

Project Title
Panama Canal Authority (ACP) Sustainable Forest Convert Establishment project.
Gold Standard ID
GS-3421
Type of Certification
<input type="checkbox"/> Initial Certification <input checked="" type="checkbox"/> Performance Certification <input type="checkbox"/> New Area Certification <input checked="" type="checkbox"/> Annual Reporting

For each item listed below, please provide a general description in the corresponding box. In total, this document shall not exceed 5 pages. Be aware that carbon market specific terms may not be appropriate for the readers of this summary. The formatting requirements provided in chapter 7.4 must be followed.

1. Key Project Information

(a) <u>Project</u> activities
<p>The monitoring or maintenance of the projects in the commercial MUs, which are projects tendered every 5 years (ACP_PA_PC2016_R20, TDR Commercial Maintenance 2016), the activities of each stage are verified, through the Environment Division, who is the Recruitment Officer's Representative - ROC. In the commercial and conservation modalities, monitoring is maintained through overflights, Drone use, field visits, satellite imagery analysis and mapping. In commercial plantations, cleaning, protection and pruning activities continue in 30% of the plantation in Chagres, San Vicente, Caribe and Potabilizadora. For the performance certification report, all maps with relevant information were updated for Conservation and Commercial MUs.</p> <p>Due to the impact of areas for the execution of projects of national and municipal interest, which were compensated, the ACP team developed detailed measurements and verifications in the units of commercial and conservation management, excluding 14 hectares in conservation in Ciudad del Arbol. It also excludes one (1) hectare in commercial, in Caribbean by affectation of humidity.</p> <p>For the conservation projects, a Monitoring was developed to know the current state of the Agroforestry farms of the FY2009 / 11 years. According to the result of the monitoring of conservation status, the ACP develops maintenance contracts to ensure the growth and development of areas that require it (ACP-PA-PC2016 Informe_Conservación_enero2016).</p> <p>In the areas of silvopastoral and agroforestry modalities, communication with the producers is maintained and the established areas are visited to know the development of the projects. From this information, it has been possible to determine that silvopastoral model, the tree component has not the expected survival and the exclusion of 503 silvopastoral hectares from the certification is being reported.</p> <p>In the agroforestry MU, the ACP has collaborated in the organization of an association of coffee growers called ACACPA. With the production and commercialization of coffee, the producers ensure the maintenance of the areas. Inspections are carried out to the areas, visits and follow-up meetings with beneficiaries and key stakeholders. Producers who benefit from coffee agroforestry activities benefit from the harvest, consumption and sale of coffee. The coffee producers have been organized in an association of coffee growers called ACACPA.</p> <p>Meetings with local committees and advisory councils, as well as with the Association of Coffee Producers of the Ciri and Trinidad Rivers of the Panama Canal sub-basin (ACACPA) are constant, and are informed of the progress and related issues of the Environmental Economic Incentives (PIEA in spanish) project. In the meetings of consultative councils the representatives of the Ministry of Environment and of Agriculture of each region participate.</p>

(a) Project activities

Annually, visits are received from national and international organizations and from producers from other regions of the country to learn about the work that is being carried out in the activities of the PIEA.

In the summer of 2016, the services of a specialized company were contracted to install 85 permanent monitoring plots in the management units (MUs): commercial, conservation and agroforestry systems, in areas of the Program of the PIEA, to measure dendrometric parameters and diversity of the tree component and the biomass within each plot

GIZ / Southern Austral personnel developed the tCO2 calculations in the UMs of the ACP program, for the compliance audit.

(b) Organisations that are involved in the project (project participants)

As organizations involved in the project are: the Association of Coffee Producers of the Cirí and Trinidad River Channel Sub-watershed, which is ACACPA, organized by ACP, to work in a group in order to market and sell their coffee production.

Key stakeholders participate in meetings of local committees and advisory councils quarterly to analyze their areas and activities, where they can provide comments or make any complaints or questions; in addition, periodic meetings are held with the coffee producers' association of the Capira region in Watershed, where most of the participants have been beneficiaries of the Environmental Economic Incentives Program (PIEA).

The local committees and advisory councils of Ciri and Trinidad Watershed; The Ministry of Environment (MiAmbiente) and the Ministry of Agriculture (MIDA) are collaborating organizations on the project. As Technical Cooperation, GIZ (German Cooperation) has supported the development of the carbon dioxide estimation methodology established by the plantations and the forest inventory of the certified plantations. Also, the support of the NATURA Foundation, the Development Bank of Latin America (CAF) and FOMIN from the Inter-American Development Bank, in the strengthening of the association of coffee growers of the area.

(c) Communities involved in the project

The communities involved in the project are those close to the agroforestry projects development areas, mainly in the Cirí and Trinidad subbasin, grouped in the MU (Santa Rosa, Trinidad, Cirí Grande, Cacao Mijas, Arenosa, Bajo Bonito, Beautiful view, Bonga Down, Bonga Center, Chilean, Ciri de los Sotos, Cirí Grande, Ciricito, Ciricito Down, Ciricito Up, Clara Down, El Harino, El Limón, Faldares, Gasparillal, La Bonga, Florida, the bagpipes, the Mines, the Negritas, Lemon Raudal, Paradise, Peñas Blancas, Santa Fe, Sigual, Teria, Teria Birth, Vista Alegre).

Communities close to areas where commercial reforestation and conservation projects are developed, mainly near Chilibre, San Vicente, Soberania National Park, Chagres and Burunga areas. (See PDD).

(d) Location of the project area and the planting area

(e) Size of the project area and the planting area

Initially, 2458 hectares were certified. The 503 hectares of the silvopastoral model were excluded because they did not have the number of trees per hectare in pastures that fulfilled the carbon fixation projections. Areas were excluded for the execution of projects of national and municipal interest, which were compensated. Detailed measurements and verifications were carried out in the commercial and

(e) Size of the project area and the planting area

conservation management units, excluding one (1) hectare in commercial and 14 hectares in conservation, which currently has 1940 hectares. Mapas actualizados Comercial. ACP_PA-PC2016-Comercial_UM1_Burunga_Actu2016, ACP_PA-PC2016-Comercial_UM2_San_Vicente_Actu2016, ACP_PA-PC2016-Comercial_UM3_Chagres_Actu2016, ACP_PA-PC2016-Comercial_UM4_Potabiliz_Actu2016, ACP_PA-PC2016-Comercial_UM5_Caribe_Actu2016, ACP_PA-PC2016-Comercial_UM12_Burunga_Actu2016 . Mapas actualizados Conservación. ACP_PA-PC2016_UM6_Aguas_claras_2008_Actu2016, ACP_PA-PC2016_UM7_Aguas_claras_2009_Actu2016, ACP_PA-PC2016_UM8_Aguas_claras_2010_Actu2016, ACP_PA-PC2016_UM9_Campin_Soberanía_2010_Actu2016, ACP_PA-PC2016_UM10-11_Ciudad del Arbol_Actu2016, ACP_PA-PC2016_UM13_STRI_2009_Actu2016, ACP_PA-PC2016_UM14_C_Cruces_2010_Actu2016

(f) Risk of change to the project area (during the crediting period)

No additional changes are expected in MUs. The monitoring or maintenance of the projects in the commercial MUs is carried out, which are projects tendered every 5 years.

For the conservation projects, an annual Monitoring is developed to know the current state of the Agroforestry projects. According to the result of the monitoring of conservation status, the ACP develops maintenance contracts to ensure the growth and development of areas that require it.

In the areas of silvopastoral and agroforestry modalities, communication with the producers is maintained and the established areas are visited to know the development of the projects.

In the agroforestry UM, the ACP has collaborated in the organization of an association of coffee growers called ACACPA. With the production and commercialization of coffee, the producers ensure the maintenance of the areas. Inspections are carried out to the areas, visits and follow-up meetings with beneficiaries and key stakeholders.

Producers participating in coffee agroforestry activities benefit from the harvest, consumption and sale of coffee.

(g) Risk of change to the project activities (during the crediting period)

There is no risk of changes in activities during the project period. The Panama Canal Authority has continued implementing the Environmental Economic Incentives Program in the Canal Watershed, increasing the hectares and working modalities. There are hectares in the MUs of Conservation and Agroforestry that have not been included in the certification and are expected to be added in the next certification

We work in the administration, maintenance, use and conservation of the panama Canal Watershed, a territory of vital importance, influenced by population growth and a variety of productive activities that contribute significantly to boost the country's economic growth.

The ACP presents actions for the protection and conservation of the water resources of the Watershed in harmony with the activities developed by the inhabitants of the Basin. ACP and producers integrate environmental, social and economic activities, generating profits for the company, for the country and for the inhabitants of the Watershed. It is a commitment of corporate responsibility by the ACP and a commitment of protection of the natural resources by the residents, improving their living conditions and quality.

(h) Timeframe for the project activities

The project covers a timeframe of 30 years. The monitoring or maintenance of the projects in the commercial MUs is carried out, which are projects tendered every 5 years and during the life of the project.

(h) Timeframe for the project activities

In the commercial and conservation modalities, monitoring is maintained through overflights, Drone use, field visits, satellite imagery analysis and mapping.

For the conservation projects, a Monitoring is developed to know the state of the Agroforestry farms. According to the result of the monitoring of conservation status, the ACP develops maintenance contracts to ensure the growth and development of areas that require it (ACP-PA-PC2016 Informe_Conservación_enero2016).

The agroforestry areas technical advice is provided through the association of ACACPA coffee growers, for the management of coffee plantations and for marketing the product. In addition, the ACP has begun work on improving existing farms in the area. With the production and marketing of coffee, producers ensure the maintenance of areas and the life of the project.

(i) Number of (predicted) CO₂-certificates

According to the estimate in the last certification report, 378,566 tCO₂ were determined, of which 34,237 tCO₂ were estimated from 503 hectares of silvopastoral, which was excluded from the certification estimates. One (1) hectare excluding commercial with 238tCO₂ and in conservation, excluding 14 hectares with 3,532tCO₂; this results in the expectation of setting 340,559 tonnes of ex-ante CO₂

For the calculation of the amount of tCO₂ by use of fertilizer with nitrogen, a factor of 0.005 tCO₂ per kg (CFS) was used, multiplied by 12 which is the amount of N in 100 kg (fertilizer NPK 12-24-12) and the amount of N per hectare that is 144, results in a total tCO₂ of 0.72 per hectare. Due to the use of fertilizers with Nitrogen, a total of 2,148tCO₂ was initially calculated for an area of 2,983 hectares originally proposed for certification. The 2,148 tCO₂ was reduced from the calculation of project benefits

Therefore, for the year 2016, 0.72tCO₂ per hectare is the amount of N deducted, resulting in 1,397 tCO₂ reduced from the total for UMs consisting of 1940 hectares, in the measurements developed in 2016.

For the year 2016, a total of 132,246tCO₂ is presented, of which 20% (26,449tCO₂) is destined for buffer and 105,797tCO₂ for certification (the N has been discounted).

(j) Land-use history and current situation of the project area

The historical use was the traditional agriculture of slash and burn and an extensive cattle ranch. The area of Cirí and Trinidad has soils of low productive capacity. Land use was not in line with natural capacity, it was generating negative impacts on the productive base and negative externalities such as erosion and loss of biodiversity. Consideration on protection, type of soil, flora, fauna and soil is detailed in the PDD, at present similar uses are maintained in the surrounding areas. It is important to mention again that the project is dispersed in different areas of the Canal Watershed. The conservation and commercial projects were established in areas invaded by the weeds known as white straw (*Saccharum spontaneum*).

Reforestation for conservation is carried out in National Parks, protected areas and their buffer zones. The objective is aimed at the conservation of water and soil resources, through the reforestation and conservation of the forests, thus achieving a connectivity of the areas. Native species are used in a mixture that seeks to reproduce the diversity that occurs in nature, favoring the development of biodiversity, the gradual recovery of vegetation cover of intervened areas, the reduction of erosive processes, the improvement of surface runoff and the control of white straw (*Saccharum spontaneum*).

In agroforestry and silvopastoral activities, natural resource management is promoted, integrating communities as a fundamental part of their development, with a focus on property planning, sustainability and protection of natural resources, providing an economic productive option for communities by

(j) Land-use history and current situation of the project area

promoting agroforestry systems that also generate food security products and reducing anthropogenic pressure on remaining forest areas.

In commercial reforestation valuable forest species are used for later harvesting for commercial timber, providing resources to cover the initial investment and the continuity and expansion of the program.

(k) Socio-economic history and current situation

The socio-economic situation of the area is low-income subsistence and livestock farming. As organizations involved in the project are: the Association of Coffee Producers of the Ciri and Trinidad Rivers of the Panama Canal, whose acronym is ACACPA, formed by the ACP, to work in a group way for the marketing and selling of coffee. The local committees and advisory councils of Ciri and Trinidad, also made up of the ACP; the Ministry of Environment (MiAmbiente) and the Ministry of Agriculture (MIDA). As Technical Cooperation, GIZ (German Cooperation) has supported the development of the carbon dioxide estimation methodology established by the plantations and the forest inventory of the certified plantations. Also, the support of the NATURA Foundation, CAF and FOMIN, is strengthened in the association of coffee growers of the area. See PDD.

(l) Forest management applied (past and future)

Maintenance activities in commercial areas will be carried out every five years and during the life of the project. In conservation areas, interventions for improvement are being carried out, a gradual recovery of forest cover is being developed.

In the agroforestry areas, technical advice is provided through the association of coffee growers ACACPA, for the management of coffee plantations and for marketing the product. In addition, the ACP has begun work on improving existing farms in the area. The ACP develops a monitoring of the MUs to verify the growth and development of the plantations.

In the agroforestry areas, producers establish shade coffee plantations with native fruit species, wood and services, which represents an economic alternatives with the fruit trees, fertilization with the species of services and a long-term account with the commercial species.

Reforestation for conservation is carried out in National Parks, protected areas and their buffer zones. The objective is aimed at the conservation of water and soil resources, through the reforestation and conservation of the forests, thus achieving a connectivity of the same. Native species are used in a mixture that seeks to reproduce the diversity that occurs in nature, favoring the development of biodiversity, the gradual recovery of vegetation cover of intervened areas, the reduction of erosive processes, the improvement of surface runoff and the control of white straw (*Saccharum spontaneum*).

(m) Forest characteristics (including main tree species planted)

For the establishment of conservation units, native species are used around the site of work (Document 12. PDD_ACP_CFS, ACP_PA_PC2016_R28, Proceedings-HELP-2011, document 207 Montagninietal2008reforestationPanama, document 208 Jones_Wishnie_Deago_Sautu_and_Cerezo_2004). The selection of native forest species and other uses is done according to species existing around the plantation area, in the experience of previous projects (ACP_PA_PC2016_R06, TDR). Selection of coffee seeds of plants with good characteristics by MIDA, beneficiaries and ACP. Shade species are native, timber, environmental and fruit services (Document 77. 03-02-ACP-Agroforestry). The teak seed comes from the Costa Rican Cantonal Agricultural Center (Document 49. 02-31-ACP-Management Plan 324 has). A note from the company Semillas Tropicales, Honduras, on the origin and quality of the eucalyptus seed offered and

(m) Forest characteristics (including main tree species planted)

that the companies have used for reforestation projects in Panama (ACP_PA_PC2016_R27, provenance of eucalyptus)

The PDD considered a number of species for commercial plantation. Teak (*Tectona grandis*) was planted in the field, other species established were Eucalyptus (*Eucalyptus camaldulensis*), Amarillo (*Terminalia amazonia*), Zapatero (*Hyeronima alchorneoides*) and Cesdro espino (*Paquira quinata* (bombacopsis)).

(n) Main social impacts (risks and benefits)

With actions to protect and conserve the water resources of the Watershed in harmony with the activities developed by the inhabitants of the Watershed. ACP and producers integrate environmental, social and economic activities, generating profits for the company, for the country and for the inhabitants of the Watershed. It is a commitment of corporate responsibility of ACP and a commitment of protection of the natural resources by the residents, while improving their living conditions.

A positive impact has been the formation of the Association of Coffee Producers of the Ciri and Trinidad Rivers sub-basin of the Panama Canal, whose acronym is ACACPA, made up of the ACP, to work in a group way to market the coffee. The local committees and advisory councils of Ciri and Trinidad, also made up of the ACP; the participation of the Ministry of Environment (MiAmbiente) and the Ministry of Agriculture (MIDA). As Technical Cooperation, GIZ (German Cooperation) has supported the development of the carbon dioxide estimation methodology established by the plantations and the forest inventory of the certified plantations. Also, the support of the NATURA Foundation, CAF and FOMIN, in the strengthening of the association of coffee growers of the area.

(o) Main environmental impacts (risks and benefits)

The projects developed increase the vegetal cover that improves the connectivity and the biodiversity. Reforestation for conservation is carried out in National Parks, protected areas and their buffer zones. The objective is aimed at the conservation of water and soil resources, through the reforestation and conservation of the forests, thus achieving a connectivity. Native species are used in a mixture that seeks to reproduce the diversity that occurs in nature, favoring the development of biodiversity, the gradual recovery of vegetation cover of intervened areas, the reduction of erosive processes, the improvement of surface runoff and the control of white straw (*Saccharum spontaneum*).

The ACP presents actions for the protection and conservation of the water resources of the Watershed in harmony with the activities developed by the inhabitants of the Basin. ACP and producers integrate environmental, social and economic activities, generating profits for the company, for the country and for the inhabitants of the Watershed. It is a commitment of corporate responsibility by the ACP and a commitment of protection of the natural resources by the residents, while improving their living conditions.

(p) Financial structure

The ACP maintains the financing for the establishment and monitoring of the projects. Commercial projects are tendered every five years. Agroforestry projects are developed over a period of 3 years, producers harvest coffee, obtain economic benefits and maintain plantations, ensuring coverage and carbon. Conservation projects are monitored every year and improvements are made.

2. Shapefiles

Please provide *shapefiles* in the *supporting documents* and provide a reference to these *supporting documents* in this template.

(a) Project area

The areas indicated in the PDD are maintained excluding those in the silvopastoral modality. The projects are located in the area of the Cirí and Trinidad sub-basin; Chilibre, San Vicente, Caribbean, Potabilizer, Soberania National Park, Camino de Cruces National Park, Chagres and Burunga.

(b) Planting areas

Initially, 2458 hectares were certified. The 503 hectares of the silvopastoral model were excluded because they did not have the number of trees per hectare in pastures that fulfilled the carbon fixation projections. Areas were excluded for the execution of projects of national and municipal interest, which were compensated. Detailed measurements and verifications were carried out in the commercial and conservation management units, excluding one (1) hectare in commercial and 14 hectares in conservation, which currently has 1940 hectares.

(c) Eligible planting area

The original PDD maps for the agroforestry UM are maintained, 875 hectares. Comercial, 679 hectáreas. ACP_PA-PC2016-Comercial_UM1_Burunga_Actu2016, ACP_PA-PC2016-Comercial_UM2_San_Vicente_Actu2016, ACP_PA-PC2016-Comercial_UM3 Chagres_Actu2016, ACP_PA-PC2016-Comercial_UM4_Potabiliz_Actu2016, ACP_PA-PC2016-Comercial_UM5_Caribe_Actu2016, ACP_PA-PC2016-Comercial_UM12_Burunga_Actu2016 .

Mapas actualizados Conservación, 386 hectáreas. ACP_PA-PC2016_UM6_Aguas_claras_2008_Actu2016, ACP_PA-PC2016_UM7_Aguas_claras_2009_Actu2016, ACP_PA-PC2016_UM8_Aguas_claras_2010_Actu2016, ACP_PA-PC2016_UM9_Campin_Soberanía_2010_Actu2016, ACP_PA-PC2016_UM10-11_Ciudad del Arbol_Actu2016, ACP_PA-PC2016_UM13_STRI_2009_Actu2016, ACP_PA-PC2016_UM14_C_Cruces_2010_Actu2016

(d) Modelling Units

The project presents three management units: conservation MU, agroforestry MU and commercial MU

Reforestation for conservation is carried out in National Parks, protected areas and their buffer zones. The objective is aimed at the conservation of water and soil resources, through the reforestation and conservation of the forests, thus achieving a connectivity of the same. Native species are used in a mixture that seeks to reproduce the diversity that occurs in nature, favoring the development of biodiversity, the gradual recovery of vegetation cover of intervened areas, the reduction of erosive processes, the improvement of surface runoff and the control of white straw (*Saccharum spontaneum*).

In agroforestry and silvopastoral activities, natural resource management is promoted, integrating communities as a fundamental part of their development, with a focus on property planning, sustainability and protection of natural resources, providing an economic productive option for communities by promoting agroforestry systems that also generate food security products and reducing anthropogenic pressure on remaining forest areas.

In commercial reforestation valuable forest species are used for later harvesting for commercial timber, providing resources to cover the initial investment and the continuity and expansion of the program.

(e) Infrastructure (roads, houses, etc.)

In the agroforestry areas in Ciri and Trinidad, the project does not develop constructions of camps, accidents or roads. Rural roads are used. Conservació allows the construction of temporary camps during the execution of the project. In commercial, the contractor is allowed to establish a temporary camp at the plantation site, which allows him to organize the work and its performance. The site will be selected in conjunction with the contract ROC and the contractor. In the camp, attention should be paid to environmental aspects and impacts: generation of waste such as organic matter, paper, glass, aluminum cans, etc. and discharges of domestic liquid waste. The contractor and his staff are responsible for avoiding any negative impact on the environment. In camps, the contractor shall provide measures to ensure that housing and food conditions meet at least those specified in the ILO Code of Practice on Safety and Health in the Forestry Sector

The contractor may construct temporary roads, which will allow him to improve his operation. ACP presents a proposal to establish soil protection mitigation measures on internal roads in commercial plantations.

(f) Water bodies

The purpose of the Project is to contribute to the protection of the water resource and to increase the protective forest cover. Conservation, agroforestry and commercial projects maintain vegetation on the banks of rivers and streams and are surrounded by native vegetation, promoting the connectivity between flora and fauna. Conservation and commercial projects maintain patches of internal forests..

(g) Sites with special significance for indigenous people and local communities - resulting from the Local Stakeholder Consultation (LSC)

Within the Project area there are no indigenous communities (see PDD). In relation to rights of local communities, projects have been established on state land (commercial and conservation) and on private farms (agroforestry), the title of property a requirement for project implementation. It is important to mention that this is a Project that made the transition from Carbon Fix to GS and does not have the same formats. In the PDD, it is mentioned how the consultation of key actors is fulfilled. In the project areas for the different modalities.

(h) Where indigenous people and local communities are situated

There are not indigenous communities within the project area.

(i) Where indigenous people and local communities have legal rights, customary rights or sites with special cultural, ecological, economic, religious or spiritual significance

Within the Project area there are no indigenous communities (see PDD). In relation to rights of local communities, projects have been established on state land (commercial and conservation) and on private farms (agroforestry), title de property a requirement for project execution. There are no sites with special significance in the areas.

3. Boundaries

Please provide evidence that boundaries of the project area and the planting are clearly distinguishable in the field.

In agroforestry, the companies contracted by the ACP, close each parcel as long as it is necessary (when it is bordered by forest is not required) to protect the plantation, builds and / or reinforces a fence with 4 strands of barbed wire, to avoid possible entry of animals (horses and / or cattle) that may cause potential

Please provide evidence that boundaries of the project area and the planting are clearly distinguishable in the field.

damage to coffee plantations, so as to protect investment, coffee production and at the same time tCO₂ in plots. The ROC (Contracts Officer's representative) of the contract supervises and verifies the work.

ACP presents a proposal for border demarcation of conservation and agroforestry areas.

In each silvopastoral and / or agroforestry establishment contract, the contractor creates and installs a sign on each farm, identifying the project, sponsor (ACP), location, reforested area in hectares, executing company, beneficiary name, year of establishment and period of establishment, logo of the institutions ANAM (Mambiente) MIDA and ACP. The sign is located at the entrance of the farm, in the fence, gate, door, in order to identify that an agroforestry project is being developed on the site by the ACP.

Plantations or plots of coffee are clearly distinguishable from non-planted areas. The coffee and the shadow system, present a remarkable difference to that of the surrounding forest vegetation.

It is proposed to relocate the signs on each agroforestry farm and place them specifically at the entrance of the plantation, and / or to make another sign to place it at the entrance of each agroforestry plot, so that it can be clearly distinguished that in the area a agroforestry project.

The signals will allow to identify the activity to the visitors of a future phase of agroecoturismo that is studied to develop in the region,