

## Recommendations for the contents of the appendix

The appendix shows the actions planned or established to achieve the goals to decrease emissions, in general terms for 2030. The appendixes that present the subscribers of the Agreement, illustrate the mitigation strategy of the leaders regarding global climate.

Because the goals and opportunities of each jurisdiction are different, each appendix will keep its own format; however, the appendix may share certain common elements. We invite you to describe the **profile** of your jurisdiction, specify the goals of reduction and to provide the examples of the tools used to achieve these goals. We recommend that the appendix have no more than two pages.

The following questions are exclusively presented as recommendations for these topics of your appendix. The below list has no purpose of being exhaustive or exclusive, some of the issues may require high amount of actions and jurisdiction plans for the reduction of emissions, while other could require less requirements. They should use their own judgement to solve this situation. This includes the review of the appendixes set-forth by the state of California (USA) and Baden-Württemberg (Germany), and others are in wording process.

### **PROFILE**      ¿What is your geographic, demographic and economic profile?

The department of Guaviare is one of the 32 departments of Colombia. It is located in the south-east part of the country, in the watershed of Guayabero and Guaviare Rivers in the North and Ajaju River and Apaporis River in the South. It spans ca. 5,552,727 ha. This department is constituted by fourth municipalities, San José del Guaviare (capital city), El Retorno, Calamar and Miraflores. The territory is legally comprised of areas of the National Natural Parks (Parque Nacional Serranía de Chiribiquete and Reserva Nacional Natural Nukak with 418,615.7 ha and 879,263 ha, respectively), 26 reservations with 32 indigenous communities with 2,076,561.73 ha, an area subject to use restriction for the protection of renewable resources, Integrated Handling District (DMI) with 487,712 ha, and a forest reserve area for protection and agroforestry production around 1,705,489 ha in tropical rainforest. The department of Guaviare has ca. 16,424 km<sup>2</sup> of drainage flowing towards the Basin of Orinoco River and Amazonas River. The foregoing shapes specially the territory providing so an incalculable legacy of mega diversity.

According to National Administrative Department of Statistics (DANE), population is 112 thousand inhabitants approximately for 2015. By gender, 50% female and 50% male; by location, 46% rural and 54% urban; by age, 60% is younger than 30 years and 6% is elderly people; by culture, 7% indigenous communities distributed in three largest groups: tucanos, jiw and nukak, and a small number of sikuanis. These three groups are protected by national regulations. In addition, 7% afro-descendant communities is also recognized.

- ¿What is the Gross Internal Product (or economic output measured by another economic indicator)?

According to 2015 partial information by DANE, the department GDP is 0.1% and GDP per capita is USD3,039. Its structure is calculated in more than 45% for social, community and personal services, followed by construction, trade, tourism, agriculture and livestock, and financial services. Likewise, 2013 CEPAL competitiveness indicators place Guaviare in the 28th position in the ranking by departments. The most significant variable is Public

Finance and Management in the 24th position and the farthest is Infrastructure in the 29th position.

## **GOALS**

### **¿What are your goals for reducing and avoiding emissions?**

- *¿What emission reductions are you trying to achieve (percent/metric tons, overall/per capita)? ¿By what year? ¿From what baseline are you measuring?*

According to calculations, there is an intervention around of one million hectares in Guaviare. However, it records the second highest deforestation rate in the country with ca. 23,000 ha per year according to the Institute of Hydrology, Meteorology and Environmental Studies (IDEAM) in 2014. Despite this, there are invaluable forest and biodiversity treasures.

Taking into account this important aspect, the national government aims at zero deforestation emissions by 2030, for which this should be coordinated from the region. Since without a healthy forest in Guaviare and the rest of Amazonas the global hydrological cycle and climate regulation protecting Colombia and the world would be destabilized before the global warming (IPCC AR4).

- *¿What additional emissions are you trying to avoid?*

CO<sub>2</sub> emissions (carbon dioxide) from energy generation using fossil fuels and CH<sub>4</sub> emissions (methane) from sanitary landfills. For determining the goal of emissions to mitigate, an inventory to be performed during 2016 is planned

- *¿Do you have any intermediate targets?*  
It is expected to reduce the deforestation rate by half in 2015 (11,500 ha/year).
- *¿Are you focused on reductions in any particular priority GHGs?*  
CO<sub>2</sub> (carbon dioxide) mainly and CH<sub>4</sub> (methane).

- *¿Which are the current emissions (global, sectoral, by GHG)?*

In Guaviare, there is no estimate on emissions generated by sector or pollutant. It is expected to obtain this information through the development of the project.

- *¿Do you have any monitoring or reporting obligations (internal/external, binding/non-binding)?*  
To date there is no enforceability, but regular monitoring in the development of the agreement are considered.

## **TOOLS**

**What goals, standards, policies, technologies, etc. are you implementing or planning across various sectors to develop sustainably and meet your GHG emissions reduction targets? For instance, what are your actions and commitments around...**

- *Renewable energy, energy efficiency, and energy storage?*
  - Alternative and renewable energy system projects
  - Preparation of a study to find viability to use solar and photovoltaic energy in areas of highest concentration of energy use
  - Possible use of CH<sub>4</sub> from sanitary landfills

- Prepare a new version of the Integrated Solid Waste Management Plans (PGIR) Standards:

- *Decree 1715 of 2014*: By which it is designated the wetland complex “Estrella Fluvial Inírida” to be included in the list of Wetlands of International Importance in compliance with provisions set forth in Act 357 of 1997.
- *Decree 2143 of 2015*: By which it is added the Single Regulatory Decree 1073 of 2015 by the Administrative Sector of Mines and Energy, regarding the definition of the guidelines for the application of the incentives set out in Chapter 111 of Act 1715 of 2014.
- Comprehensive Solid Waste Management Policy, Ministry of Environment, 1998.
- National Cleaner Production Policy, Ministry of Environment, 1998.
- Decree 1713 of 2002 regulating Act 142 of 1994, Act 632 of 2000, and Act 689 of 2001 regarding the provision of public sanitation services, Decree-Act 2811 of 1974, and Act 99 of 1993 regarding the Comprehensive Solid Waste Management.

Technology:

- Solar, photovoltaic, and biomass use
  - High efficiency TEA for burning methane.
- *Sustainable transportation? (reduction of travel in single-occupant vehicles, fuel switching, fuel efficiency, freight/rail/aviation)*
    - Project to improve the transportation, connectivity and communication means.
    - Innovation and change of the current transportation system by using alternative fuel transportation systems (at present, the majority of transportation in the zone corresponds to boats with high consumptions of fossil fuels.)
  - *Natural resource protection? (forestry and wild lands management, agricultural management, ecosystem services protection, coastal resource management, carbon sinks and sequestration)*

The commitments assumed by the Government of Guaviare in this process within the Development Plan “Así marcamos Huella” are focused on the structuring elements of public policy, science and technology actions, and development of supplementary actions for sustainable development:

*Public Policy:*

- Unified vision of sustainable development as long-term public policy for Guaviare (in progress).
- Departmental land use plan defined with guidelines and sustainable development policies defined for Guaviare (in progress).

- Municipal land use plans reviewed and updated for adequate territory development (in progress).
- Adjustment to the regional competitiveness plan of Guaviare (executed).
- Structure of environmental policy and economic policy spaces for discussing the departmental strategic issues (CODPA regulated and in operation).
- Departmental information system structured for the availability of information.

*Science and Technology:*

- Research in forest relicts as strategy to generate environmental goods and services in Guaviare (in progress).
- Technological development to sustainable use of non-timber forest products and productive units in Guaviare (in progress).
- Methodological standardization for assessment of CO2 capture level for deforestation and avoided deforestation as contribution initiative to mitigate climate change.

*Supplementary Actions:*

- Ordered hydrographic basins providing municipality aqueducts, on which reforestation and restoration programs for their protection and conservation are supported.
- Acquisition and provision of strategic areas to municipalities for the conservation of water resources in ordered hydrographic basins providing in municipality aqueducts.
- 2,400 ha of forest in riparian buffer zones and headwaters of ordered micro basins providing municipality aqueducts with reforestation actions, restoration for their protection and conservation. Involve 160 farms in the protection of biodiversity resources.
- 1,600 ha of reforested with agro-forestry systems in farms.

### **Additional topics to be considered**

The presentation of the profile, goals and mitigation tools of the jurisdiction may represent most of your appendix. However, in some cases the appendix aboard additions that are important for the jurisdiction, among others in **training and adaptation** regarding the climate change. The following questions are again only presented as recommendation and your appendix should cover the most relevant topics for your jurisdiction, independent if these are included or not in the list.

They could possibly treat topics related with the capacity indicated in their possibilities to achieve issuance reductions. For example, they could comment aspects related with their capacity when the key components are successful in the mitigation. Now, in case there is a breach in their capacity which could result in an obstacle for the implementation of the mitigation measures, it could possible see the appendix as an opportunity to show those areas in which the jurisdiction seeks a greater collaboration (parenthesis are included for questions made).

The Scope of the Minor Collaboration Agreement 2 and its Appendixes are the mitigation of the GHG emissions; nevertheless, it could also possibly mention actions and plans regarding the climate change in case there is importance for your jurisdiction.

## CAPACITY

### ¿ How will you ensure adequate financial, institutional, and workforce capacity to develop sustainably and meet your GHG emissions reduction targets?

- *¿ What market incentives and funds are in place or planned to support implementation of emissions reduction measures? (What additional funding is needed to meet your emissions reduction goals? Over what period of time?)*

Through the environmental services payment program BanCO2 resources are managed for the protection and conservation of forests in the Integrated Handling District (DMI), and other projects for obtaining funds to finance the initiative will be managed.

- *¿ Are you leveraging existing domestic and international partnerships to fund reduction measures? (Are you hoping to establish new partnerships?)*

There is an inter-agency structure determined in the Consejo Departamental de Política Ambiental (CODPA) and other political articulation schemes led by the Governor, which allows to focus the efforts to the achievements agreed in the sector. Likewise, many instruments are determined or to be concluded that allow a clear guidance for the development of the actions and the commitment to medium and long term.

- *¿ What institutional structures are in place or planned to implement and monitor your emissions reductions policies? (Are you hoping to strengthen institutional structures through internal development and/or external partnerships on technology transfer and research?)*

At the moment, strategic alliances of international cooperation for the strengthening of forest governance and the reduction of deforestation are implemented, developing institutional and community awareness methodologies through programs such as Visión Amazonía, GEF, and Corazón Amazonía, which seek to consolidate the reduction of deforestation, conservation of the forests, reduction of emissions, and mitigation of climate change.

- *¿ Are you investing in workforce development and leveraging public-private partnerships to achieve long-term emissions reductions across economic sectors? (Are you hoping to partner with new investors?)*

The Geographic Information System platform is currently strengthened with equipment and qualified personnel for monitoring the deforestation and quantification of emissions from this activity.

The implementation of the project seeks to strengthen the ability to consolidate public-private alliances for the reduction of emissions

- *¿ Are you conducting outreach to increase public awareness and encourage public engagement on climate change mitigation?*

The corporation carries out on a regular basis the disclosure of topics related to mitigation and adaptation to climate change and risk management, through radio and television programs, workshops, etc. in the environmental education program.

## **ADAPTATION**

### **¿how will you adapt to climate change?**

- *How will you address equity and environmental justice?*
- *¿ How will you safeguard human health?*
- *¿ How will you prepare for extreme weather events?*

To answer these questions a consultancy during the first half of 2016 will be contracted to develop the adaptation plan to climate change in the region and establish a budget for the actions to be implemented during the next four years.