

SUBMISSIONS TO THE CALIFORNIA AIR RESOURCES BOARD (“CARB”)

With regard to its

NOTICE OF PUBLIC MEETING TO CONSIDER ENDORSEMENT OF THE CALIFORNIA TROPICAL FOREST STANDARD

to be held on November 15, 2018,

INTRODUCTION

These submissions are made by the Brazilian State of Amapa in partnership with BMTCA Ativos Ambientas S/A, a Brazilian limited liability company (“Brazil Mata Viva” or “BMV”)¹.

Amapa and BMV provide these submissions with regard to the “*Programa Tesouro Verde Amapá*” (“PTVA”, “Green Treasure Program” or “GTP”)² to inform CARB that the PTVA / GTP meets the rigorous criteria of the CALIFORNIA TROPICAL FOREST STANDARD (“TFS”) and constitutes a Jurisdiction-Scale Program that reduces emissions from tropical deforestation. The PTVA / GTP also prevents deforestation from the outset and thus complies with or exceeds the criteria for recognition by CARB and eventual linkage to the California Cap and Trade Program.

BMTCA Ativos Ambientas S/A is the intellectual property owner, manager and operator of an electronic exchange platform³ which provides a secure (blockchain based) system of issuing Forest Credits based on its proprietary methodology for calculating Sustainable Credit Units (“USC”)

As will be shown below, the PTVA / GTP is a crediting program to preserve tropical forest and address effectively the reduction of emissions from tropical deforestation.

BMV has a ten-year history of implementing its rigorous crediting program to numerous entities, within the five Brazilian states of Mato Grosso, Rondônia, Pará, Tocantins and Amazonas. Following this successful experience, in which all stakeholders have benefited. In 2018, the state of Amapa adopted the BMV program at the state level and is administering it exclusively in Amapa. Amapa did so after conducting its own verification assessment and reported on this at the Governors Forest and Climate Task Force (GCF) during the Global Climate Action Summit in San Francisco in September of 2018.

¹ State of Amapa contact Eduardo Correa Tavares, Secretary of the Department of Planning, www.amapa.gov.br and seplan.ap@gmail.com BMTCA Ativos Ambientas S/A, a Brazilian limited liability company located at Eneresco Rua Deputado Jamil Cecilio no. 3455, Bairro Jardim Galas GP CEP 74.810-100, Brazil

² citation to law creating PTVA/GTP

³ www.bmtca.com.br

The methodology for calculating Sustainable Credit Units of BMV's program, which has been verified by TUV Rheinland as early as 2011⁴, and Ernst & Young more recently for next vintages that will be issued⁵.

The crediting program of Amapa and BMV, hereinafter referred to as PTVA / GTP, meets the rigor of the:

1. Tropical Forest Standard developed by CARB (TFS);
2. the UNESP, UNFCC and World Bank Carbon Partnership Facility standards

Specifically, PTVA / GTP provides stringent metrics to quantify carbon storage by forest land and to convert this natural resource in to an investment credit. This credit is in turn is made available by the administering entity or jurisdiction to investors who need or want the GHG reduction credit, tax credit or other credit and provides each investor with a transparent means of online verification in real time as to where and how the investment proceeds are being used by the indigenous or local farming communities living and working near the forest lands in question.

The local farming communities receive the investment proceeds of the Forest Credits when their business practices meet the BMV Standard and benchmarking for investment in more efficient farming without deforestation. Those who are qualified receive over sixty percent 60% of the investment proceeds and these communities are comprised of indigenous peoples and local communities.

The PTVA / GTP transforms forest preservation into a viable economic activity, as well as reinforces strategies towards mitigating and reducing tropical deforestation.

⁴ TUV Rheinland do Brasil Ltda (TUV Rheinland), Verification Report on Nucleo Madeira Mata Viva Forest Carbon Stock of Sustainable Development Plan of BMV, Relatorio No. MDL 4326.10. A 7_MA of 12.13.2011.

⁵ Validation of BMV Standard by, among others Ernst & Young and TUV Rheinland give date and details of report citation.

As shown below, while attention is focused on states with greater degradation and deforestation, such as Pará and Mato Grosso, the most preserved areas have remained so far "off-radar":

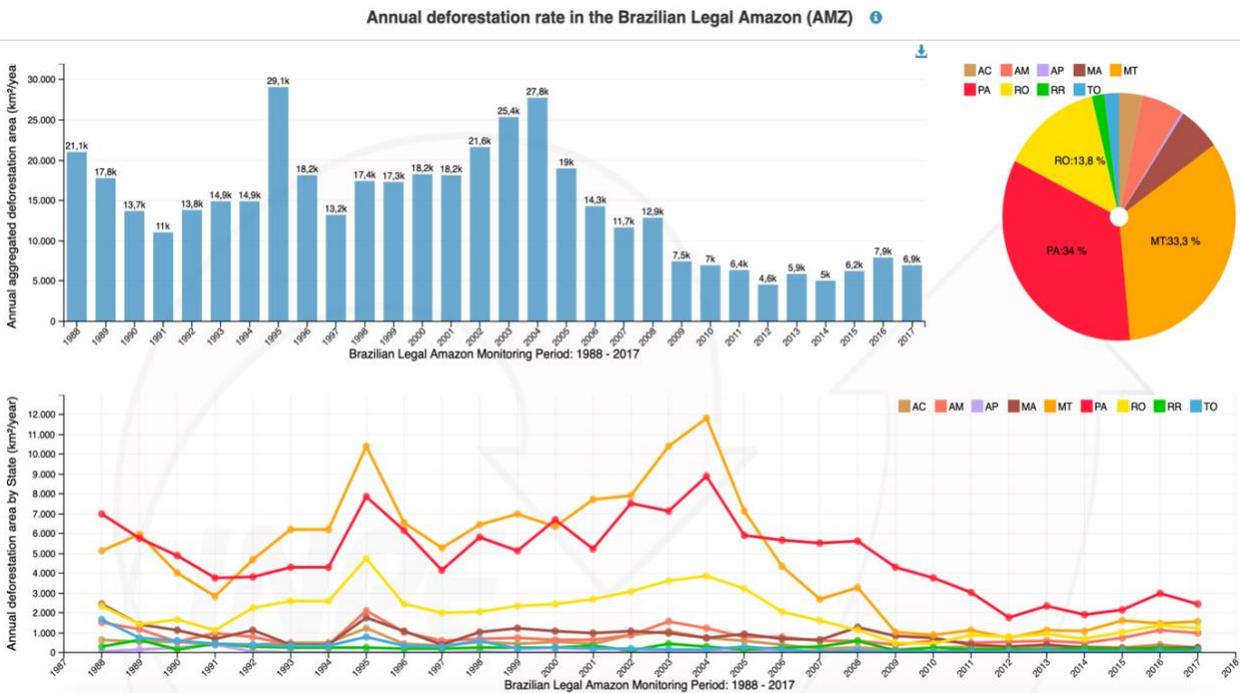


Figure 1 Annual Deforestation rate in Brazil Legal Amazon. Source: <http://www.obt.inpe.br/prodes/dashboard/prodes-rates.html>

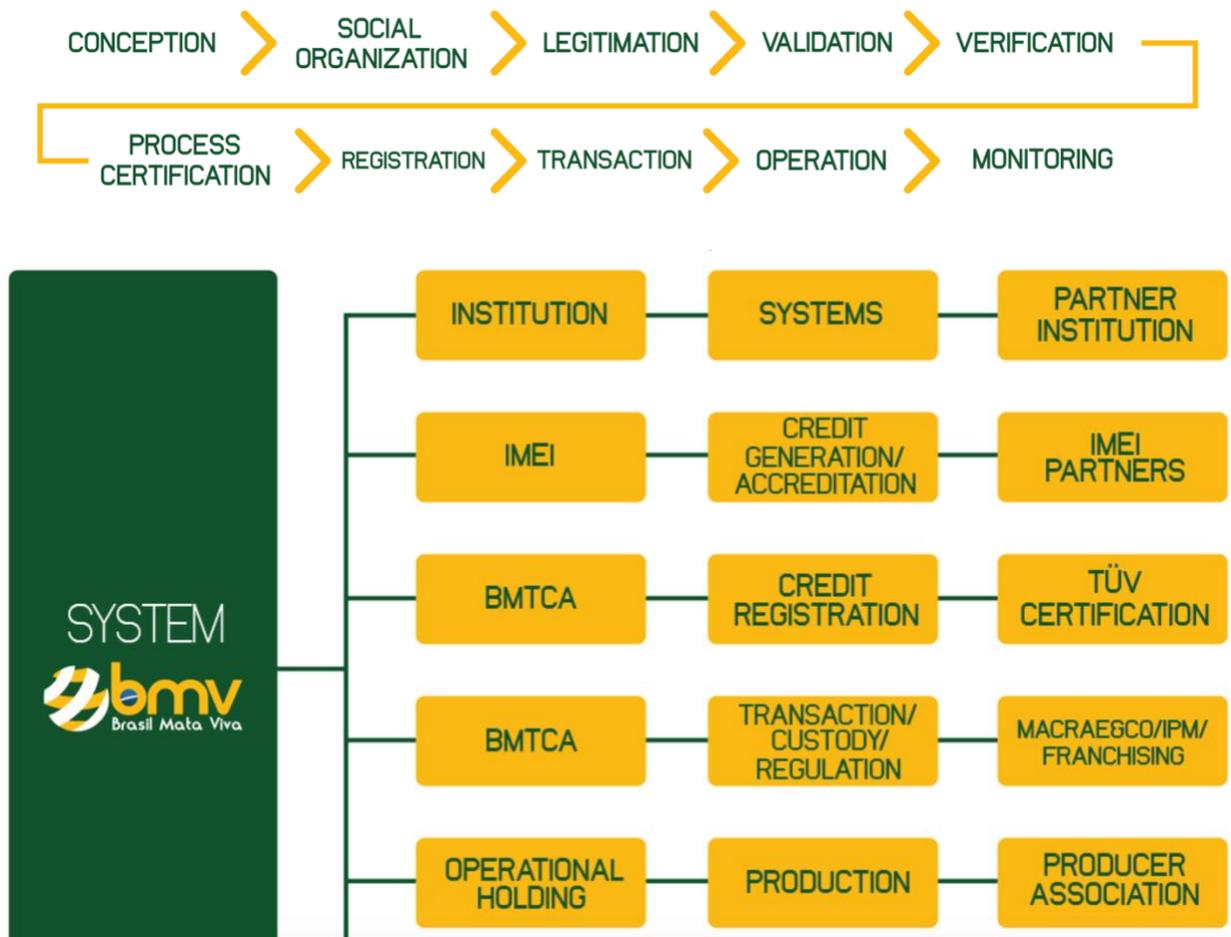
The State of Amapá has more than ninety percent (90%) of its territory covered by native rainforest. Hence, Amapa remains excluded from the methodologies that remunerate the environmental services that are available for deforestation because they are focused on the recovery of degraded areas or the establishment of commitments to reduce deforestation.

As a solid, additional option, PTVA/GTP is focused on "zero deforestation". This Green Treasure Program has a legal framework based on national and local legislation set forth below. Amapa provides a public policy program, and BMV an effective methodology to measure the environmental services that have been and continue to be provided by the most preserved forest areas in Amapá⁶. This quantitative analysis leads to determining the Sustainable Credit Units and that in turn to offering Forest Credits which provide investors GHG, tax or other credits they seek, and local farming communities with the resources to more with less land and sustain a livelihood while protecting and preserving the rainforest.

The PTVA / GTP model includes quantifiable metrics which are reliable to determine the carbon storage value of forest land that is preserved or prevented from further deforestation. It works as follows:

⁶ High Forest Cover, Low Deforestation (HFLD)

BMV Program Cycle



The PTVA / GTP provides:

- demonstrable and transparent crediting that reduces emissions from tropical deforestation and degradation;
- direct and transparent financial investment for investors;
- objective criteria for verifying the commitment to sustainability by all of the stakeholders through a Stamp/Seal⁷ that represents the socio-environmental retribution for the resources used during a year of activity, by a particular company or individual;

The BMV Standard's prime goal is to avoid deforestation and degradation of rural areas by redesigning the occupation and land use habits and the local production matrix, thus improving the quality of life of the inhabitants of these areas.

Below are the fundamental elements of the process:

⁷ Tesouro Verde Sela Sustentabilidade www.pltaformatesourroverde.com.br

MEASUREMENT AND QUANTIFICATION OF THE SUSTAINABILITY CREDIT UNITS

Sustainability Credit Units, or SCUs, are coded initially according to the serial number received at their registration. This encoding varies with the registry mechanism chosen. Overall this serial number expresses the lot to which certain credits are attributed. The property and owner holds this lot, and the details of spatial and administrative location of the nucleus and the property where they are generated are pressed in the SCU.

The amount of credits is given according to the initial and direct correlation between the amount of biomass stored in a given inventoried forest, equivalent to a five-year conservation project, with the quantity in tons of carbon equivalent (ton CO₂ eq.) as follows:

$$UCS = toneladas\ de\ biomassa\ estocada\ (CO_2\ eq.)$$

$$SCU = tons\ of\ biomass\ stock\ (CO_2\ eq.)$$

After the first projects with the developing nucleus, the initial regional, municipal, and area of influence data for the nucleus is collected. Based on this information, the indexes of the ASE (ESE) system of that nucleus will be determined, and at first these will classify all credit units, as follows:

$$UCS_{ASE} \equiv ton\ de\ CO_2\ eq. \int indicadores\ de\ sustentabilidade\ ASE$$

here:

UCS = SCU = Credit Units measured in Biomass;
 ASE = ESE = Modifiers of Sustainable Management (resulting from the BMV Sustainability Indicators) For the Environmental (E), Social (S) e Economic (E) indicators;

In describing the ways of calculating each indicator, there are also different manners of analyzing each index individually. These are subdivided in their respective areas of analysis (environmental, social and economic). Based on the calculation method used, the ASE (ESE) factors are obtained, according to the following equations:

$$A = \left(\frac{IG.p + IUF.p + IUA.p + IUT.p + IQIF.p + IDB.p + IRF.p + IQA.p + IB.p}{\sum p} \right) \times \frac{1}{F_{AEA}}$$

Where:

A = environmental management modifier value, for ASE (ESE) composition; p = weight given to each factor within the real scenario;

F_{AEA} = scenario correction factor, for the proposed the Environmental scenario *.

* The value of A will be measured in each area of interest to the project, considering the values for this measurement for each indicator listed within that area of measurement.

*

* For the purpose of generating the modifier value of the ASE (ESE) management, the environmental modifier value must be leveled to a range of 0 to 7 points, using as parameters A_{max} and A_{min} , as maximum and minimum values for composition of the upper target limit (with the project timeframe), and lower target limit. To calculate the A_{max} , maximum statistical values for a given scenario are used, and based on these, for sample A, $A = 7$ (upper limit) is used, and applying the same concept, the lowest limit acceptable for the scenario proposed is used, whereby $A = 1$.

PROCESS

In each instance, the current forest land and circumstances of the local community are defined by identifying the incidence of species that are on the brink of extinction and adoption of protection procedures. Inventory of the biomass stocks and water sources is taken within the area concerned

The process includes ecosystem monitoring, optimizing the use of the forest ecosystem, and ongoing monitoring.

MONITORING AND EVALUATION INDICATORS:

Anthropogenic emissions of gases associated to Greenhouse effect

Definition

This is the estimated net emissions (emissions minus removals) of anthropogenic origin, of the main greenhouse gases by the activity segment.

Description

The variables used in this indicator are the estimated net quantities of greenhouse gases produced by human activities. The methodology applied to these calculations was based on the United Nations Framework Convention on Climate Change (Intergovernmental Panel on Climate Change - IPCC), proposed in New York in 1988 and which covered the following gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFC - CF_4 e C_2F_6), sulfur hexafluoride (SF_6), nitrogen oxides (NO_x), carbon monoxide (CO) and other compounds no volatile organic metanoia (NMVOCs).

Measurement Method

Inventory Sampling.

$$IG = \frac{\text{Estoque } CO_{2EQ}}{\text{Emissões } GEEs}$$

Where:

IG = Nucleus Gas Index (in decimal factor, with four places, less than 1)
Estoque CO_{2eq} = CO_{2eq} Stock = Quantity ($ton\ ha^{-1}$) of CO_{2eq} from the BMV Nucleus, according to its own forest stock inventory methodology (BMV MCIF02/2011)

Emissões GEEs = GHG Emissions = Quantity (ton ha⁻¹) of CO₂eq emissions from the Nucleus (ISO 14.064-1 inventory and/or GHG Protocol)

Example of a certificate: Please see next page

Certificate of Entitlement

TITLE OF FOREST CREDIT "PRODUCT"
STATUS: Tradable

OWNER: xxxxxx xxxxxxxx xxxxxxxx
IDENTIFICATION xxx.xxx.xxx
QUANTITY: 1.000 UCS BMV = 1.000 tCO₂e
VINTAGE: 01
ISSUE DATE: 2017/09/04
SERIAL NUMBERS: 076031A0D3732 to 076031A0D37UT
VALUE \$: 77.600,00 (Xxxxxxxx xxxxxxx xxxxx x)

This Certificate attests for the assignment of credit rights on the Sustainability Credit Units - UCSVT BMV of the Product sources from the rural activity defined as "forestry" in the terms provisioned by the Brazilian Federal Law number 8.023/90, art. 2º, of storage and absorption of equivalent Carbon, of conservation of Biodiversity III, that contain the benefits of environmental services, of the protection of fauna and flora, of maintenance of the hydrocarbon cycle and the benefits of the sustainable usage of land and the implementation of sustainable business clusters.

PRODUCT CHARACTERISTICS : THE PRODUCT represents the right over the pure and incorporeal tradable intangible asset sourced from the Environmental Service delivered in the areas of rainforest, protected and conserved.
THE PRODUCT is quantified in UCS (unit of sustainable credit) and valued through methodologies tested by Universidade Estadual Paulista "Júlio de Mesquita Filho"-UNESP and verified by TÜV Rheinland, in the same standards defined by the Carbon Credit in the article 3º, XXVII, of the Law number 12.651/2012 (Brazilian Forestry Code), defined under the code 0220-9/06 - CNAE/IBGE, utilized for means of proof of contribution with environmental protection. .

SOURCE: Areas of reserve within properties integrated to the Project of the Nucleus Madeira Mata Viva under the number 07603

WARRANTIES: The source and ownership of the Credit registered and held within the public access platform at BMTCA, under the number 07603100000051A is guaranteed by the credit pledge of the RURAL PRODUCT NOTE – CPR of 65.788.417 m² of protected native wood registered at CETIP (Custody and Settlement Chamber) under the Code13F00062692

The validity of this certificate must be checked at the Registry Platform. The validity and veracity of this certificate should be attested within the BMTCA.

Transfer of ownership of this certificate is only deemed valid if done in the platform at www.bmv-europe.eu

IMEI Consultoria e Treinamentos Empresariais LTDA
Represented by Maria Tereza Umbelino de Souza, CEO

BMTCA Ativos Ambientais S.A.
Represented by Carlos Ayrton Alla, CEO

bmV
Brasil Mata Viva

CRÉDITO floresta

BMTCA
Sustainability Exchange

JULIAN TURNBULL
partner Shakespeare Martineau

TÜVRheinland

07603100000051A
IMEI
Consultoria Ambiental

For information about this certificate, access the QR Code below using a suitable reader or access www.bmv-europe.eu/bmvtransac

SUSTAINABILITY STAMP/SEAL: AN OBJECTIVE CRITERION FOR VERIFYING THE COMMITMENT TO FOREST PRESERVATION

Following the process of measurement, the data is added to the BMTCA platform, which guarantees security, transparency and traceability, with registration of all issuance and crediting transactions in blockchain. Thereafter, there are three possibilities to transform the preserved forest asset into actual financial resources, both public and private. These include the financial market (debentures or green bonds), the secondary market, and the Sustainability Seal/Stamp. The Sustainability Seal/Stamp is the main focus of the Amapa/BMV program.

The Sustainability Stamp/Seal represents the socioenvironmental retribution of the resources used during one year of activity by a particular company or individual, and adds an objective criterion to verify commitment to sustainability. For the issue of green bonds, for example, there are a variety of initiatives used to raise funds in the financial market, usually related to industrial processes such as reduction of toxic gases, generation of renewable energy or waste management. The Green Treasure Program provides a proven method to protect and renew natural resources, which can be internalized through public policies, such as is carried out by Amapá. The Green Treasure Program guarantees -through the calculation of the ecological footprint that protection of the Amazon rainforest is balanced with the needs of companies for Forest Credits and the needs of the local farming community to earn a living while doing so without causing further environmental degradation.

The Sustainability Stamp/Seal enables transparency data on the credit origination farms. By scanning the applicable code, one can check the geographic location and details about the land and forest profile, the local community, and its economic activities. This is provided in real time by the mobile and desktop version of the BMTCA platform/application.

The state of Amapá has taken the following steps to adopt the PTVA / GTP:

- 1- instituted a regulatory framework and implementing rules that provide incentive to participate.
- 2- contracted with the BMTCA to originate the Credits for the forest areas of the state of Amapá and adopted the Green Treasure platform which provides a calculator of the environmental impact, an offer of public and private credits and issuance by the state of Amapa of the Sustainability Stamp/Seal. The PTVA/GTP offers qualified participants/stakeholders distribution of revenue from the sale of Forest Credits which then apply to sustainable development of the State;
- 3- held public hearings;
- 4- publicized the PTVA / GTP within the State, nationally and internationally;
- 5- signed public and private, national and international agreements to expand the forest asset market and sustainable development of the State, rural producers, companies, investors and partners

- 6- developed a sector plan which has 9 people in the administration providing managerial oversight of the crediting and participation process, including consultation in decision-making ;
- 7- made this sector plan transparent by publicizing it at a public portal that shows how the investment is received and deposited in a public bank prior to distribution to the intended recipients.

GOVERNANCE: LEGAL FRAMEWORK AND DURABLE STATE POLICY

The Amapa state governance of the program is characterized by the active participation of the State Fiscal Management Council - formed by the Heads of the Executive, Legislative, Judiciary, Public Prosecutor and Court of Auditors -There are instituted safeguards to protect the integrity and transparency of the Amapa/BMV program, regardless of political changes or actions, especially during election periods. The state has the goal of providing a State Policy, supported by a legal framework that guarantees legal security and governance.

The proceeds of the Forest Credits are destined for the following purposes, according to State Law No. 2.353/2018, regulated by State Decree No. 2.984/2018:

- a) 15% for the management units linked to the protection and management of the environment, including land regulation
- b) 15% for the creation of financing and development related to sustainable economic activities, to be operated through the Amapá Development Agency (AFAP).
- c) 10% for management units that create demands.
- d) 10% for social security regulation of the private pension schemes of the State of Amapá.
- e) 10% for Research, Development and Innovation - to be operated through the management units of the State of Amapá with a view to sustainable development.
- f) 10% for the modernization of the fiscal management and maintenance of the Treasure Green Program - Amapá, to be applied within the scope of the Secretary of State of Finance.
- g) 30% for programs related to the Sustainable Development Objectives (ODS).

The PTVA / GTP is supported in Brazil by the Federal Law and the law of the state of Amapa and other states

ACKNOWLEDGEMENT OF THE SOURCE OF THE PRODUCT

State Law MT No. 8.981, OF SEPTEMBER 26, 2008.

State Law MT No. 9,498, DECEMBER 30, 2010 - D.O. 30.12.10.

State Law MT No. 9,497, DECEMBER 30, 2010 - D.O. 30.12.10.

NORMS OF USE OF THE PRODUCT

SEA RESOLUTION No. 509 OF APRIL 2016 - Rio de Janeiro

DECREE No. 8,672, OF JUNE 15, 2016 - Goiás

Municipal Law Goiânia COMPLEMENTARY No. 294, OF JULY 12, 2016

Decree no.1583 / 2016 of 06 June 2016 - Goiânia

Decree no. 051/2016 of August 15, 2016 - São José do Rio Claro

Decree no. 23/2016 Nova Maringá City Hall

Decree No. 3,810 of October 31, 2016. Barra do Garças

STRUCTURED DEMAND

Protocol of Intent of Goiânia

Tesouro Verde (State of Goiás)

Ativo Verde (Piauí)

Patrimonio Verde PL 7578/2017 (Bill in the Federal Chamber)

Through verifiable third-party reports referred to above, the PTVA / GTP reference level is consistent with or exceeds the Intergovernmental Panel on Climate Change (IPCC) methodology for transparent and high-quality remote sensing and ground-level data, best available historical annual deforestation rates, and provides for updating on a quarterly basis.

The crediting period for PTVA / GTP is annual and is adjusted every five (5) years to determine accurate reporting of emissions reductions.

The PTVA / GTP is strictly for sector-based offset credits issued by Amapa and ensures that the crediting baseline is maintained

The BMV standard does not include leakage risk because the project is not subject to leakage. The BMV Standard generates credits from the fulfillment of preserved forest land and the credit issued is from the carbon storage service already performed.

The PTVA / GTP has the following monitoring and reporting mechanism with regard to emissions reductions. These meet all relevant and listed international standards, and are verified by a third-party verifier on the following basis:

With over ten years' experience BMV can show that the adoption of its crediting program has resulted in permanent emission reductions

The Amapa administered PTVA / GTP includes these same factors and ensures the environmental integrity of credits is maintained.

The Amapa credit registry is open to public access in the following manner:
www.tesouroverde.ap.gov and <https://www.mynxt.info/asset/13903850690686819571>



It includes mapping data and remote sensing data

CONCLUSIONS

In summary, the PTVA / GTP meets or exceeds the rigorous level of criteria set forth in the CARB TFS. It has met or exceeded all international standards of high rigor, including the UNESP, UNFCC, and World Bank Forest Carbon Partnership Facility.

The prior experience of the states of Mato Gross and Amazonas with the BMV program has lead to the independent assessment and adoption of PTVA / GTP by the jurisdiction of Amapa as it has shown a high efficacy in preserving forest, reducing deforestation and concurrently providing a transparent means of matching investors with crediting programs that benefit the indigenous and local farming community which is willing to comply with the program's requirements of doing more with the investment they receive while using less forest land and thus reducing permanently GHG.

The PTVA / GTP partners respectfully make these submissions and appreciate the response and comments from CARB prior to or following the hearing on November 15, 2018. They remain at available to clarify any questions from CARB or to provide further information.

RESPECTFULLY SUBMITTED

STATE OF AMAPA

BRASIL MATA VIVA


 Eduardo Correa Tavares


 Maria Tereza Umbelino de Souza
 BMV's CEO



GOVERNO DO ESTADO DO AMAPÁ

Macapá, 11 de outubro de 2018

Governor Edmund G. Brown
State Capital Suite 1173
Sacramento, California 95814
USA

Dear Governor Brown,

We commend you on California's leadership in addressing one of the most important challenges of our time—the threat of irreversible climate change and its impact on our communities, our economies, and our environment. As fellow members of the Governors' Climate and Forests Task Force (GCF), the world's largest subnational government network for climate and forests, we recognize that cohesive, state-level leadership on climate and forest issues is more important than ever. The conservation of tropical forests truly has a global reach, impacting the droughts and wildfires that have become a reality in California. We stand with you and stand prepared to do our part in fighting this global battle against climate change.

We are following and learning from California's example in many ways. The California-led Under2 MOU that many GCF governors have signed onto is challenging us to develop long-term pathways for low emissions development in the tropical forest states and provinces we govern. California's partnerships with indigenous peoples, like the Yurok Tribe, show us how a state government and tribal government can work together to conserve forests, promote economic development, and respect indigenous peoples' history, lands, livelihoods, knowledge and culture. Recently, at the 2018 GCF Annual Meeting in San Francisco, we built on the leadership that California has demonstrated by endorsing *Guiding Principles for Collaboration and Partnership Between Subnational Governments, Indigenous Peoples and Local Communities*. These principles commit us to working in partnership with indigenous peoples and local communities, demonstrating our commitment to ensuring that our efforts to reduce tropical deforestation improve the livelihoods of local communities and recognize the rights of indigenous peoples.

California's cap-and-trade system has also served as an inspiration for governors around the world, like us, to commit to conserving forests across our jurisdictions while continuing to grow our economies. California is proving how a well-designed carbon market can reduce sector-wide emissions, and ensure industries innovate and join the collective fight against climate change.

We are aware that it is a critical moment in the California cap-and-trade program. The work of the California Air Resources Board has also shown us the importance and power of consultation

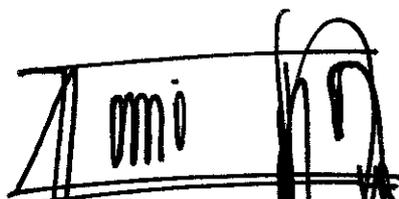


GOVERNO DO ESTADO DO AMAPÁ

with partner jurisdictions, local communities, civil society, and regulatory experts when developing standards. The inclusion of sector-based offsets from the forest sector would send an important message to the world on the power and possibility of innovative climate leadership at all levels of government.

We urge you to take this next step and commend you for releasing a draft of the California Tropical Forest Standard. This draft sets a gold standard for ensuring reductions from the forest sector must be achieved through a process which ensures environmental integrity and safeguards the rights and livelihoods of indigenous peoples and local communities. The draft standard is based on sound science and would provide an example for emerging markets around the world for how forest sector offsets can be recognized through a rigorous process. We enthusiastically urge you to move forward with the standard, recognizing that, as a global community, we cannot address climate change without addressing tropical deforestation.

We very much look forward to collaborating into the future as we show the world that subnational governments are leading the way in curbing greenhouse gas emissions, promoting sustainable livelihoods and bringing much-needed environmental, as well as economic, benefits to the states and provinces on the frontlines of climate change.



ANTÔNIO WALDEZ GOES DA SILVA
GOVERNOR

Antônio Waldez Goes da Silva
Governador do Estado do Amapá