Gabonese Republic

NATIONAL CLIMATE COUNCIL

SECOND NATIONALLY DETERMINED CONTRIBUTION (2nd NDC)

2020 – 2025

In accordance with decisions 1/CP.19 and 1/CP.20 and its strategic development plan, Gabon communicates, through this document, its second Nationally Determined Contribution (NDC) to combat climate change and all the information related to this second NDC. The elements included in Gabon's Nationally Determined Contribution are the synthesis of Gabon's ambitions and public policies, which, at the time of making a turning point in its development, has chosen to resolutely commit to sustainable development, based on controlled greenhouse gas (GHG) emissions. This ambition is all the more resolute because it is voluntarist: because of its sustainable forest management policies, which have been able to preserve a natural endowment otherwise condemned to dwindle in the regime as usual, Gabon is an important carbon sink, absorbing more greenhouse gases than it emits, and will remain so thanks to the deepening of these policies, while choosing to further reduce its greenhouse gas emissions. This submission is doubly important for Gabon, because of the commitment of the President of the Republic to pursue a sustainable development policy and because of the global effort to combat climate change.

Table of Contents

Gabon

Nationally Determined Contribution

2020-2025

Title

Gabon is committed without conditionality to remaining carbon neutral until and beyond 2050.

Conditionally, Gabon will do everything possible to guarantee a net carbon absorption of at least 100 million tons of CO2 per year, beyond 2050.

Summary

Gabon currently absorbs about 100 million net tons of CO2 equivalent per year (103 million tCO_{2eq} in 2020). Over the last decade, Gabon has absorbed just over one **billion tonnes of net CO2eq** and **increased its net sequestration capacity by around 100 million tonnes**. Gabon has increased its net removals, where most countries have seen a net increase in emissions.

In the second NDC, the Gabonese Republic makes an unconditional commitment to remain carbon neutral beyond 2050. Subject to the continued access of Gabonese wood products to international markets, access to a carbon market for its net sequestration in the form of ITMOs (Internationally Transferred Mitigation Outcomes) with a competitive carbon price and/or appropriate international non-market support. Gabon will do everything possible to guarantee its net removals of at least 100 million tonnes of CO2 equivalent per year, beyond 2050. This goes far beyond the commonly adopted global goal of carbon neutrality by 2050.

Gabon's economic model, already being implemented in a proven and credible manner, which has enabled it and will continue to enable it to avoid the deforestation curve that all countries, developed and developing, is to implement a broad programme of economic transformation through sustainable development in all sectors, supported by the creation of a sustainable forestry and wood processing industry in Gabon.

By processing wood locally, the added value in the national economy will be multiplied by ten, with the creation of ten times more jobs. By complementing the production of wood from natural forests with carbon-positive plantations with afforestation in savannah areas, Gabon can increase its timber industry from a turnover of $1 billion to $10 billion per year and from 30,000 current jobs to 300,000 by 20301 while securing the carbon sink through this controlled forest management scenario and land use.

However, supporting this controlled scenario will require substantial and continuous direct investment in areas such as infrastructure, logistics, municipal services, land use planning and administration; and, at the same time, a complete transformation of all sectors of the economy, including finance, healthcare, agriculture, construction, transportation, retail and distribution, etc.

[1] Gabonese Republic – Transformation Acceleration Plan 2021-23

Gabon plans a substantial effort to limit emissions from the energy sector, the second largest emitting sector, to 2005 levels or below, in particular by switching from fossil fuels to hydro and solar energy, by improving energy efficiency in households, services, industries and transport, as well as by converting natural gas-fired power plants. and implementing the "zero flaring" plan in the oil industry, and generalizing electricity interconnection.

In terms of agriculture, Gabon is committed to promoting no-till agriculture through the development of agricultural irrigation and agroforestry, the regularization of agricultural land, the preservation of High Conservation Value (HCV) areas in agro-industrial concessions, as well as the use of cover crops to reduce the use of chemical nitrogen fertilizers in plantations.

To achieve these goals, it is critical that Gabon is able to access climate finance in exchange for the ecosystem services it will continue to provide, and in doing so, access the long-term development capital financing that the country desperately needs to implement its sustainable economic development and transformation agenda.

If carbon and ecosystem payments were to become a reality in the future, they would make sustainable logging more financially profitable, further strengthening the model, making selective harvesting more competitive with other forest-destroying land uses, such as soybean farming and cattle ranching. They would also subsidize the costs of managing protected areas and forest concessions. The controlled scenario is based on the conditionality that these payments will be made.

The development of Gabon's NDC also depends on the effects of climate change not distorting the historical rates of change in carbon stocks in the Congo Basin tropical forests, so that their capacity to absorb carbon dioxide is significantly reduced. If this is the case, Gabon's NDC will have to be revised accordingly, with an ambition of effort maintained but taking into account the scientific data on the targets.

Gabon's commitment to maintain its status as a net CO2eq absorber until 2050 is therefore conditioned by the possible impacts of climate change on the rainforests of the Congo Basin and by the possibility of accessing the necessary investment capital, all related resources and clean technologies required to implement its development and economic transformation plan over the period up to 2050, and in particular by:

1) continued access of Gabonese wood products (certified legal, sustainable, climate and biodiversity positive, and socially responsible) to international markets;

2) access to international carbon market finance under the Paris Agreement, which recognizes the historic and ongoing contribution of Gabon's net carbon sequestration to mitigating climate change crises and the loss of nature's services in the form of Internationally Transferred Mitigation Outcomes ITMOs), as well as appropriate non-market mechanisms;

3) progress towards international recognition of the value of Gabon's ecosystem services;

4) the availability of investments in renewable energy, energy efficiency and sustainable agriculture.

For comparison purposes, the NDC 2020-2025 presents Business as Usual (BAU) model scenarios for the different sectors responsible for GHG emissions. For the Forest and Other Land Use (FAT) sector, emission levels are also compared to Tropical Deforestation Average (TDA) rates. Most tropical rainforest countries have followed and continue to follow trends similar to the TDA scenario.

Gabon could follow this trajectory in the coming decades, in the absence of strong measures that require the support of the international community.

The economic costs of adaptation will be significant and Gabon will need adaptation support to be made available.

This support will be necessary in particular to:

1) Compensate or support Gabon for the loss of 60% of our revenues currently generated by oil and gas, which could disappear by 2040;

2) Dealing with intensifying coastal erosion and rising sea levels, which may require the relocation of Gabon's second largest city, Port-Gentil, as well as large parts of the capital, Libreville;

3) Support the transformation of Gabon's agricultural sector into a modern, climate-resilient, low-carbon industry capable of supporting a growing and transforming society and economy;

4) Support the improvement of scientific monitoring with the establishment of a reliable climate data collection system that combines meteorological, oceanographic and hydrological information on a centralized platform;

5) Improve modelling of the complex climate system of the Western Congo Basin, to enable better prediction of future threats;

6) Redesign cities and towns to make them climate-resilient and implement the important regional, municipal and urban planning and provision of related services that will be needed;

7) Building climate-resilient infrastructure;

8) Managing the inevitable increase in the number of climate refugees, who will flock to the Congo Wetland Basin to cope with the loss of agricultural yields in the surrounding regions and countries;

9) To address issues such as the increase in human-elephant conflict due to climate change (drop in fruit production in the rainforest due to climate change) that have an immediate significant impact on the well-being of rural populations.

Government of the Gabonese Republic

Nationally Determined Contribution

2020-2025

Headline

Gabon commits unconditionally to remain carbon-neutral up to and beyond 2050.

Conditionally, Gabon will strive to maintain its net absorption of carbon at a minimum of 100 million tonnes of CO2 equivalent per year beyond 2050.

Summary

The Gabonese Republic currently net absorbs just over 100 million tons of CO2 equivalent (103 million tons of $CO_{2eq)}$ per year. Over the last decade, we have **net absorbed** just over **1 billion tons of CO2eq** and **increased net absorptions by about 100 million tons**. We have increased net absorption whilst many countries have increased net emissions.

In its second NDC, the Gabonese Republic commits unconditionally to remain carbon-neutral up to and beyond 2050. Furthermore, and subject to continued access to international markets for its wood products, access to a carbon market for its net-sequestration carbon credits in the form of ITMOs (Internationally Transferred Mitigation Outcomes) at a competitive carbon price and/or appropriate international support through non-market mechanisms, Gabon will strive to maintain its net absorption of at least 100 million tons of CO2eq per year beyond 2050. This goes well beyond the global net carbon neutrality target for 2050 commonly adopted.

Gabon's economic model, which is already showing a track that will credibly allow it to avoid the deforestation curve experienced by all developed and developing nations alike, is to implement a broadly based programme of economic transformation through sustainable development across all sectors of the economy, underpinned by the establishment of a sustainable forestry and timber processing industry in Gabon.

By processing timber locally, the value-added in the national economy will be multiplied ten-fold, with the creation of ten times more jobs. By supplementing timber production from natural forests through afforestation with carbon- positive plantations in savanna areas, Gabon could transform its timber industry from a $1 billion turnover to $10 billion per annum and from 30,000 jobs at present to 300,000 by 20302, while securing its carbon sink through forest management and sound land-use planning.

However, this will require substantial and continuous direct investment in areas such as the provision of infrastructure, logistics, municipal services, land-use planning and administration; and in parallel, a comprehensive transformation of all sectors of the economy, including finance, through healthcare, agriculture, construction, transport, retail and distribution and the like.

Gabon plans to maintain our emissions in the energy sector, the second source of emissions, at or below 2005 levels, mainly by transitioning from hydrocarbon sources of energy to hydro and solar energy, by improving energy efficiency in households, services, industries and transport, by replacing fuel oil plants with natural gas, implementing a "zero flaring" policy in the oil industry and improving interconnectivity of the electricity grid.

[2] **Gabonese Republic – Transformation Acceleration Plan 2021-23**

In the agriculture sector, Gabon commits to promoting tow-till agriculture by developing irrigation and agro-forestry, formalising agricultural land-tenure systems, preserving High Conservation Value (HCV) areas in industrial concessions, and using cover crops to reduce the need for chemical fertilisers in plantations.

In order to achieve its objectives, it is essential that Gabon is able to access climate finance in exchange for the ecosystem services it will continue to provide, and in so doing, access the critically needed long-term development capital funding that we require in order to implement our programme of sustainable economic development and transformation.

Provided payments for carbon and ecosystem services become a reality in the future, these may make sustainable forestry more financially profitable, further strengthening the model and making sustainable harvest more competitive than other land uses that destroy the forests, such as soya and livestock ranching. They could also subsidise the management costs for protected areas and forestry concessions. The controlled scenario is based on the condition that these payments are made.

The elaboration of this NDC is also dependent on any climate change induced changes in historical rates of change in carbon stocks in the Congo Basin Forests, not resulting in reduced capacity to absorb carbon dioxide. In such a scenario, the NDC will have to be revised accordingly, with the ambition of maintaining the effort but taking into account the scientific data on the targets.

Gabon's commitment to maintaining its status as a net absorber of CO2eq through 2050 is accordingly conditional on the possible impacts of climate change on the Congo Basin rain forests, as well as on being able to access the necessary investment capital and all related resources and clean technologies required to implement its plan for economic development and transformation over the period to 2050, and in particular on:

1) Continued access of Gabonese timber products (certified legal, sustainable, climate and biodiversity positive and socially responsible) to international markets;

2) Access to international finance through a carbon market under the Paris Agreement, that recognises the historic and ongoing contribution Gabon has made through net sequestration of carbon to the mitigation of the climate change and the loss of services provided by Nature in the form of ITMOs, as well as through appropriate non-market mechanisms;

3) Progress towards international recognition of the value of Gabon's ecosystem services;

4) Availability of investment in Gabon's renewable energy sector, energy efficiency and sustainable agriculture.

For comparison purposes, the NDC 2020-2025 presents "Business As Usual" (BAU) models for the different sectors responsible for GHG emissions. For the forestry and other land-use (FOLU) sector, the emission levels are also compared to average tropical deforestation rates. Most other tropical rainforest countries have followed/are following similar TDA trends.

Gabon could follow this trajectory in coming decades in the absence of strong measures that Gabon plans to implement with the support of the international community.

The economic costs of adaptation will be significant, and Gabon will require support for adaptation to be made available.

In particular, this will be necessary to:

1) Compensate or accompany Gabon as we adjust to the loss of the 60% of our economy currently generated from oil and gas that will almost certainly disappear by 2040;

2) Deal with intensified coastal erosion and sea level rise, which may require the re-location of Gabon's second city, Port Gentil, as well as large parts of the capital, Libreville;

3) Support to transform Gabon's agriculture sector into a modern, low-carbon, climate resilient industry, capable of supporting a growing and transforming society and economy;

4) Support for the establishment of an improved scientific monitoring system for climate change and its impacts integrating meteorology, oceanography and hydrology measurements in a centralised database;

5) Developing improved climate modelling of the complex Western Congo Basin climate system, to allow for better prediction of future threats;

6) Re-design cities and towns to make them climate resilient and implement the substantial, regional, municipal and town planning and related provision of services that will be required;

7) Build climate resilient infrastructure;

8) Deal with the inevitable increase in climate refugees, who will flock into the humid Congo Basin as agricultural production in surrounding countries and regions fails;

9) Address issues such as climate change driven increases in human – elephant conflict (linked to the reduction in fruiting in rain forest plants du to climate change), which have significant immediate impact on the well being of rural populations.

1. Gabon's commitments to combat climate change

1.1. Significant efforts to maintain the carbon sink

It is now commonly recognized that the world is facing a double crisis: climate change and the loss of nature and biodiversity. At the international level, Gabon is one of the countries that has contributed the least to these crises. In fact, Gabon has maintained a positive carbon footprint over the past millennium, and over the past decade it has absorbed just over one billion tonnes of CO2 equivalent on a net basis. Covering 11% of the Congo Basin rainforest, Gabon is home to exceptional biodiversity and has shown strong leadership in the region in terms of creation, management and conservation of protected areas, with nearly a quarter of its national territory under protection.

With 88% of its territory covered by forests, Gabon is one of the most forested countries on the planet3 and has a unique status, being a carbon sink whose total removals have remained far higher than total emissions. This is not simply the result of a situation of natural rent, but on the contrary it remains possible thanks to two decades of efforts, during which Gabon has developed strict environmental and forestry laws, transforming 21% of its territory into protected areas, and 60% of the territory into sustainable forest concessions.

Major policy decisions (see also Figure 1) include the 2001 Forest Law (implemented from 2005), which mandates the sustainable management of all forest concessions; the 2002 decision (implementation of the National Parks Act 2007) to establish a network of 13 national parks, covering 11% of the country; the ban on the export of logs taken in 2009; the creation of the National Council on Climate Change in 2010 and the adoption of the National Climate Plan in 2012; the adoption of the Sustainable Development Act and the Environmental Protection Act in 2014; the ratification of the Paris Agreement in 2016; and the signing of a Climate Change Ordinance in 2021.

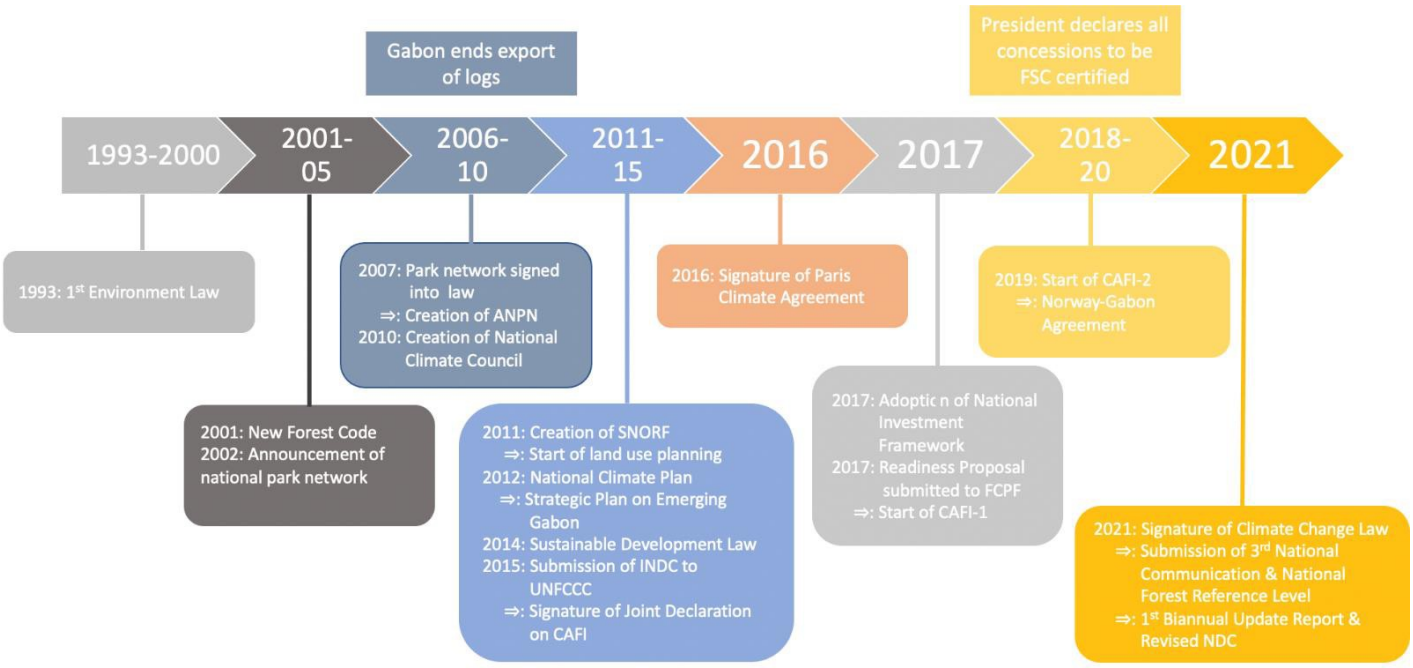


Figure 1. Chronology of Gabon's initiatives impacting GHG emissions and sequestration.

[3] Food and Agriculture Organization of the United Nations (FAO). (2020). Forest area (% of territory). World Bank. Available at: <https://data.worldbank.org/indicator/AG.LND.FRST.ZS>

Gabon is no longer limiting itself to its trend commitment as in its Intended Nationally Determined Contribution (INDC) and instead intends to move towards a more ambitious approach.

This second NDC is national and covers all sectors.

Given that Gabon's carbon footprint is not only neutral, but positive (the country absorbs more CO_2 than it emits), the approach is, first, to remain carbon neutral, and second, to maintain Gabon's net absorption capacity and, if possible, increase this capacity, which will thus have a positive impact on GHG levels in the atmosphere, until 2025 and 2030 and beyond.

Gabon has a rather special status within the Paris Agreement. The NDC process was designed to help net issuers achieve neutrality, and is therefore not easily applicable in Gabon. To some extent, it could be argued that Gabon has already achieved the goal of the Paris Agreement, thanks to the measures taken since 2001, and that our objective now is to consolidate these gains.

However, Gabon wants to go further. As part of a global community, Gabon recognizes that it has the opportunity to play an important role in the global struggle to achieve a positive carbon (storage) economy. Gabon could, depending on the terms of the Paris Agreement and countries' future commitments, support certain Parties in meeting their climate commitments (carbon neutrality) through the exchange of Internationally Transferred Mitigation Results (ITMOs), combined with the corresponding adjustments.

1.2. Ensuring the sustainable preservation of Gabon's forests

Gabon's actions to protect its forests have helped create a global insurance policy against climate change and nature loss: its forests provide important ecosystem services[4] by storing carbon and helping to maintain stable climate and weather conditions. In Africa, Gabon's forests are part of the Congo Basin rainforests, a critical ecosystem that spans all of West Africa and helps regulate natural climate processes in the region, including rainfall, river flow, and water quality,[5] which also support the Sahel[6] and the Nile Basin.[7] The Nile Basin provides water to more than 200 million people and is under pressure from population growth and agricultural demand, exacerbating the risk of transboundary water-related conflicts in the region.[8] Gabon, a country with "HFLD" (High Forest Cover and Low Deforestation) status, remains committed to the preservation of its forests in order to ensure that communities and sectors that depend on the ecosystem services provided by the forests of the Congo Basin are not affected by the loss of these ecosystem services.

As such, forest dynamics are critical to the country's future emissions profile. All developed countries and almost all developing countries have recorded a decline in deforestation (Figure 2). Gabon, as well as countries such as Guyana, Suriname, and the Republic of Congo, are located in the

[4] The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) explained the contribution of these ecosystem services to modern society in its 2019 Global Assessment Report on Biodiversity and Ecosystem Services as follows:

"Most of nature's contributions to people are not fully replaceable, and some are even irreplaceable. Nature plays a critical role in providing food and feed, energy, medicines, genetic resources, and a range of materials essential to people's physical well-being and the preservation of cultural heritage. For example, more than 2 billion people use woodfuel to meet their primary energy needs, about 4 billion are treated mainly with natural remedies, and some 70% of the drugs used to treat cancer are natural products or synthetic products inspired by nature. Through its ecological and evolutionary processes, nature maintains the quality of the air, fresh water and soil on which humanity depends, distributes fresh water, regulates the climate, ensures pollination, controls pests and mitigates the impact of natural hazards. ».

[5] Sonwa, D. J., Farikou, M. O., Martial, G., & Félix, F. L. (2020). Living under a Fluctuating Climate and a Drying Congo Basin. *Sustainability*, *12*, 2936.

[6] Ellison & Speranza (2020) From blue to green water and back again: promoting tree, shrub and forest-based landscape resilience in the Sahel. *Science of the Total Environment* **739**

[7] Ellison et al. (2017). Trees, forests and water: Cool insights for a hot world. *Global Environmental Change* **43**: 51-61

[8] Gebrehiwot, S. G., Ellison, D., Bewket, W., Seleshi, Y., Inogwabini, B.-I., Bishop, K. (2018). The Nile Basin waters and the West African rainforest: Rethinking the boundaries. *WIREs Water*, **6**(**1**), 1317.

-and have the potential to remain- in the first phase (High Forest Low Deforestation (HFLD) of deforestation.

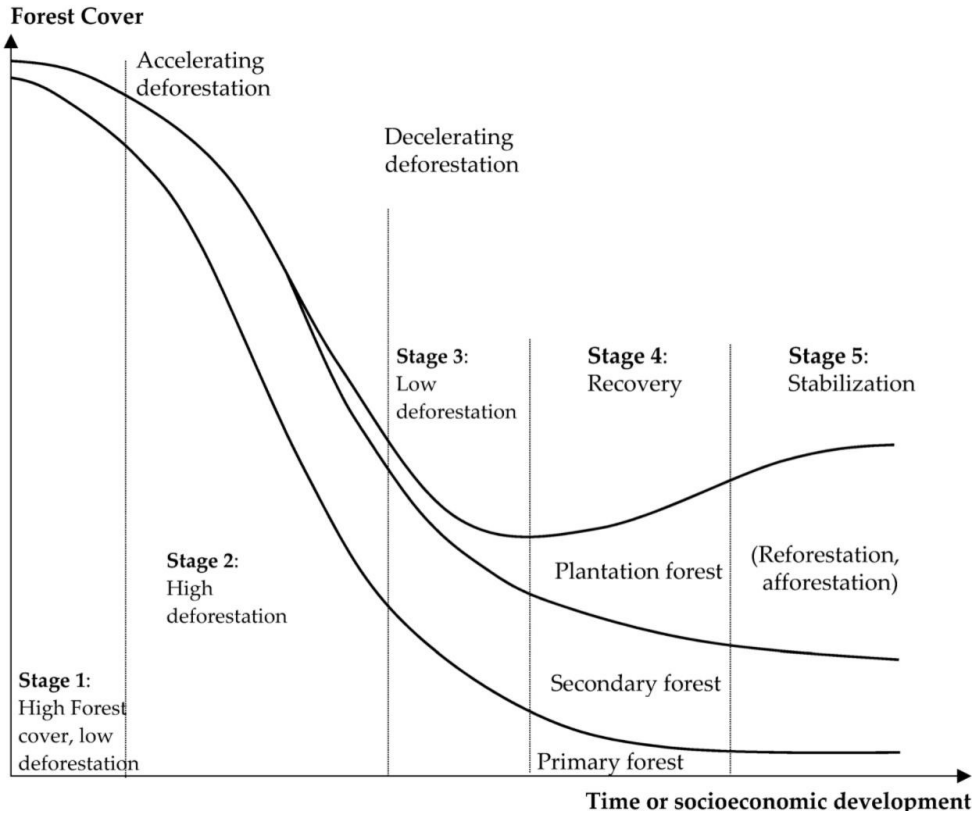


Figure 2. Stages of the deforestation curve.[9] Gabon is at stage 1.

In 2005, some countries proposed the RED (Reducing Emissions from Deforestation) mechanism to the United Nations Framework Convention on Climate Change (UNFCCC) at COP11 in Montreal. In 2007, a second D (Degradation) was added at COP13 in Bali. REDD+, in today's terminology, was launched at COP15 in Copenhagen with a key decision on methodological guidance for activities related to reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries. This voluntary process was aimed at an urgent response to deforestation, which contributes to approximately 11% of global GHG emissions10. In 2009, $30 billion was pledged over 3 years by developed countries for the "fast start of REDD+".

At COP17 in Durban in 2011, it was clear that quick-start funds could not have been made available. Gabon faced a serious dilemma, unable to put the future of its forests and its economy at stake, while waiting for contributions from international donors for emission reduction payments.

In addition, with Gabon's oil economy set to falter in a future low-carbon world, carbon payments could hardly create the hundreds of thousands of jobs Gabon needs to keep its young population, nearly half of whom are under the age of 20, busy.

[9] Source: T. Michinaka. Approximating Forest Resource Dynamics in Peninsular Malaysia Using Parametric and Nonparametric Models, and Its Implications for Establishing Forest Reference (Emission) Levels under REDD+. Land **2018**, 7(2), 70; **https://doi.org/10.3390/land7020070**

[10] https://www.fao.org/redd/en/

The economic model of the Gabonese timber industry is based on the assumption that **a sustainably exploited forest is a preserved forest compared to alternative uses, and on the scientifically demonstrated certainty that such a forest also stores increased quantities of carbon**. Logging, if carried out in a sustainable manner by applying the full range of Reduced Impact Logging for Climate Change mitigation (RIL-C) practices - as envisaged by Gabon - is not harmful to the forest. The removal rate is extremely low (1 to 3 trees per hectare) and RIL-C practices such as directional felling or better road planning make it possible to limit the impact of activities on biomass. It is estimated that **the RIL-C practices by all concessionaires could reduce GHG emissions per hectare by 50% compared to the current national average.**

In addition, sustainable forest management is a gateway to **forest certification**, which Gabon wishes to generalize by 2025 via the "Forest Stewardship Council" (FSC) standard in particular, and which should offer real added value to wood. By increasing the economic value of the forest, certification prevents it from being converted from the forest to other uses, while providing jobs and income. Similarly, Gabon's commitment to **local wood processing**, materialized in 2009 by the ban on the export of logs, makes it possible to give added value to wood and to develop a strong forest economy, contributing to the growth of GDP and jobs while significantly reducing emissions per point of GDP.

For more than a century, Gabon, like many other African countries, exported logs to Europe, and then to the United States and Southeast Asia. However, logs represent only about 8% of the wood value chain (jobs created during the harvesting, extraction and transport of logs represent 8% of the total and 92% of jobs in the sector are in processing). By banning the export of logs and expanding wood processing in the country, Gabon could increase the value of the forestry sector and the jobs it generates by a factor of 10. By supplementing the wood harvested from natural forests with plantations of fast-growing species, the industry could further double this value creation and thus make the forest an essential resource for the Gabonese economy; and to sit on it hundreds of thousands of socially and environmentally sustainable jobs (there are currently 30,000 in the forestry sector), for a category of Gabonese whose livelihoods depend on the sustainable management of the Gabonese forest. Gabon could, literally, **exploit forests (in a sustainable way) to save forests**, by creating a sustainable industry and economy capable of replacing oil and gas in its economy and thus combining a sustainable economy with the maintenance of the carbon sink.

The development of a quality timber sector will imply an **increase in the volumes harvested, which must be accompanied by sustainable management measures**. By generalizing RIL-C practices for all concessions, it will be possible to increase production while reducing or keeping greenhouse gas emissions stable and thus develop a sustainable and economically viable sector.

To achieve this, the implementation of this economic model is based on 3 elements:

1) Attract sufficient private sector investment to develop the industry;

2) Have continued access to international markets for certified tropical timber;

3) Create management and traceability systems to ensure that Gabon's timber products are legal, traceable, sustainable, supportive of both climate and biodiversity, and socially responsible.

Nevertheless, knowing that logging, even with the selective logging practices applied in Gabon with a harvest of 2 trees/ha over a 25-year rotation period, is detrimental to the most sensitive part of the biodiversity of tropical rainforests, Gabon has joined the 30x30 program of the *High Ambition Coalition for Nature and People,* to transform 30% of terrestrial and aquatic ecosystems into protected areas by 2030.

The country's vision is to develop landscapes where the most biodiverse areas are protected, surrounded by a mosaic of forest concessions, community forests and rural areas.

2. Contributions to Mitigation

2.1. Information needed for clarity, transparency and understanding of the NDC

In accordance with decision 1/CP.21, Gabon submits "the information necessary for clarity, transparency and understanding" as part of its national contribution, which is set out in table 1 below.

Type of Commitment	Absolute Commitment
Perimeter	The commitment covers all GHG-emitting sectors as well as the Net absorption capacity of the forest sector
Base year	2005
Period commitment	2020-2030
Reduction Level	Due to its special status as a carbon sink, and the importance of forests in Gabon's climate commitments, the country is committed to remaining carbon neutral and, subject to support, to do everything possible to maintain its net removals at a level of 100 million tCO2eq per year. In 2030, gross emissions from the forest sector are expected to reach **30.4 million tCO2eq (30,381 GgCO2eq)** thanks to the measures put in place**.** Similarly, gross removals are expected to reach **152.5 million tCO2eq (152,489 GgCO2eq).** In 2030, emissions from the energy and agriculture sectors will amount to 3.8 million tCO2eq (3,798 GgCO2eq) under a controlled scenario: 3,322 GgCO2eq **for the energy sector,** 476 GgCO2eq **for the agricultural sector.**

Blanket	The sectors covered are: **<u>Forestry and other land use (ATL)</u>** For the forest and other land use sector, the following reservoirs were considered: above-ground biomass, below-ground biomass and dead organic matter (MOM). Harvested wood products were not included, in line with the methodology for calculating the Forest Sector Emissions Reference Level (FRL) that was presented to the UNFCCC by Gabon in February 2021. *Gas considered: CO2.* **<u>Energy and Oil/Flaring</u>** For energy and oil/flaring, three types of greenhouse gas-emitting activities will be considered, in accordance with the IPCC Guidelines. These are activities related to stationary fuel combustion, mobile combustion of fuels (natural gas, kerosene, diesel, gasoline, etc.) and fugitive emissions related to oil production, natural gas production and flares. *Gases considered: CO2 and fugitive methane emissions. Indirect GHGs: NOx, CO, CONMV, SO_2.* **<u>Agriculture</u>** For the agricultural sector, the carbon reservoirs considered are found in the burning of biomass, which is included here in the fire of savannahs and agricultural residues. Carbon present in drained organic soils is also included for savannahs and croplands. The other components of agriculture are not carbon reservoirs. *Gases considered: CO2, N2O, CH4* The **<u>Waste and Industrial Processes</u>** sectors have been included in the GHG inventories. However, they are not part of the quantified mitigation measures because of their very small impact in proportion to the three main sectors, which are the TF sector, energy and agriculture.
Process Planning	The 2020-2030 NDC was developed using the following methodology: • A first phase of evaluation of the 2015 NDC, the progress made and possible difficulties; • A second phase of stakeholder consultation: institutions, civil society, private sector; • A phase of analysis of sectoral priorities, elements of governance, financeability, and alignment with the Sustainable Development Goals (SDGs); • A cost-benefit analysis of mitigation and adaptation measures. Synergies have been sought with all sectoral and national policy documents, and studies carried out or in progress (IRENA, UNDP). The reports produced by the CNC to the UNFCCC (National Communications, Biennial Update Report) have been prioritized for the identification of actions to be implemented and the quantification of emissions and removals. The development of the NDC has been done with a constant concern for inclusiveness, and the involvement of stakeholders.

Assumptions and methodological approach	The underlying assets taken into account are: • Population growth of 2.7% per year; • Economic growth (excluding the oil sector) of 3.5% on average per year from 2010 onwards. The **"controlled" scenario** takes into account all the public policies undertaken after the year 2000 (forest code, creation of national parks, national plan to reduce flaring, strategic planning of the PSGE with its low-carbon industrial development, National Climate Plan, CAFI's National Investment Framework (CNI), etc.) but also future trends: e.g. the doubling of the volumes of wood produced offset by the implementation of the implementation of sustainable forest management practices known as "RIL-C", carbon neutrality in agro-industrial concessions and eucalyptus plantations.
Why the NDC is ambitious and fair in the considering national circumstances	This NDC is a strategic document for Gabon, informed by extensive data collection, sound technical analysis, and broad stakeholder engagement. In the case of mitigation, detailed information on the sectors and an estimate of the progress of these measures made it possible to propose conditional and unconditional contributions over the period 2020 - 2030. All the proposed measures are also in line with Gabon's development objectives formulated in the PSGE and then the Transformation Acceleration Plan (2020). The NDC is particularly ambitious because it proposes to maintain carbon neutral status until at least 2050. Subject to support, Gabon will do everything possible to remain a **"net carbon sink" country** by committing to maintain a level of net removals of more than **100 million tCO2eq**. At the same time, Gabon will pursue its economic development objectives in the energy, agriculture and forestry sectors, without impacting the country's carbon storage potential.

Table 1: Information to facilitate clarity, transparency and understanding (ICTU guidance) of the NDC revision.

2.2. Mitigation actions and implementation plan

Gabon presents two contrasting scenarios: "Controlled" and "Business as Usual (BAU)" (Figure 5). The controlled scenario represents the conditions under which political actions have been and will be implemented to reduce or prevent greenhouse gas emissions. The controlled scenario takes into account historical data up to 2015 and projected data from 2020 to 2050. The BAU scenario represents conditions without mitigation measures and presents historical data up to 2005, and projected data from 2010 to 2050.

It is important to note that for the TF sector, the projections for the two scenarios (Controlled and BAU) only took into account the data from the "Forest" - as presented in the FRL - and did not include the data from Other Land Use11, as presented in the Greenhouse Gas Inventory (GHI). However, to ensure consistency with the IGES, historical data for the entire TF sector are presented in Figure 5a for 2005-2015 (separated into "Forest" and "Other Land Use"). Emissions and removals from "Other Land Uses" represent only 3% of net removals from the TF sector and (a) are not expected to contribute significantly to the projected net removals between 2020 and 2030, and (b) are not expected to be affected by the mitigation actions foreseen in this NDC.

[11] Drained organic soil, mineral soil, firewood, gains on new land uses after deforestation, gains-losses for conversions that do not concern the forest.

However, the "Other Land Uses" sector will be included in future versions of Gabon's NDC to ensure comprehensiveness in the TF sector as well as full coherence with the IGES.

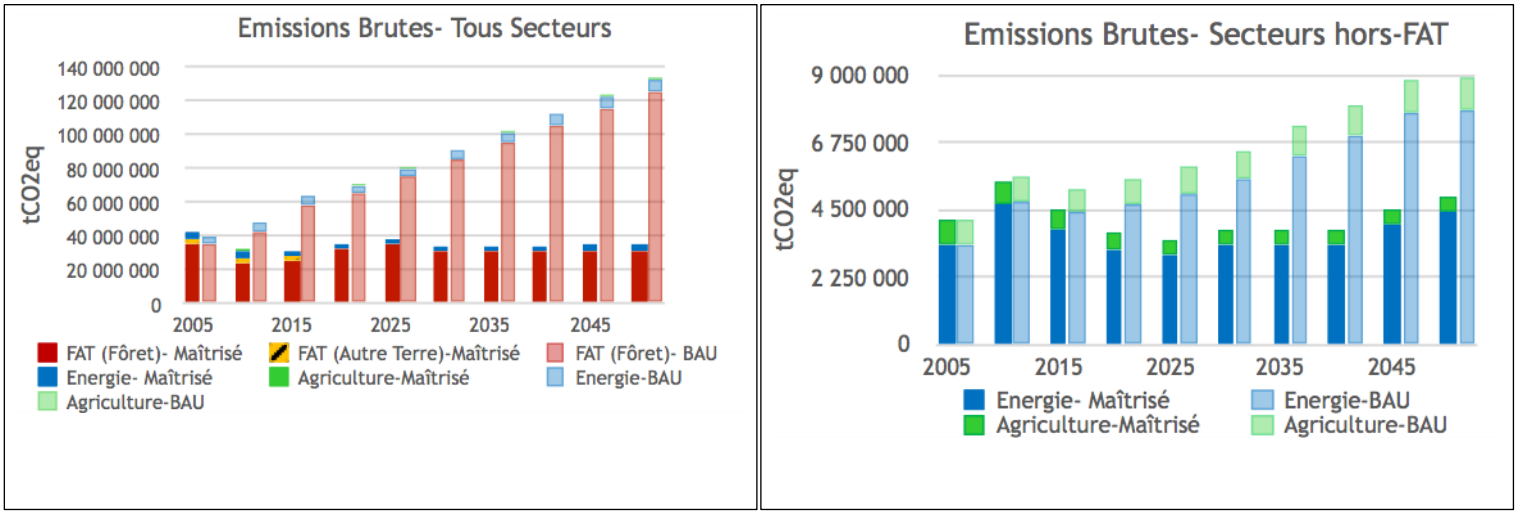


Figure 3. Projected emissions and business-as-usual scenario (BAU) from the TF, energy and agriculture sectors. Data for 2005-2015 are actual performance (striated columns). Data for the scenarios are projected from 2020 and the business-as-usual scenario (BAU) is projected from 201012.

Tables 2 and 3 below present the 2030 ambitions for the 3 key sectors: TF (forestry), energy and agriculture, compared to the 2005 base year.

Sector	Emissions	2005	Mastered 2030	% change 2005-Controlled
FAT (Forest)	Gross Emissions	35 623	30 381	***-14,7%***
	Crude Absorptions	143 602	152 489	***6,2%***
	Net removals	**107 979**	**122 108**	***13,1%***

Table 2 Ambitions to 2030 for the FAT (Forest) sector (GgCO2eq).

Sector	2005	Mastered 2030	% change 2005 - Controlled
Energy	3 338	3322	***-0,5%***
Agriculture	799	476	***-40,4%***
Total	**4 137**	**3 798**	***-8,2%***

Table 3 2030 ambitions for the energy and agriculture sectors: Gross emissions (GgCO2eq)

In 2030, gross emissions will be in the order of **3,798 GgCO2eq** for the energy and agriculture sectors, and net removals of **122,108 GgCO2eq** for the TF sector. Cumulatively, net removals will be **118,310 GgCO2eq** in 2030 across all sectors.

[12] Data from the NRF and the Biennial Update Report (RBA) submitted to the UNFCCC.

Gabon's commitments for this NDC are illustrated in Figure 6. The figures for 2025 and 2030 are projections based on a controlled emissions scenario.

The commitment in this NDC is for 2030. The figures for the period 2035 – 2050 are indicative.

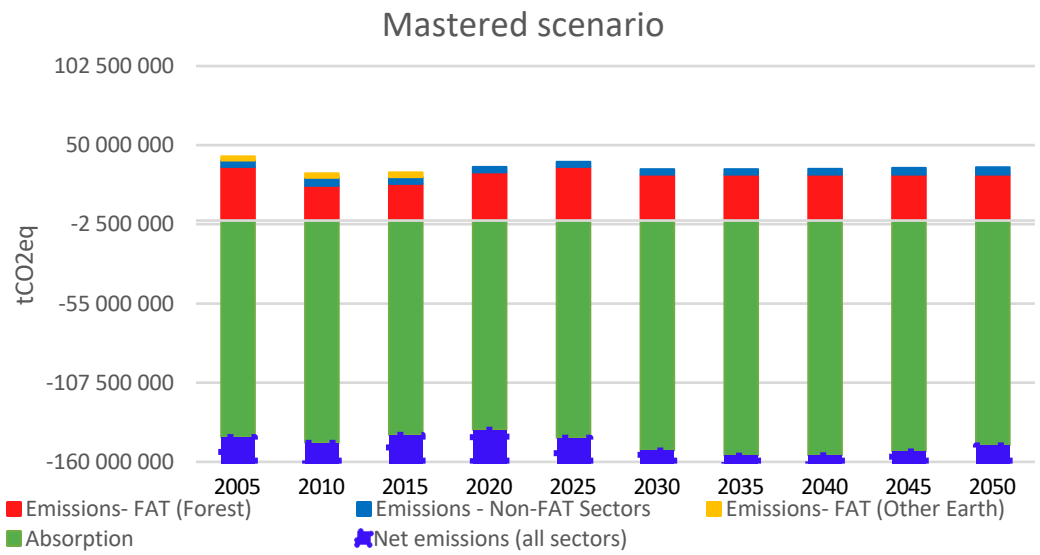


Figure 4. Actual (streaked columns) and projected emissions and sequestrations from the TF, energy and agriculture sectors for the period 2005-2050 and net emissions (or net removals)[13].

Gabon's vast forests, covering 88% of the territory, represent an important carbon stock and a permanent and continuous carbon sink. As described above (and in much more detail in Gabon's Forest Reference Level (FRL)[14]), a series of strong policy decisions and management actions have kept deforestation below 0.1% per year 16 and ensured that protected and managed forests maintain their carbon stock and carbon sequestration function. While the Amazon forests are suffering the impacts of climate change, the African ecosystem is proving to be much more resilient and its potential carbon absorption per hectare due to climate change is expected to decrease by only 14% by 203015. NRF data demonstrate that carbon sequestration is higher in logged forests than in undisturbed forests, which explains the variations in gross sequestration (see NRF for more details – Figure 6).

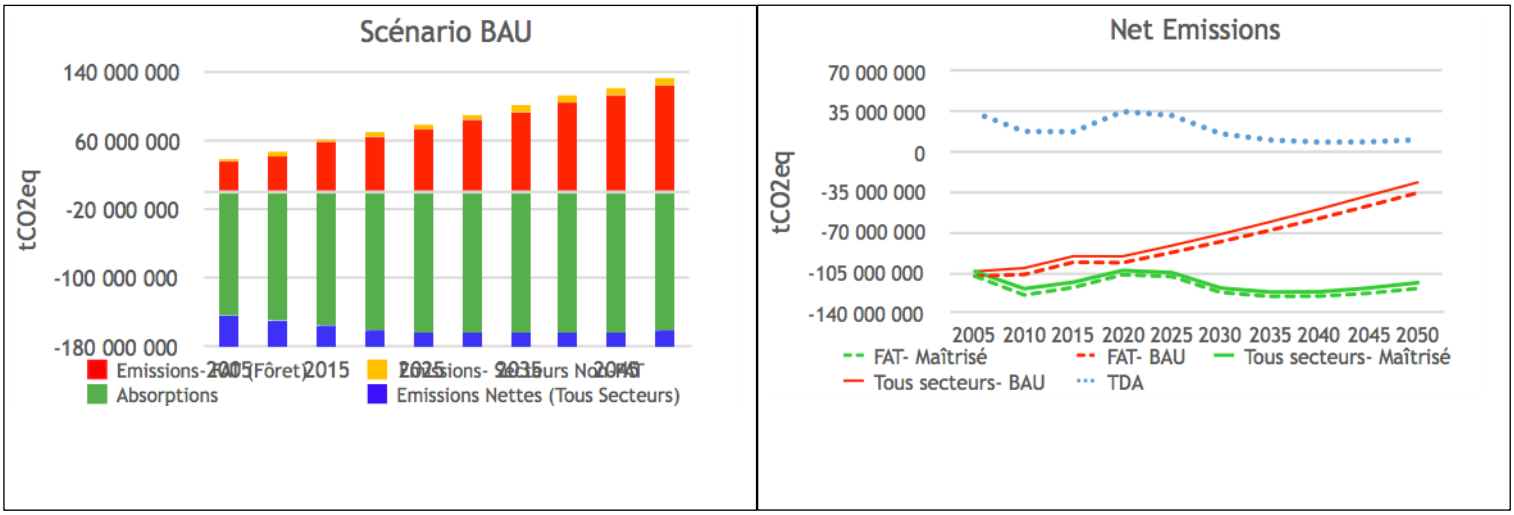
Figure 7 compares the controlled and trend scenarios for the TF, energy and agriculture sectors and also presents a scenario in which we apply the average deforestation rates of tropical forest countries in Gabon16.

[13] NERF data sources (2021, UNFCCC website); 3rd National Communication (2021, UNFCCC website); RBA (2021, UNFCCC website).

[14] Gabonese Republic (2021). Gabon's Proposed Modified National REDD+ Forest Reference Level (https://redd.unfccc.int/).

[15] Hubau et al. (2020). Asynchronous carbon sink saturation in African and Amazonian tropical forests. ***Nature*** https://doi.org.10.1038/s41586-020-2035-0

[16] Achard et al (2014). Determination of tropical deforestation rates and related carbon losses from 1990 to 2010.Global Change Biology, v20,p2540-2554.



(a)

(b)

Figure 5. (a) BAU scenario projections of emissions, sequestration and net trend emissions from the FAT sector (Forest) and other sectors; and, (b) controlled and trend emissions for the TF, energy and agriculture sectors (any sector) from a 2005 base to 2050 relative to the Tropical Deforestation Average (TDA). (Note that the FAT –Mastery line (green dotted line) includes Forest + Other Earth for 2005 -2015, Forest only 2020-2050). The FAT-BAU line includes Drill only 2005-2050

Although Gabon's revised NDC commitment does not refer to a business-as-usual scenario, it is clear from Figures 5 and 7 that in the absence of the good environmental management demonstrated by Gabonese leaders over the past two decades, The country's emissions profile would have been on an upward trajectory that would have brought it closer to carbon neutrality (thus on a bad historical trend) by 2060. Figure 5b shows that if Gabon were just an average rainforest country, with average deforestation, its economy would be a net emitter.

Gabon has chosen not to commit to a business-as-usual scenario, as was the case in its INDC, because future projections are a simulation that, by necessity, are based on subjective judgments, which could be challenged. Had Gabon followed the reasoning of other rainforest countries in Africa and beyond, it might have seemed inevitable that business-as-usual scenarios would become real as countries develop (see Figure 4). That said, Figure 5 **clearly shows that Gabon is on track to meet its INDC commitment to reduce its greenhouse gas emissions by 50%, compared to a BAU model**.

Through its sustainable economic development plan, Gabon is trying to reverse this trend and is undertaking, through this NDC, to remain a net carbon absorber until 2030 and beyond, subject to conditionality of an influx of structured, climate-friendly and responsible investments (public, private and state-guaranteed) to accelerate the transformation of its forest sectors, energy and agriculture, complemented by market-based and non-market financing to reward our net carbon sequestration based on the ecosystem outcomes and services provided by Gabon's ecosystems.

In other words, Gabon also believes that the contribution of the carbon stock, contained in its intact forests, to climate mitigation efforts should be recognized through climate finance (i.e. finance that is not derived from transferable carbon units). Therefore, Gabon is seeking additional climate finance in the form of results-based payments based on the value of its forest carbon stocks and associated ecosystem services (i.e. climate and weather regulation, biodiversity preservation, etc.).

Gabon plans to review emissions and sequestration figures at least once every five years, or as improved data become available. Sequestration projections are in line with the Forest Sector Emissions Reference Level (FRL) and take into account calculations refined as the country strives to continuously improve its methodology. As such, the revised projections take into account projected reductions in annual sequestration rates due to the effects of climate change.17 Gabon reserves the right to adjust the figures based on the improvement of our sequestration data in different ecosystems and if there is an unexpected increase in climate-related emissions from African rainforests, as has been observed in the Amazon.

2.3. Gabon's approach to its forest carbon stock, emissions and removals

In 2030, under a controlled scenario, gross emissions for the FAT (forest) sector are estimated at **30,381 GgCO2eq**, i.e.:

- A reduction in emissions of **5,242 GgCO2eq, or 14.7%** compared to the 2005 base year.
- An emission reduction of **54,720 GgCO2eq, or 64%** compared to the BAU.
- A reduction of **119,480 GgCO2eq, or 80%,** compared to the TDA scenario, which is 149,862 GgCO2eq for 2030.

Gabon is the custodian of about 18.9 billion tonnes of CO2 stored in its forests and an additional 11 billion tonnes stored underground16.

The main mechanism for maintaining forest sequestration capacity is the sustainable harvesting and local processing of wood into finished and semi-finished products for export. Carbon and climate finance will be needed to ensure that this commitment is met.

As a result, Gabon will seek to attract carbon finance in the form of results-based payments and/or by generating carbon offset credits to achieve its goal of developing a sustainable economy in the coming decades. Gabon will only seek funding for carbon sequestration beyond the volume required to remain carbon neutral and is committed to generating carbon offset credits that are consistent with the Paris Agreement, have high integrity, and represent real mitigation.

Gabon is considering two methodologies for establishing the baseline for generating carbon offsets, both of which recognize the strong policy measures and programs implemented by Gabon since 2005 that have kept its forest resources intact. They are not mutually exclusive and will both be supported by the same high-quality research data and programs.

The first option recognizes Gabon's forests as a net sink of CO2, a result of the continued growth of existing forests and recovery from past disturbances, such as agriculture and logging. Gabon believes that the "net sequestration" approach is in line with the goals of the Paris Agreement and will allow for continued sustainable development. Under this approach, all emissions and removals in Gabon's forests will be accounted for, with the results being in line with those submitted to the UNFCCC under the enhanced transparency framework. Only the part of net removals that goes beyond simple carbon neutrality will be considered tradable in the form of carbon offset credits. These carbon credits will be in line with the Paris Agreement and can be sold to other parties to the UNFCCC or to the private sector, with corresponding adjustments.

The second option, which Gabon can use in combination with the net sequestration approach, is to generate carbon offset credits using a BAU scenario, in relation to the emissions that

[17] FRL. 2021

would have been produced without these policies and measures (consistent with other sectors) for activities that include, but are not limited to:

1. **Deforestation avoided** : net carbon dioxide emissions avoided through the implementation of Gabon's forest protection policies from 2005 onwards, compared to the BAU scenario without these policies, including carbon dioxide absorbed by the growth of the existing forest stock on an annual basis that is attributable to avoided deforestation (renounced removals);

2. **Avoided forest degradation** : net carbon dioxide emissions avoided through the implementation of sustainable forest management policies and practices since 2005 compared to a BAU scenario without these policies **;**

3. **Afforestation** : carbon dioxide emissions absorbed by reforestation and restoration activities on an annual basis;

4. **Replacement** of hydrocarbon-based energy sources with renewable energy sources, improvement of the electricity grid to increase efficiency and reduce losses, improvement of energy efficiency, substitution of heavy fuel oil plants with natural gas, implementation of a "zero flaring" plan in the oil industry, and generalization of electricity interconnection;

5. To achieve these goals, it is critical that Gabon is able to access climate finance in exchange for the ecosystem services it will continue to provide, and in doing so, access the long-term development capital financing that the country desperately needs to implement its sustainable economic development and transformation agenda;

6. **Investment** in climate-sensitive agriculture **;** in particular through the promotion of no-till agriculture with the development of agricultural irrigation and agroforestry, the regularization of agricultural land, the preservation of High Conservation Value (HCV) areas in agro-industrial concessions, as well as the use of cover crops to reduce the use of chemical nitrogen fertilizers in plantations;

7. **Improvement** of waste management;

8. Climate-sensitive urban planning and building technology.

2.4. Gabon's approach to energy and agriculture

As a developing country, Gabon must continue its economic growth and in particular ensure its food and energy autonomy. These targets may imply, at least in the short term, an increase in greenhouse gas emissions. Nevertheless, a controlled development of the agriculture and energy sectors will make it possible to maintain a relatively stable level of emissions compared to the trends observed since 2015.

Thus, under a controlled scenario, gross emissions from the energy and agriculture sectors will amount to 3,798 GgCO2eq in 2030 compared to 4,137 GgCO2eq in 2005.

- In 2030, for the energy sector, gross emissions will be 3,322 GgCO2eq under a controlled scenario.
- In 2030, for the agriculture sector, gross emissions will be 476 GgCO2eq under a controlled scenario.

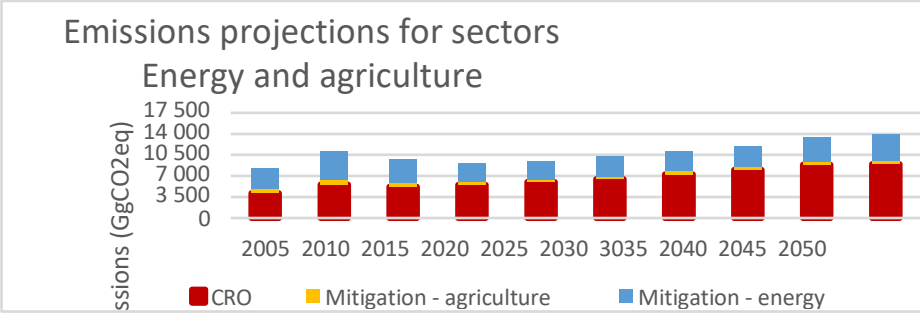


Figure 6 - Emissions from the energy and agriculture sectors compared to the BAU scenario.

2.4.1. ENERGY

A gradual replacement of diesel power plants by natural gas-fired thermal power plants is already underway (70MW completed). At the same time, the emphasis is on the development of hydropower, with a target of 260 Mega Watts (MW) of installed capacity by 2030 and 630 MW by 2050. This makes it possible to reduce energy dependence on fossil fuels and to optimize Gabon's strong hydraulic potential.

The development of solar photovoltaics, which is in the planning phase, must be supported by international donors. The measure aims at both the development of a grid-connected solar power plant with a capacity of 115 MW by 2030, as well as the installation of hybrid mini-grids (solar/diesel) and 330,000 solar water heaters.

Improving energy efficiency in transport, households and industry (installation of solar and LED street lights etc.) will also have a significant impact on reducing emissions. Future regulations should be able to limit the import of incandescent lamps in favor of LED and compact fluorescent (CFL) lamps. 9 million low-energy lamps (LBC) are to be supplied to households, as well as 35,000 compact air conditioners. At the same time, an improvement in energy efficiency in services and industry (installation of solar and LED street lights, etc.) must be required.

The development and interconnection of electricity transmission networks will allow better access to electricity for the Gabonese population as well as a reduction in losses on the network.

The Zero Gas Flares Plan for the Oil and Gas Industries will be updated in the light of the conclusions of the Gas Strategy Task Force. Finally, a new Electricity Code is currently being drafted and will provide a clearer legal framework for energy efficiency measures.

2.4.2. AGRICULTURE

Gabon wishes to engage in the promotion of no-till agriculture through the development of agricultural irrigation and agroforestry, the regularization of agricultural land, the use of cover crops, as well as the training and sensitization of agricultural stakeholders on the use of good agricultural practices.

The preservation of High Conservation Value (HCV) areas within land reserved for agriculture, already implemented in oil palm plantations by OLAM, will limit the impact of industrial agriculture on the Gabonese forest.

2.4.3. WASTE

The waste sector is a sector that emits GHGs through the incineration of waste in the open air, and through wastewater management. Emissions from this sector represent a marginal share of national emissions and are therefore not included in Gabon's mitigation commitments, but in view of the country's strong population growth (2.7% per year), emissions from this sector are expected to increase. The

Gabon now wishes to reflect on mitigation measures aimed at better waste management (sorting, recycling, compost) and its recovery (biogas from municipal solid waste). Thus, this sector is not the subject of a quantified commitment in terms of GHG reduction, but the country is committed to studying and developing the proposed measures.

3. Gabon's needs – adaptation

Gabon is in the process of finalizing its national climate change adaptation plan. It is clear that it will need support to enable it to adapt to the effects of climate change, including rising sea levels, the intensity of extreme weather events, the temperature of our cities and the impacts of climate change on neighbouring countries, in particular climate-related migration. There is also the issue of economic adjustment, given that our economy is 60% dependent on oil and gas revenues and that these will decline or even disappear in the next two or three decades. Gabon will improve its future NDCs to include clearer adaptation goals and needs, based in particular on the future national adaptation plan.

The following list of key adaptation actions will require support, which will be quantified at a later date:

- Gabon's transition from an oil and gas-dependent economy to a sustainable green economy. This will require significant investments in sustainable logging and wood processing, as well as appropriate logistics infrastructure (roads, railways and ports). The availability of concessional or sovereign financing for private sector commercial enterprises that adhere to climate and sustainability principles would significantly accelerate this transition;
- Reinforcement of coastal infrastructure in Libreville and Port-Gentil in the short and medium term and assessment of the possible need to relocate and rebuild Port-Gentil, which will be below 2 m altitude in the medium to long term;
- Urban planning, climate-resilient architecture, and relocation of people and industries to areas that will be prone to flooding in the coming decades;
- Creation of green spaces and planting of trees in urban areas to reduce the temperature of urban environments;
- Shift to climate-resilient, modern, carbon-positive tropical agriculture;
- In Gabon, we are already seeing a decline in fruit production from rainforest trees (perhaps a first reaction to climate stress, the reduction of investment in fruit production to focus resources on growth), resulting in a lack of food for rainforest fruit animals. Elephants have lost their physical shape over the past two decades (they are thinner because they are hungry) and there has been a significant upsurge in crop plundering by elephants in rural and even peri-urban areas. The country must adapt to this situation by installing electric fences to protect elephant crops18.
- Investment in the Franceville International Center for Medical Research, CIRMF, to enable it to monitor and mitigate the effects of climate change on health and emerging diseases;
- Investing, now, in the preservation of strategic ecosystems, such as mangroves, which will mitigate flooding in cities in the future, or coastal forests, which are essential for maintaining rainfall in the interior of the country;

[18] E. Bush et al., 2020. Long-term collapse in fruit availability threatens Central African forest megafauna. *Science* 24 Sep 2020: eabc7791DOI: 10.1126/science.abc7791

- Irrigation of industrial crops because rainfall is decreasing in the interior of the country;
- Improvement of land use planning and investment in the maintenance of key watersheds, both urban and natural, to limit flooding related to extreme weather events;
- Investments to ensure the climate resilience of key infrastructure;
- Preparation for the increase in climate-related migration and instability in the region;
- Investment in research and related capacity building to better monitor, understand and predict the impacts of climate change.

4. Means of implementation

4.1. Financing information - call for access to climate and carbon finance

In line with the intent of the Paris Agreement, which supports results-based payments and the monetization of climate mitigation outcomes through the creation and sale of internationally transferred mitigation outcomes and carbon offset credits, Gabon's NDC recognizes that Gabon must have access to all sources of international climate and carbon finance (recognizing the importance of avoiding double counting) as presented in Table 4.

4.1.1. CARBON FINANCE

Through its ability to store and absorb more CO2 than it emits, Gabon can and must claim financing from carbon markets.

Ordinance No. 019/2021 of 13 September 2021 on climate change will make it possible to set up a national carbon credit market, already outlined in 2014 in the Sustainable Development Law. This national market can contribute to the financing of certain actions, through a financial compensation system for the effort to reduce GHG emissions through a national greenhouse gas register whose mission will be to channel and stimulate part of the financial flows dedicated to the reduction of emissions (State budget, private investment, carbon levy, income from domestic market credits, via a carbon tax on transactions of credits, contributions or loans from TFPs).

The climate management body, created for this purpose, will also be able to market carbon credits internationally and thus obtain money from the sale of the credits, which can finance other actions. However, this marketing can only be done on emission reductions that do not fall within the objectives of this NDC, to avoid double counting of emissions.

The issue of **carbon pricing** remains crucial: it must be **fair**, given the importance of the Congo Basin forests for the climate resilience of the entire African continent, and sufficiently **remunerative** to cover the investment costs of measures and finance additional programmes, particularly related to adaptation to climate change.

	Results-based country-to-country payments for performance-related payments for continued sequestration above Gabon's sectoral emissions from ITMO (Article 5.2 of the Paris Agreement).	Country-to-country sale of internationally transferred mitigation outcomes (article 6.2 of the Paris Agreement)	Sale of carbon offset credits to meet compliance and voluntary obligations (Article 6.4 of the Paris Agreement; voluntary markets)
Climate finance			
Existing forest carbon stock Existing forest carbon stocks, environment and associated ecosystem services (Climate regulation and weather)	x		
Carbon financing			
Net sequestration (option 1) A portion of net carbon dioxide removals in forests, beyond what is needed to ensure Gabon's carbon neutrality	x	x	x
Avoided deforestation (increase in net sequestration relative to BAU) (option 2) Net carbon dioxide emissions avoided through the implementation of Gabon's forest protection policies compared to a 2000-2009 baseline, including carbon dioxide absorbed due to the increase in existing forest stock on an annual basis due to avoided deforestation (forgone removals).	x	x	x

Avoided forest degradation (increase in net sequestration relative to BAU) (option 2) Net carbon dioxide emissions avoided through the implementation of Gabon's forest protection policies compared to the 2000-2009 baseline period.	x	x	x
Reforestation (increase in net sequestration) (option 2) Carbon dioxide emissions absorbed from reforestation and restoration activities per year	x	x	x
Reductions in line with the Paris Agreement, "equivalent to the Clean Development Mechanism (CDM)" in the energy, agriculture, industry and waste sectors (option 2)	x		x

Table 4 Different options for climate and carbon financing.

4.1.2. TECHNICAL AND FINANCIAL PARTNERS (TFPS)

4.1.2.1. Green Climate Fund (GCF)

As part of the fight against the effects of climate change, the Green Climate Fund (GCF) has granted USD 300,000 to Gabon. This sum represents the first grant granted to the country to strengthen the institutional capacity of the Designated National Authority (DNA)[19]. In 2018, Gabon submitted its country program document to the Green Climate Fund (GCF), defining investment priorities in the fight against climate change, in six priority sectors: forestry, hydrocarbons, electricity, coastal adaptation and climate information, agriculture, cities. The Caisse des Dépôts et Consignation du Gabon is in the process of being accredited by the GCF in order to increase its capacity to attract financing for climate actions, however, it already acts as a service provider on behalf of the GCF. Other potential entities have been identified in the country program to serve as accredited entities: the FGIS, the ANPN and the ANGT, thus expanding the portfolio of potential projects. Capacity building of these entities applying for accreditation is an essential prerequisite and part of it could be financed directly by the GCF in the framework of readiness support.

4.1.2.2. Other TFPs

At the regional and international level, already accredited entities can be mobilized, capable of carrying out larger-scale projects: Africa Finance Corporation, International Finance Corporation, AFD, AfDB, World Bank or FAO for the agricultural sector.

In the **oil sector**, the country has benefited from $372 million for gas flaring reduction (GGFR) at the World Bank's initiative after adopting a national flaring reduction and associated gas recovery plan in November 2015.

In the **electricity sector**, the CDN highlights the development of hydroelectricity, which should cover 80% of production in 2025, with the remaining 20% covered by gas and other renewable energies. The NDC presents a number of projects to be carried out in the energy sector, as does Gabon's energy policy 2016-2025 (Directorate General of Energy, 2017). While climate finance should not concern investments in gas-fired thermal power plants, it could concern, in addition to hydroelectric projects, investments in renewable energies, particularly for the electrification of isolated rural areas. The total financing required in this sector would be approximately USD 4,256 million.

The **FAT sector** benefits from significant support from CAFI (Initiative for Central African Forests) which finances the development of the National Land Use Plan (PNAT), the National System for the Observation of Natural and Forest Resources (SNORNF) to the tune of USD 18 million for a better knowledge of the resource. In 2021, two programs will be launched, one on the increase of protected areas and the development of agriculture (USD 5 million) and the other on support for forest certification with a view to reducing greenhouse gas emissions (USD 7 million). The third phase of CAFI takes the form of a results-based payment system. This will provide Gabon with financial means to continue to implement activities relating to the sustainable management and preservation of forests. The partnership, worth up to $150 million, provides Gabon with an incentive to reduce GHGs by setting a carbon price floor of US$5 per tonne and US$10 per certified tonne. The first payment for results took place in June 2021, for an amount of $17 million corresponding to 3.4 million tCO2eq stored. This mechanism has the advantage of not generating double counting (accounting for emission reductions by the host country and by the buyer) since Norway, which made the payment, does not use the credits to offset its own emissions. Emission reductions remain attributable to Gabon. Part of the CAFI funding will be used to finance the mitigation efforts presented in this second NDC.

[19] UNDP, 2021, Mapping and roadmap for the implementation of a National Integrated Financing Framework

The World Bank's Forest Carbon Partnership Facility (FCPF) is financing a program to support the implementation of a strategy to reduce emissions related to logging, implemented by the National Agency for National Parks (ANPN) (USD 1.95 million).

The **agricultural sector** is currently developing rapidly in Gabon and is a political priority, with support for small producers through the GRAINE programme and the development of industrial agriculture (oil palms, rubber trees, etc.) through the allocation of large-scale agricultural concessions to companies such as OLAM and SIAT. It was estimated that the main opportunities for climate-related investments and projects by the GCF in the Gabonese agricultural sector would require $116.1 million.

In terms of **water resources management**, several programs are already envisaged: a project to build 5 watersheds in Greater Libreville (IDB financing), the Integrated Program for the Supply of Drinking Water and Sanitation in Libreville (PIAEPAL, AfDB financing), the PASBMIR project for the rehabilitation of 27 boreholes (World Bank financing, USD 60 million), the rainwater harvesting project for agriculture (funded by FAO) and the project to strengthen the capacities of water and sanitation stakeholders (UNESCO, about USD 140,000) [20] . Finally, to combat **flooding** in Libreville and promote the development of watersheds in the field of rainwater sanitation, Gabon has received $110 million and $344 million respectively from AFD21. For the improvement of climate **data** , on the other hand, international funding is needed to fill the gaps. Membership of institutions such as IHO (International Hydrographic Organization) is a way to obtain funding, especially for capacity building.

4.2. Technology development, transfer and capacity needs

A technology needs assessment as well as a capacity building needs assessment are yet to be conducted in Gabon. This will clearly define the specific needs of the identified sectors. Without the necessary technology, capacity, and enabling conditions that drive sustainable economic and societal innovation, Gabon will not have the capacity to fully implement its NDC. Gabon will therefore seek international partnerships (both public and private) to take advantage of opportunities for technology development and transfer and continuous skills improvement, particularly in key sectors of the NDC.

5. Improvements to Gabon's NDC

Various improvements to our NDC commitments are either already underway or needed:

- Improvement of all our methods and systems for inventorying and monitoring GHGs and deforestation (stocks, emissions and sequestration) in all sectors, including the monitoring of non-carbon GHGs (such as methane emissions from gas pipelines);
- Creation of climate change models that take into account the complex climate system of the Western Congo Basin and strengthen knowledge of the links between the forest ecosystems of Gabon and the Greater Congo Basin and the surrounding regions (water supply, influence on rainfall and climatic patterns, etc.);
- Finalization of the national climate change adaptation plan;
- Gabon is currently working to understand the impacts of human activities, particularly bottom trawling, on marine ecosystems and their carbon emissions and removals. The country is developing a set of data-driven reforms of fishing techniques and methods and will achieve the protection of 30% of marine ecosystems by 2030 (currently 27%), in order to reduce emissions and increase sequestration in the country's territorial waters and Exclusive Economic Zone. Other measures to increase carbon storage in the oceans, such as the protection of whales and sharks (the large predator that plays a key role in maintaining the balance of the oceans), will help to keep the oceans in the world.

[20] UNDP, 2021, Water Sector Diagnosis and Brief Argument for Advocacy on the Inclusion of the Water Sector in the NDC

[21] UNDP, 2021, Mapping and roadmap for the establishment of a National Integrated Financing Framework

, which maintains and promotes carbon capture) will also be implemented as scientific knowledge becomes available.

6. Summary of commitments

Depending on the national context and the economic situation, Gabon commits to providing the **following NDC** within the framework of the Paris Agreement:

- By maintaining a carbon neutral balance until 2050 unconditionally; and maintaining net carbon removals above 100 million tonnes per year in 2025, 2030 and beyond,
- **Subject** to the following requirements and conditions, which must be met in order for Gabon to finance its sustainable development and exit from the oil and gas economy:

    1. **Climate finance** : Gabon must be able to access international climate finance in the form of results-based payments under the Paris Agreement for its existing forest carbon and environmental stocks and associated ecosystem services (i.e. climate and weather regulation).

    2. **Carbon finance** : Gabon must be able to access international carbon finance under the Paris Agreement and voluntary markets that recognize Gabon's historic and ongoing contribution to mitigating the climate and environmental crises.

    3. **Agriculture and forestry** : Gabon must be able to benefit from the sustainable development of its agricultural and forestry sectors, which means that international markets must remain open to Gabon's timber and agricultural products from sustainable and carbon-neutral sources until 2050; and.

    4. **Technical support and technology transfer** : Gabon needs support to continue improving its forest and land sector inventory and reporting systems and its climate change modelling capacity, including but not limited to additional research and assessment sites, modelling, remote sensing and support for the development of a national system.