INPUT
Iniciativa para o Uso da Terra

AGROICONE
AGRICULTURA, ENERGIA E SUSTENTABILIDADE

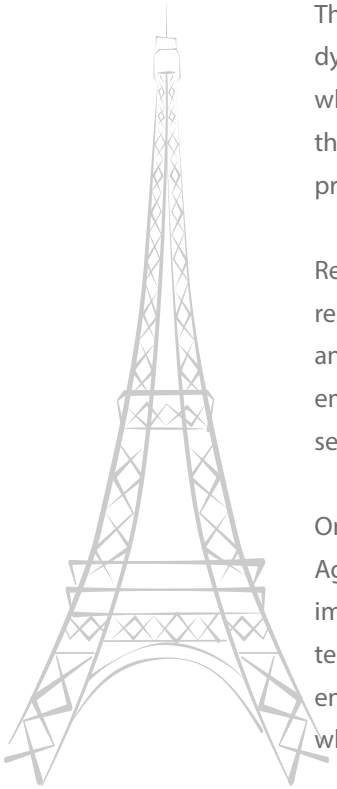
POLICY BRIEF

São Paulo, may 2016.

THE PARIS AGREEMENT AND THE FUTURE OF LAND USE IN BRAZIL

The Paris Agreement, approved at the 21st Conference of the Parties of the United Nations Framework Convention on Climate Change (COP21 - UNFCCC) in December 2015, is a milestone in the history of addressing climate change on a global scale. The universal agreement signed by 195 countries and the EU in Paris represents the most important multilateral environmental treaty of the 21st century, defining how society will tackle global climate change in the next decades, having as a central goal to limit the temperature rise below 2ºC and attempting to achieve the target of 1,5ºC.

Brazil, one of the world's biggest greenhouse gas emissions (GHG) emitters, has a fundamental role in this scenario. The iNDCs (Intended Nationally Determined Contributions) submitted by the country set an absolute emission reduction of 37% until 2025 and 43% until 2030, having as base 2005 levels. Thus, the engagement of land use, renewable energy and low carbon agriculture sectors is key for the Brazilian commitments.



This Policy Brief aims at analyzing on how the Paris Agreement can craft land use dynamic in Brazil within the next 20 years, enabling continuous improvements, which promote the adoption of large-scale low carbon actions and boost the production of food, fibers, forests and energy, along with environmental protection.

Reducing illegal deforestation, implementing the Forest Code, creating a restoration economy and enhancing renewable energies, such as biofuels and biomass, as well as creating new public policies, which allow deepen the emissions reduction and adaptation practices in the land use and the agriculture sectors are vital for the future of sustainable development in Brazil.

On April 22nd, 2016, 174 countries and the European Union signed the Paris Agreement in the United Nations Headquarters in New York, a clear sign of the importance that the new multilateral climate governance will have on a long term. The Agreement will remain open for signature until April 2017, and will enter into force within a 30 days' deadline after the ratification of 55 countries, which must represent at least 55% of global emissions.

LOW CARBON DEVELOPMENT AND CLIMATE GOVERNANCE

The approval of the Paris Agreement reenergized global efforts to fight climate change and to implement a sustainable development agenda, embedded in the Sustainable Development Goals (SDGs) approved in 2015.

The negotiations of a new agreement at the UNFCCC was initiated in 2007, in Bali, with the adoption of the Bali Action Plan. However, the efforts during 2008 and 2009 were not effective, and COP15, in Copenhagen, delivered a shy agreement known as the Copenhagen Accord. Since 2009 the UNFCCC conferences were held aimed at achieving commitments of all countries. Therefore, during COP 17 in Durban, in 2011, a negotiation group was established, known as the Durban Platform for Enhanced Action, with the specific purpose of negotiating a new protocol, another legal instrument or an agreed outcome under the Convention.

The most significant difference of the negotiations since Durban, was the challenge to create commitments for all countries not following the footsteps of the Kyoto Protocol, which defined an absolute goal of 5% emission reduction of greenhouse gas emissions (GHG) between 2008 and 2012, having as base 1990 levels and applicable only for developed countries.

Added to this, the lack of ratification of Kyoto by the United States as well as the economic crisis of 2008, that naturally created an indirect reduction on the emissions levels, consequently decreased the need for carbon credits, thus reflecting on the Clean Development Mechanism (CDM) and on the carbon market of developed countries, creating a demand for a new climate regulatory framework.

Thus, the differentiation between the mitigation, adaptation, finance, technology development and transfer, transparency of action and support, and capacity-building embedded on the common but differentiated responsibility, and respective capabilities principle, became the biggest challenge towards COP21.

In Warsaw, at COP19, Parties adopted the Decision 1/CP.19, by which Parties were invited to intensify its internal consultations to define which iNDCs they intended to adopt, regardless of the legal nature they might have. Also, Parties should communicate their iNDCs prior to COP21, in order to allow weighting their ambition, always having as premise the main target to limit temperature rise to 2ºC.

Furthermore, in Lima, the Decision 1/CP.20 reinforced the importance of the iNDCs communication, emphasizing that they should represent a progression/evolution of the efforts already taken by the Parties, which meant going beyond the Nationally Appropriated Mitigation Actions (NAMAs) that were submitted in 2010. Thereafter, adaptation became a vital iNDC element and all Parties should submit their contributions until either April 2015 or prior to COP21 (*i.e.*, December 2015).

In November 2015, the Secretariat issued a Synthesis Report demonstrating the ambition targets of 119 iNDCs (i.e., 147 Parties), equivalent to 86% of global emissions, related to 2010. However, the efforts of all contributions indicated an emission's trajectory that would not correspond to the 2ºC goal. Additionally, they also pointed long term challenges involving social, economic and technological aspects that should be combined in order to stimulate ambitious emissions reduction, necessary to promote a low carbon economy.

This process finally led to the Paris Agreement's approval, creating a new multilateral architecture to tackle climate change. In this sense, Brazil has a fundamental role, in which its iNDCs contemplates an absolute emissions reduction on the rate of 37% by 2025 and 43% by 2030, based on 2005 levels.

Actions comprising the land use, renewable energy and low carbon agriculture sectors compose key elements of the Brazilian commitments. Therefore, it is essential to understand the key structure of the Paris Agreement, which themes should be negotiated from 2016 up to 2019, when the Agreement is expected to enter into force, and what impacts this will have on Brazilian land use in the long term.

PILLARS OF THE PARIS AGREEMENT

The Paris Agreement is based on the contributions submitted by the Parties (until COP21, 161 iNDCs were officially submitted), according to each Party's capacity, mainly involving mitigation and adaptation measures. The contributions submitted by the Parties will be the baseline for their actions and must be implemented every five years starting in 2020, with the purpose to promote ambition on mitigation, adaptation, finance, technology development and transfer and capacity building actions.

By involving all Parties of the Convention, the Agreement allows that all contribute according to their own and individual capacity to fight climate change. In addition, the newly created periodic review of the national contributions (now called NDCs) makes the Agreement alive and dynamic.

Despite not having an absolute target to reduce GHGs emissions, since the nature of the contributions rely on each Party's NDC, the Agreement has as goal to limit temperature rise in 2ºC and combine long term efforts to achieve at maximum 1.5ºC.

THE MAIN OBJECTIVES OF THE AGREEMENT:

- Limit global temperature rise in 2ºC and adopt common efforts to achieve 1,5ºC, based on the actions adopted by all Parties (mitigation agenda);

- Enhance the capacity to adapt to climate change effects, foment climate resilience and low carbon development, without harnessing food security (adaptation agenda);

- Create consistent financial flows to foster mitigation, adaptation, technology development and transfer (financing agenda).

On this matter, issues such as the division of efforts to reduce emissions and finance are still open and unresolved in the context of the Agreement. In this regard, developed countries must have absolute reduction targets (*i.e.*, 32% of the submitted iNDCs are absolute), while developing countries must move towards an economy to achieve absolute targets (*i.e.*, 45% of the targets refer to emission reduction on a business as usual scenario).

In addition, a public registry will be implemented aiming to consolidate all NDCs and allowing the verification of how Parties are progressing towards stopping global temperature increase. Although, from the 161 iNDCs submitted until April 4th, 2016, comprising contributions from 189 Parties (representing together 95,7% of the global emissions, having 2010 as the base year), they still lack ambition to ensure the achievement of mitigation goals aiming to 2°C and even 1,5°C, what will surely demand even more efforts.

Also, the financing agenda was established as a collective target, in which developed countries will mobilize at least US$ 100 billion yearly until 2025, thereafter, the set of NDCs will be reevaluated for the first time. On this subject, every two years, developed countries must report financial resources, as a way to monitor and assure transparency of action, as well as developing countries are encouraged to voluntarily do.

As a general rule, the origin of the resources to finance actions to fight climate change must mostly be public. Although, private resources can also integrate the process, but this is an issue which yet needs to be better defined until 2020.

In addition, in order to help achieving the targets, a new market mechanism called Sustainable Development Mechanism (SDM) was established. The details of this mechanism will be negotiated up to 2020, and will incorporate experiences from other mechanisms such as the Clean Development Mechanism. Moreover the SDM should promote mitigation, encourage and facilitate the participation of public and private actors authorized by the Parties, aiming to achieve ambitious emissions reductions.

Issues like technology development and transfer and capacity-building are vital in the Paris Agreement and are also part of a long term vision, necessary to improve climate change resilience and to promote emission reduction.

Likewise, forests are at the core of the Paris Agreement. To encourage countries to preserve and improve carbon stocks, by promoting restoration actions, forest management activities, avoid deforestation and increasing carbons stocks, including benefits not limited to carbon, are key features of the Reducing Emissions from Deforestation and Forest Degradation (REDD plus) agenda that will be central on the efforts to combat climate change.

The Paris Agreement's decision about REDD plus, along with decisions already taken concerning scope and nature, safeguards, methodologies, reference levels and payment for performance are essential to broaden REDD plus projects.

Also, a mechanism known as Global Stocktake was created, allowing the possibility to permanently evaluate the NDCs' degree of implementation every five years (i.e., mitigation, adaptation and means of implementation).

As a base for all these pillars, a transparency framework was established as a solution to organize the registry, monitor and evaluate the NDCs' implementation, taking into account the differences between the commitments of each country. The specification and details of how the national biannual inventories and their related issues regarding technology financing and adaptation will operate, are yet to be negotiated until 2020.

Likewise, during the time frame of 2016 to 2019 several other topics must be negotiated to allow the fully Agreement's implementation. Therefore the new negotiation group - *Ad Hoc* Working Group on the Paris Agreement (APA) - will have its first meeting in May 2016 with a broad agenda ahead, which will address these issues, such as the following:

- Define general rules about NDCs, including the public registry on the Convention website;
- Accounting for NDCs involving methodological issues, linked to land use and agriculture sectors;
- Accounting for financing and its multiple ways in the context of the Convention's financial agenda;
- Define issues related to the NDC's evaluation (*i.e.*, define the year of the first review and subsequent ones; ensure transparency; avoid double counting of emissions reduction; ensure consistency between NDCs methodologies and accounting methodologies);
- Define the specifications of the global evaluation process (global stocktake);
- Define the operational rules of the Sustainable Development Mechanism.

It is also worth noting that other actors, not limited to the Parties of UNFCCC, were explicitly invited to contribute with the objectives of the Agreement. Private sector, civil society, financial institutions, municipalities and subnational governments (states and provinces) are called to increase their efforts regarding mitigation and adaptation.

Even though contributions become enforceable only in 2020, the Agreement can enter into force earlier than that. When 55 countries representing at least 55% of the global emissions had ratified the Agreement, it will enter into force (EU, USA, China, India and Brazil represent 55% of global emissions).

PARIS AGREEMENT AND LAND USE DINAMICS IN BRAZIL

The Brazilian contributions, which compose the national actions on the Agreement, have strict relations with land use, agriculture and renewable energy sectors. Taking into account that the actions' level of ambition demand the creation of new policies and the involvement of different stakeholders, that must contribute to national mitigation measures, it worth highlighting that the Agreement will help Brazil to define a new land use dynamic for the next 20 years.

BRAZIL'S CONTRIBUTIONS TO THE PARIS AGREEMENT

LAND USE, LAND USE CHANGE AND FORESTRY (LULUCF)

- Forest Code implementation;
- Reduce illegal deforestation to zero in the Amazon until 2030;
- Compensate emissions from legal deforestation until 2030;
- Restore and reforest 12 million hectares of forests for multiple uses;
- Improve sustainable forest management.

ENERGY

- Increase the participation of sustainable biofuels to 18%, including bigger participation of advanced biofuels;
- Achieve 45% of renewable energy sources, including the use of sources not limited to hydropower, biomass, solar and wind;
- Achieve 10% of energy efficiency in the generation of electricity by 2030;
- Incentive actions that promote improvements on the public transportation infra-structure.

AGRICULTURE

Promote low carbon agriculture, considering the restoration of 15 million hectares of degraded pasture areas and 5 million hectares of crop-livestock-forest integration system (Integração Lavoura-Pecuária-Floresta - ILPF, in Portuguese) until 2030.

INDUSTRY

Promote new patterns for clean technologies, which incentive energy efficiency and the adoption of low carbon infra-structure in the industrial sector.

Federative Republic of Brazil, Intended Nationally Determined Contribution Towards Achieving the Objective of the United Nations Framework Convention on Climate Change.

Eliminating illegal deforestation is a main goal, even though promoting legal compliance, having the Forest Code as a central regulation, represents a significant challenge to be overcome. In this sense, improving the Action Plan for Prevention and Control of the Legal Amazon Deforestation (Plano de Ação para Prevenção e Controle do Desmatamento na Amazônia - PPCDAM, in Portuguese) will be fundamental to eliminate illegal deforestation in the Amazon region.

In this regard, it is necessary to observe the elimination of illegal deforestation in the Amazon (which in 2015 corresponded to 5.831 km2, comprising illegal and legal deforestation) as a wide set of actions that will contribute to curb the illegal deforestation, involving especially governmental actors and command and control policies.

The deforestation of small areas, not covered by the Project for Monitoring the Brazilian Amazon Forest by Satellite (Projeto de Monitoramento do Desmatamento na Amazônia Legal por Satélite - PRODES, in Portuguese), due to illegal timber commerce, forest management projects fraud and irregular agriculture occupation, among other factors, need to be confronted on a structural way in order to halt the conversion of illegal areas into pasture and plantations.

Furthermore, fighting deforestation must be seen on the broader scope, with others policies as, for instance, the effective implementation of the Forest Code, consolidation of National Conservation Units (Sistema Nacional de Unidades de Conservação - SNUC, in Portuguese) and implementation of REDD plus projects, among others.

It is worth emphasizing that in 2014, Brazil submitted to the UNFCCC the Amazon's forest reference level as a methodological base for future results regarding payments in REDD plus projects. This requirement is essential to allow receiving financial resources for performance, which are foreseen in the Paris Agreement.

The compliance under the Forest Code is based on the Environmental Rural Registry (Cadastro Ambiental Rural - CAR, in Portuguese) and on the State Environmental Compliance Programs (Programa de Regularização Ambiental – PRAs, in Portuguese), which can become an effective tool to tackle deforestation, allowing to distinguish illegal from legal conversion, monitoring and sanctioning who illegally converts new areas without prior authorization.

It is expected that the regularization process through the Forest Code will generate the restoration of up to 5 million hectares of Permanent Preservation Areas (Áreas de Preservação Permanente – APPs, in Portuguese) and at least 7.5 million hectares of Legal Reserve (Reserva Legal – RL, in Portuguese) areas, enabling the creation of carbon stocks on the proportion of 4.5 billion tons of CO2eq in the next 30 years. This mitigation potential is strategic so that Brazil can pursuit a low carbon economy in the land use sector (i.e., Land Use, Land Use Change and Forestry – LULUCF), including agriculture.

In this sense, the potential carbon stock of up to 4.5 billion tons of CO2eq would compensate 10 years of the agriculture annual emissions of 2012 (i.e., 446 million tons of CO2eq). Also, this would represent almost 4 years of Brazilian emissions, considering the 2012 data (i.e., 1,2 billion tons of CO2eq).

In addition to the potential formation of carbon stocks through forest restoration and compensation as previously mentioned, it is important to stress that there are 193 million hectares of native vegetation in private properties as APPs and RLs, which represent a stock in the order of 87+-17 billion tons of CO2eq. Those protected areas are 53% of the total Brazilian native vegetation and perform a vital role as carbon stocks and conservation assets in the context of the national biodiversity targets.

In parallel, the implementation of the Forest Code, which in the Amazon forest alone involves an area of almost 100 million hectares of rural properties, will be fundamental to tackle illegal deforestation, with restoration and conservation of forests. It must be mentioned that all rural producers who have environmental deficits on their properties can continue to occupy and use those areas as long as they restore part of those areas on a percentage and measures established by Law and do not convert any other native vegetation into pasture or plantations.

The private sector's engagement is crucial to push the Forest Code implementation agenda. So as producers who have environmental deficits start to comply, the sustainable production of food, fibers, grains and energy will be strengthened.

On this subject, the Environmental Rural Registry (CAR) as an implementation tool, based on satellite images of the rural properties, will help to give transparency to the fulfillment of Law's requirements, allowing to geographically locate productive and conservation areas of those properties, hence playing an important role for the Brazilian agriculture.

Also, starting in 2017, banks will only be able to grant rural credit to those producers who perform the CAR registry, fact that strengthens even more the improvement of the Law's tools in order to implement a sustainable land use agenda.

In this regard, the creation of financial mechanism that incentives restoration of native vegetation and promotes conservation and payment of environmental services is vital to enable landscape management and the development of potential productive and conservation opportunities.

Jointly to the Sustainable Development Mechanism of the Paris Agreement, the Brazilian government, banks, private sector, national and international investment and pension funds will have in the next years a significant challenge concerning financial solutions that can able to promote low carbon actions on a big scale.

Concurrently with the different actions directly linked to the land use sector, the restoration of 15 million hectares of pastures and the implementation of 5 million hectares of areas involved in the Integration Crop-Livestock-Forest (ILPF, in Portuguese), are actions bonded to low carbon agriculture. In this sense, the restoration of pastures occurs not only due to the restriction of converiting new areas but mainly for the need to intensify production and increase productivity, bringing benefits to producer.

The pasture restoration goal must have as base the mapping of critical areas, taking into account their degradation level, soil productivity and capacity of restoration. Preferably, only areas with a productivity potential must be restored for cattle. Other areas which are not severely degraded can be restored with native vegetation, whether for the Forest Code purposes or sustainable forest management.

It worth mentioning that pasture restoration and Integration Crop-Livestock-Forest (ILPF) should be regarded as elements for cattle intensification, involving a wide range of technologies (e.g., genetics, management and pasture improvement, nutrition, etc.), which allows the use of what is known as "agriculture best practices". The viability and performance of the pasture restoration and ILPF are determining factors concerning the success and the implementation of these actions.

Agroicone estimates that from 176 million hectares of pastures in 2014/2015, Brazil will have approximately 157 million hectares in 2030, consequently releasing 19 million hectares for other types of productions and for the fulfillment of the Forest Code's requirements.

In addition, it is important noting the set of NDCs, linked to land use and agriculture as measures, which will enable the mitigation and adaptation benefits. Natural or active restoration of forests have a central role on the hydro regulation, rainfall, soil protection and biodiversity – relevant factors in order to create resilience of the productive systems.

In this sense, the improvement of traditional rural policies involving the Agricultural and Livestock Plan (Plano Agrícola e Pecuário, in Portuguese), the National Program for the Strengthening of Family Farming (Plano Nacional de Fortalecimento da Agricultura Familiar - PRONAF, in Portuguese) and the Low Carbon Agriculture Plan (Plano Agropecuária de Baixo Carbono - ABC, in Portugues) among others will be extremely relevant in the next years.

Furthermore, mitigation actions undertaken by the energy sector will have its importance in order that Brazil can achieve its climate targets. The use of biofuels as an energy source, reducing emissions from the energy sector, have direct connection with land use and agriculture practices. Investments on the second generation biofuels, having sugar cane and eucalyptus as base, will be vital to promote growing emission reduction.

Also, estimations done by Agroicone show an expansion of the ethanol use until 2030, getting to 51 billion liters and 5 billion liters of second generation (2G) ethanol, which can represent a reduction of 1.140 million tons of CO2eq.

Thus, Brazil must review its current Climate Change National Policy (Federal Law No 12.187/2009) among others sectorial policies in the next years, as a way to fully implement the Paris Agreement and future decisions must be negotiated during 2016 and 2019.

The capacity to elaborate improved national inventories and develop methodologies of emissions and removals related to land use and agriculture sectors, including carbon sequestration in pastures, monitoring of mitigation measures, and crafting a future Brazilian carbon market are examples of issues that will need to be strengthened in the Brazilian climate agenda in the coming years.

REFLEXIONS

The Paris Agreement and the Brazilian strong position and participation during COP21 indicate that the country and the world embraced the climate change agenda and are focused in reducing GHG emissions and promoting adaptation measures. The country's ability to mold into this new global reality not only brings significant obstacles, but also opportunities to construct agendas aimed at improving sustainable development.

The low carbon agenda or economy descarbonization gains strength with the Paris Agreement and with the NDCs. This sign will come in different ways: legislation and norms; public policies at different levels; market strategies and client demands.

Added to these signs, there is the role of banks and investors in gradually changing their portfolios by excluding funding of high emission activities and increasing the participation of low carbon ones.

The debate regarding carbon pricing, mentioned repeatedly at COP21 and in the Paris Agreement is a reality. In this sense, either national or subnational policies, as well as private actions will have to increasingly address products pricing methods. It must be emphasized again that Brazilian agricultural and forestry products, including food, fibers, feed and biofuels must be part of this movement, since these products can have positive carbon footprints if compared with similar products from other countries.

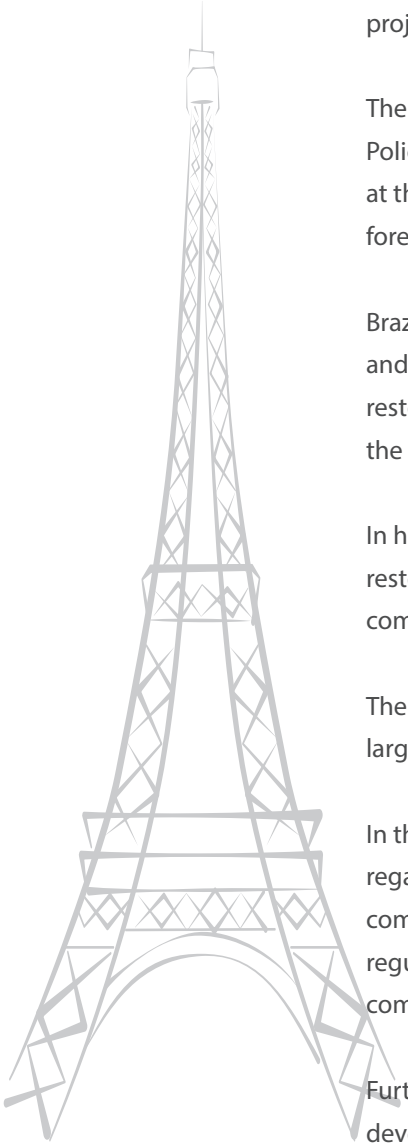
In this scenario, even more opportunities can be developed in the compliance agenda of the Forest Code. This regularization, having the CAR as starting point, is a continuous process which will help to mold land use and occupation dynamics. Attesting compliance towards the Forest Code will be a way to prove sustainable Brazilian rural resources and products.

Global chains are progressively demanding more environmental proactiveness and certifications concerning emissions and deforestation. With the Forest Code, Brazilian agriculture can ensure sustainability of its products, involving carbon sequestration and emission reduction, with the adoption of more sustainable and best practices also with biodiversity conservation, bringing the biodiversity targets into the context.

In parallel, the deforestation reduction will be fundamental as a way to better organize territory occupation and enable standing forests.

Finally, the Paris Agreement embodies a huge global commitment for a low carbon economy. For Brazil, agriculture and the agenda of production and forest conservation will play a vital role in the country's efforts towards global climate governance.

COP 21: AGROICONE'S PARTICIPATION AND THE INPUT PROJECT



The political experiences, incentives and financial instruments for forest restauration projects on a large scale in Brazil were the highlight of Agroicone at the COP21

The Land Use Initiative (INPUT), a project developed by Agroicone and the Climate Policy Initiative (CPI), was presented by Rodrigo Lima, general director of Agroicone, at the Global Landscapes Forum (GLF), the biggest meeting about agriculture and forests during the COP21.

Brazilian and African specialists and authorities presented their experiences and restoration agendas of both Brazil and Congo Bay in the panel "Scaling up restoration, bringing down poverty – an assessment of opportunities and risks, from the Amazon to Africa's Mayombe Forest" at the Global Landscapes Forum

In his presentation, Rodrigo Lima explained that the Forest Code is the biggest forest restoration agenda in Brazil, demanding restoration in private areas that will have to combine agriculture production with conservation.

The main goal of INPUT is to promote the implementation of the Forest Code on a large scale and to encourage intelligent public policies related to land use in Brazil.

In the project, Agroicone is responsible for generating data and information regarding native vegetation restoration alternatives, as well as legal reserve compensation and engaging the private sector to the challenges related to the regularization of these areas and creating sectorial solutions, which allow large scale compliance

Furthermore, Agroicone monitors the UNFCCC negotiations since 2008, likewise the development of policies and initiatives linked to the Brazilian low carbon agenda.

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