution, porte revalorisation de la prime de transport versée aux personnels régis par le Code du Travail.

ANNEX D. DETAINED DESCRIPTION OF PMU AND FUNCTIONING BUDGET

The existing Project Management Unit, housed within the National Climate Council, has an existing budget of 1,377,000 USD (CAFI 1) and employs 9 individuals responsible for CAFI program implementation. The PMU is collectively responsible for ensuring the administrative and human resources management assigned to the PMU; coordinating CAFI program activities with Entities, partners and institutions; executing and ensuring the management and monitoring of the CAFI procurement plan; monitoring the implementation of the Program (benchmarks); developing annual workplans and budgets with the entities, implementing the decisions of COPIL; centralizing activity reports from various implementing agencies of the Implementing entities; and consolidating the accounting elements and prepare the accounting reports. These 9 individuals are currently funded from the CAFI 1 agreement as outlined in Table 1. A full PMU approved budget is provided in Table 2.

In addition, the CAFI 1 budget provided the necessary technical equipment and support to ensure CAFI program coordination and implementation including:

- IT equipment: 8 computers
- Office furniture (desks etc.)
- Acquisition of an accounting management system - TOM2PRO
- Acquisition of internet supplies and services

Table 1. Approved PMU staff budgets as revised by the CAFI 1 COPIL

	Initial approved budget (KUSD)	Adjusted budget (COPIL 1) (KUSD)
	2029,8	**2226**
3.1. PMU Staff	2029,8	1903
National Coordinator	282	252
International level technical assistant	400,8	334
Procurement services agent	210	180
Reporting and monitoring agent	210	150
Financial officer	150	210
3.4 Other costs not initially planned	0	323
AGEOS coordinator	0	90
ANPN coordinator	0	60
Acquisition of the accounting system and Licenses (5 years) and training	0	53
Currency risk	0	120

Table 2. CAFI 1 approved budget to ensure the efficient and transparent management of program activities

NB: all costs are in k $	UN Categories	Unit	Quantity	Unit price	Total 5 yr Cost	Yr1	Yr2	Yr3	Yr4	Yr5	Total
	3353.8	**PMU**	**765,0**	**612,0**	**615,6**	**630,6**	**528,6**	**3362,8**			
3.1. PMU staff	2,029.80	426,0	426,0	429,6	429,6	327,6	2038,8				
Engagement of a national coordinator	1. Staff costs and other staff costs	Forfait hm	60,0	4,7	282,0	56,4	56,4	56,4	56,4	56,4	282,0
Hiring an international level technical assistant (A1 and A2)	1. Staff costs and other staff costs	Forfait hm	24,0	16,7	400,8	200,4	200,4	400,8			
Estimated budget for an international level technical assistant (A3 to A5)	1. Staff costs and other staff costs	Forfait hm	30,0	16,7	501,0	204,0	204,0	102,0	510,0		

Engagement of two juniors already present at the CNC	1. Staff costs and other staff costs	Forfait hm	120,0	1,5	180,0	36,0	36,0	36,0	36,0	36,0	180,0
Hiring of a responsible for procurement	1. Staff costs and other staff costs	Forfait hm	60,0	3,5	210,0	42,0	42,0	42,0	42,0	42,0	210,0
CAFI monitoring and evaluation manager	1. Staff costs and other staff costs	Forfait hm	60,0	3,5	210,0	42,0	42,0	42,0	42,0	42,0	210,0
Hiring of an administrative and financial manager	1. Staff costs and other staff costs	Forfait hm	60,0	2,5	150,0	30,0	30,0	30,0	30,0	30,0	150,0
Secretarial engagement	1. Staff costs and other staff costs	Forfait hm	60,0	1,0	60,0	12,0	12,0	12,0	12,0	12,0	60,0
Hiring a driver	1. Staff costs and other staff costs	Forfait hm	60,0	0,6	36,0	7,2	7,2	7,2	7,2	7,2	36,0
3.2. Purchase of equipment / vehicles, operation and maintenance	343	191,0	38,0	38,0	38,0	38,0	343,0				
IT equipment for 8 people	3. Equipment, vehicles and furniture, including depreciation	Forfait materials	8,0	5,0	40,0	40,0	0,0	0,0	0,0	0,0	40,0
Other equipment	3. Equipment, vehicles and furniture, including depreciation	1,0	21,0	21,0	21,0	0,0	0,0	0,0	0,0	21,0	
Depreciation and material replacement 20% per year in A2-A4	3. Equipment, vehicles and furniture, including depreciation	Forfait materials	4,0	8,0	32,0	0,0	8,0	8,0	8,0	8,0	32,0
Purchase of two 4x4 vehicles	3. Equipment, vehicles and furniture, including depreciation	Forfait vehicule	50,0	2,0	100,0	100,0	0,0	0,0	0,0	0,0	100,0
Vehicle maintenance, fuel and insurance	3. Equipment, vehicles and furniture, including depreciation	forfait annuel	10,0	15,0	150,0	30,0	30,0	30,0	30,0	30,0	150,0
3.3. Operating budget and specific missions of the PMU	770	148,0	148,0	148,0	163,0	163,0	770,0				
Operating budget for coordination	7. General operating costs and other direct costs	Forfait annuel	5,0	16,0	80,0	16,0	16,0	16,0	16,0	16,0	80,0
Rental of premises	7. General operating costs and other direct costs	Forfait annuel	5,0	32,0	160,0	32,0	32,0	32,0	32,0	32,0	160,0
Budget for other workshops	4. Contractual services	2,0	15,0	30,0	0,0	0,0	0,0	15,0	15,0	30,0	
Budget for consultancies according to needs	4. Contractual services	Forfait	1,0	250,0	250,0	50,0	50,0	50,0	50,0	50,0	250,0
Budget for independent mid-term evaluation	4. Contractual services	Forfait	1,0	50,0	50,0	10,0	10,0	10,0	10,0	10,0	50,0
Budget for annual financial audits	4. Contractual services	Forfait	10,0	20,0	200,0	40,0	40,0	40,0	40,0	40,0	200,0
TOTAL Result 3 - PMU	**3,142.80**	**0,0**	**765,0**	**612,0**	**615,6**	**630,6**	**528,6**	**3151,8**			