

CORPORATE PROPOSITIONS FOR
PUBLIC POLICIES FOR A
LOW-CARBON
ECONOMY
IN BRAZIL



ENERGY, TRANSPORT AND AGRICULTURE

AN INITIATIVE OF



EXECUTIVE SUMMARY

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Climate change is a scientifically proved reality and represents the most serious threat to human well-being and to natural ecosystems in our century. Urgent actions are needed to reduce fossil fuel emissions and control deforestation and land use change. This challenge assumes differentiated responsibilities, yet common to all nations around the globe. Brazil, given its economic importance, its leadership in the generation of power from renewable sources, and its megabiodiversity, can — and should — play a leading role in building a low-carbon economy.

Internally, this task shall be shared between public and private efforts, in a positive agenda that includes proposition, approval and implementation of economic instruments, encouraging investments in activities that allow for reduction in greenhouse gas (GHG) emissions in Brazil.

In this context, the Companies for the Climate (EPC) Platform, a continuous Brazilian business forum for debate, training and building of partnerships for the transition towards a low-carbon economy, justifying Brazil's leading role in the topic and expressing genuine business responsibility, comes to public to present to the Brazilian society a set of public policies propositions for a low-carbon economy in Brazil.

Such efforts aim at contributing to:

(i) Strengthen competitiveness in the domestic industry in a new global economic context; (ii) ensure access of Brazilian products to international markets, which are increasingly demanding when it comes to socio-environmental standards; (iii) build a domestic market that is friendly to technological development, innovation and adoption of business practices with lower GHG emission potential; and (iv) promote energy security in Brazil.

Keeping this in mind, in 2010 EPC platform conducted a series of sector studies, with focus on the diagnosis and analyses of climate challenges, in the national scenario, aiming at producing policy papers to support public policies and providing tools to implement the Brazilian National Plan on Climate Change, the Brazilian National Policy on Climate Change, and Sector Plans.

In this document, we present the results of those studies for the energy, transport and agriculture sectors. Studies for the financial sector and fugitive emissions are being conducted and should be presented in 2011. With this document, EPC platform members seek to encourage an extremely urgent and necessary dialogue about a complex topic, with the purpose of contributing to the promotion of a low-carbon economy and sustainable development in Brazil.

keeping this model means the Brazilian contribution for global climate change will be above levels capable of ensuring maintenance of life quality in the planet. From the economic perspective, insisting on that model may undermine the Brazilian competitiveness and compromise the energy security. The current challenge is to find a development model that

is different from the one promoted by the richest countries and pursue solutions to simultaneously enjoy economic growth while reducing the rhythm emissions have been increasing.

Thus, aligned with the Brazilian National Policy on Climate Change, the key paths to reduce GHG emissions in the energy sector without compromising the economic growth are to **expand the use of renewable sources, and conserve or use energy resources more efficiently.**

Diversifying the Brazilian energy matrix is fundamental to ensure **maintenance and access** to markets and as an **energy security** principle. Comparative advantages and opportunities available for Brazil to use solar power and wind power, besides producing biomass and biofuel, are crystal clear. Reliance on the unlimited supply of hydropower generation can be contested, because of its seasonality and potential vulnerability concerning water availability, due to climate variation. Hydropower complementing should not be limited to coal-fired thermal plants, fuel oil and natural gas generation, since, besides being non-renewable energy sources with large GHG emissions, their supply is volatile and subject to political and economic variations, both in the domestic and in the international scenarios. Additionally, one should also consider the technological race for new energy sources in industrialized countries, which will increasingly be fundamental competitiveness factors in low-carbon economies.

Besides, given the reduced costs per MWh, conservation and energy efficiency can be considered the most **cost-effective** investments for the country.

2.2. THE TRANSPORT SECTOR

The transport sector poses major challenges for the next 20 years, taking into account not only the estimated GHG emission scenario, but also existing bottlenecks for the industry in Brazil and its heavy dependence on fossil-fuels.

The major challenge is to increase efficiency in the transportation industry through **intermodal integration**. The size of the Brazilian territory and the country geographic conditions (extension of the coastline, watersheds) do not match with a freight transport matrix focused on road transportation. A more diversified matrix, with higher share of rail and water (inland and coastal) transport modes, is of strategic importance for the country, not only because it would consume less power per transported ton/kilometer, but also to increase competitiveness in the Brazilian industry, so as to reduce logistics costs and delays, as well as to ensure the transportation infrastructure in the country does not hinder the growth estimated for Brazil in the next decades.

In parallel, incorporating sustainability concepts into **urban mobility systems** implies the need to establish sustainable transportation policies, integrated to other sector policies, comprising, among other things, better urban planning, higher investments on non-polluting and no or low GHG emission modes of transport, better flow of commercial transportation vehicles, both public and private and, therefore, reduction in the average time it takes to go from one place to another. Urban traffic jams are not just a problem for drivers and passengers, since they represent huge losses for the Brazilian economy due to unproductive hours, energy waste and public health problems — which, besides being a serious issue by itself, also affects the productivity of organizations and the country economy.

Lastly, the **extended use of biofuels** in the Brazilian transportation energy matrix will enable both GHG emission reduction and decrease in the dependence on oil byproducts. The discussion about this topic in this document is not exhaustive, given its breadth, complexity and mainstream approach, so there will be more in-depth studies about it in the future.

CHALLENGES FOR BRAZIL

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2.1. THE ENERGY SECTOR

In the medium and long terms, Brazil is expected to increase its GHG emissions due to the direct relationship between economic growth, based on the consumption of products and services, and GHG emissions — considering the current economic and technological model (the so-called business as usual). From the environmental perspective,

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2.3. THE AGRICULTURAL SECTOR

Agricultural areas in the country represent a significant carbon stock incorporated into the soil — a carbon sink, since its biological cycle removes the CO₂ present in the atmosphere — and a GHG emitter. At the same time, through agricultural activities and expansion of the agricultural borders over areas of natural vegetation, they account for a significant source of GHG emissions.

In spite of the huge potential to mitigate GHG in agribusiness, many techniques available have not been fully adopted because of a number of barriers, making it difficult to migrate to an agriculture that has lower impact on the climate. Generally speaking, it is possible to identify the bottlenecks, as well as

the solutions, in aspects related to **development and diffusion of low-carbon agricultural technology** and its corresponding funding. While some practices — such as banning sugar cane residue burning — count with incentives established by the legislation, most activities still lack support to be implemented.

Barriers involve policies for **(i) research and development (R&D)** for the development of new equipment, plant varieties and technologies for plantation and pastureland management; **(ii) technical assistance and rural extension**; **(iii) farmers' training**, which requires follow-up by the technicians who work in the Agriculture estate offices,

seeking for continuous improvement to professionalize the sector; **(iv) financing mechanisms**, which require clear and objective public policies to facilitate access to differentiated credit, aimed at adaptation and mitigation actions as described above; and **(v) clearer regulation** for reducing emissions from deforestation and forest degradation (**REDD**) and for payment for environmental services (**PES**) mechanisms, which may contribute to develop GHG mitigation projects in agriculture.

Lastly, it is worth noting the role agriculture plays on biofuels, which includes the articulation of that sector with the energy and transport sectors, in order to align supply and demand of biofuels and biomass.

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To tackle the challenges briefly summarized previously, the Companies for the Climate (EPC) Platform, representing a significant portion of the Brazilian business sector, presents a set of public policies propositions aiming at creating incentives for a low-carbon economy in Brazil.

Those propositions have the purpose to contribute to strengthen the competitiveness of the national industry, ensure access of our products to international markets, build a new internal market that is friendly to technological development and innovation, and foster energy security in Brazil grounded on a sustainable foundation. Such propositions include promotion and investment in: **(i)** renewable energy sources; **(ii)** conservation and efficient use of energy resources; **(iii)** efficient modes of transportation and with lower relative costs; **(iv)** sustainability of urban mobility; and **(v)** large-scale adoption of sustainable agricultural practices.

For didactic purposes, we divided those sets of public policies propositions into two groups:

1. Policies that foster conservation or more efficient use of natural and energy resources, including rational use of the land and productivity increase in the agricultural sector

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2. Policies that foster the use of renewable energy sources in transport and power generation

The propositions presented here rely on short-, medium- and long-term actions, and on the approval of multi-sector public policies. Besides, it is critical to promote legal security with long-term collaterals for current and future investments, by establishing a legal framework for the issues covered here. So, an integrated action between different government bodies and instances is required, at the three levels of administration. Besides, broad discussions with relevant sectors of the society and potentially affected populations are required, providing for access to quality information, so informed decisions can be made, making use of inclusive and participative mechanisms, in order to ensure adherence to reality, implement measures and be compatible with the socioeconomic development needs on sustainable grounds.

3.1. POLICIES THAT FOSTER CONSERVATION OR MORE EFFICIENT USE OF NATURAL AND ENERGY RESOURCES, INDLUCING RATIONAL USE OF THE LAND AND PRODUCTIVITY INCREASE IN THE AGRICULTURAL SECTOR

Promotion of **energy efficiency and productivity** is not necessarily subject to technological bottlenecks, once a number of more efficient technologies are available, many of which with proven economic feasibility. Conservation and more efficient use of energy resources present lower costs in MWh, and increase in agricultural productivity is more cost-effective when compared to the expansion costs to new areas.

The major challenge is to foster public policies that enable scale and continuous development of such technologies. Thus, barriers to implement projects that increase energy efficiency and productivity are mostly linked to the political priority assigned to the topic by governments, and to economic incentives established for business operation and for consumers' behavior.

That assumption is still more relevant considering future scenarios that project carbonization of the Brazilian energy matrix for the power and transport sectors, as well as the expansion of the agricultural borders to areas of natural vegetation, which are unquestionably invaluable not only to protect biodiversity, but also to keep the climate balance in Brazil and in the planet, affecting food and energy production in Brazil.

Aware of the importance of natural and energy resources being used more efficiently to establish a low-carbon economy in Brazil, the Companies for the Climate platform proposes the government elaborates:

Integrated **policies** to encourage and prioritize efficiency in the use of natural and energy resources in the national agenda, by:

- **Fostering energy efficiency and productivity in the industrial sector, seeking insertion into foreign markets and meeting growing demands globally presented by environmental efficiency standards that are increasingly demanding.**
- **Increasing efficiency in natural and energy resources consumption in the civil construction sector, through differentiated financing lines to promote retrofit, as well as use of solar power.**
- **Promoting efficiency in power transmission, distribution and consumption, through incentives to research and development of new power transmission and distribution models, as well as materials and equipment, deployment of smart grids, and creation of incentives for distributed generation.**
- **Creating minimum levels of efficiency for electrical equipment that, combined with labeling programs (efficiency seals), seek to better leverage energy resources and remove less efficient alternatives in the market.**

- **Offering incentives to energy service companies (ESCOs), whose role is critical to develop energy efficiency projects to diagnose and measure potential improvements and disseminate best practices.**
- **Promoting energy efficiency project auctions, considering reduction in demand through investments for higher efficiency in the industrial consumption.**
- **Creating financing lines with differentiated rates, targeted at energy efficiency.**

Policies to foster a more effective use of energy in the transportation industry by:

- **Installing infrastructure for higher efficiency transport modes, as well as adjusting the existing infrastructure**
- **Encouraging rail transport, through incentive to investments in the expansion of the rail network and adjustment of the existing infrastructure**
- **Establishing rules on access and sharing of lines, and assurance of regulatory security to rail concession operators**
- **Encouraging development of regional transport routes for passengers**
- **Encouraging water transport, through the development of river routes, by creating locks and/or parallel navigable channels in the dams, and policies to encourage coastal transport**
- **Building connection and transshipment terminals between modes of transport in strategic places for integration**
- **Fostering sustainability policies in urban mobility by encouraging public and large capacity transportation, structuring a BRT (Bus Rapid Transit) model, and creating incentives to adopt them in the Brazilian municipalities, extending the network, and improving the quality of urban rail transport mode (metropolitan trains and subway)**

- **Investing in research and development of new technologies for engines and materials used in the transport industry with higher efficiency and lower emissions**

Incentive policies for a more efficient use of natural resources, considering the challenges of each production sector and including measures of technological dissemination in agricultural activities to boost rural productivity. Such policies shall cover:

- **Tax incentives and credit access that enable the adoption of best practices in low-emission agriculture, such as, for instance, recovery of degraded pastureland and co-generation of power using biomass**
- **Productivity increase per hectare of pastureland by encouraging improvement in pastureland management**
- **Specific elements to engage and mobilize the agribusiness sector in discussions about climate change.**
- **Effective use of public funds related to climate change to boost agricultural production.**
- **Development of financial and market mechanisms to promote sustainable agricultural practices, among them carbon regulated and voluntary markets, reduction of emissions from deforestation and forest degradation (REDD) and Payment for Environmental Services (PES)**

Additionally, we propose incentive policies for a more effective use of natural and energy resources in the industry, commerce and households through incentives and/or subsidies for developing and adopting effective measures, as well as creating credit lines and financing, and using the financial system in such a way that those actions are disseminated throughout the Brazilian territory.

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It is worth noting that the propositions listed above necessarily depend on the articulation between different spheres of government, since energy policies depend on agricultural and transport policies and they, on their turn, are subject to proper and differentiated tax policies to promote energy efficiency and productivity in the country.

In this context, the private sector plays a critical role to speed up the deployment of the infrastructure through public-private partnerships and the operation of private agents through concession agreements that allow for mutual gains to the business sector and to society.

3.2. POLICIES THAT FOSTER THE USE OF RENEWABLE ENERGY SOURCES IN TRANSPORT AND POWER GENERATION

Similarly to what happens to conservation and more efficient use of natural and energy resources, promoting the use of renewable energy sources for the transportation industry (biofuels) and power generation (biomass, wind power and solar power, among others) offers benefits across sectors and, thus, demands articulated actions among the decision-makers involved in their design.

Energy policies that promote the use of renewable resources to produce biofuels, both solid and liquid, depend on a number of agricultural policies that enable increases in productivity and that increase, on its turn, depends on a policy of investment in research, development and training, focused on improving productivity.

It is worth highlighting that, in this context, investments on renewable energy sources bring additional benefits to the energy security in a country, since they reduce dependence on fossil fuels, which, besides causing significant acceleration in the climate change process worldwide, are subject to

international price variations and to the supply from foreign markets.

Considering how relevant the topic is for competitiveness in the production sector and the role it plays in the adoption of a low-carbon economy in Brazil, the Companies for the Climate platform proposes the government build:

Integrated policies to foster use of renewable energy sources for the transportation industry (biofuels) and power generation (biomass, wind power and solar power, among others) through the:

- **Payment of differentiated or incentivized tariffs for technologies in maturation stage (feed-in tariffs) and purchase collaterals in long-term agreements, as well as incentive to innovative R&D technologies**
- **Specific auctions for renewable power generation**
- **Creation of financing lines targeted at the renewable energy sector, offering cheaper credit for projects and installation of a national component industry for that production chain**
- **Development of new renewable power generation projects, including their supply chain, offering tax incentives that are not reflected on an increase in the tax burden.**
- **Incentive to operations in the financial and capital markets aiming at developing new technologies in renewable energy sources, considering the important role played by entrepreneurial capital funds**
- **Encouragement to distributed generation and to the consumption of renewable energy through differentiated financing and incentive to the use of renewable energy generation equipment in micro scale and the creation of a system for power utilities to trade renewable energy.**
- **Enhancement of the cost-benefit ratio (CBR) calculation, in order to internalize**

the socio-environmental benefits of projects based on renewable energy sources.

The Platform proposes the promotion of an integrated agricultural policy that encourages:

- **Planting and increasing productivity of agricultural products that serve as raw materials to produce biofuels.**
- **Tax incentives and purchase collaterals for the production and trade of biodiesel.**
- **Revising the borrowing capacity of the agricultural sector**

- **Training producers through technical assistance of rural extension agencies**

Additionally, we propose:

- **Tax incentive for transport businesses who have a fleet based on renewable fuels**
- **Incentive to production and sale of vehicles that use renewable fuels**
- **Policy to invest in development research to produce second and third generation ethanol, as well as new raw materials for biodiesel production**

FINAL REMARKS

04

The propositions contained in this document aim at contributing to the debate on the challenges to implement a low-carbon economy in the country considering three relevant sectors: Agriculture, Transport, and Energy. They are focused on analyses and propositions of critical instruments to enable the conditions required for the Brazilian economy to become competitive in the current context of GHG emissions management.

Global climate change poses the most serious threat to human well-being and to natural ecosystems in our century. Urgent actions are needed to reduce the impact of anthropogenic actions on the planet climate. That task shall be shared between public and private efforts, in a positive agenda that requires the business sector to have a responsible, participative and innovative leadership, and requires the Brazilian Union — at all three administration levels — to show integrated action of government agencies, in order to align their performance and foster a systematic approach for the efforts of GHG emission mitigation, adaptation, technological development and public-private investments in different sectors of the Brazilian economy. Establishing a legal framework is critical to create a proper environment for investments and offer legal security to those businesses committed to proactively engaging to a low-carbon economy.

As sustainability is incorporated into the Brazilian economic development model, through an integrated perspective of public policies, we believe it will be possible to meet the expected targets to reduce climate change effects on human well-being and natural ecosystems.

The propositions formulated here consist only of the starting point of an analysis process that shall continue in the coming years, aiming at opening and encouraging the debate, as well as receiving contributions to jointly build consistent public policies propositions to support repositioning the Brazilian economy when it comes to the challenges posed by climate change.