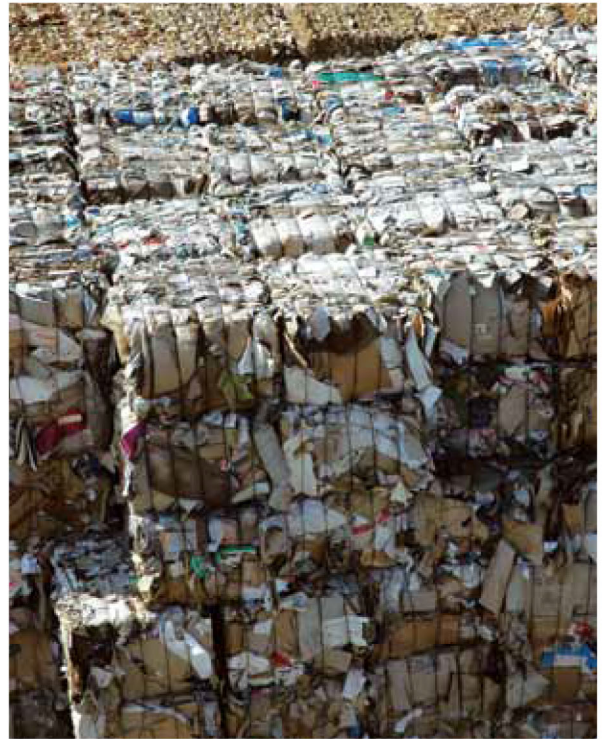


CORPORATE PROPOSITIONS FOR
PUBLIC POLICIES FOR A
LOW-CARBON
ECONOMY
IN BRAZIL



**INDUSTRIAL PROCESSES AND
WASTE TREATMENT**

AN INITIATIVE OF



INTRODUCTION

The climate change the Earth has been subject to in the past decades raises uncertainties regarding sustainability and prosperity of human life in future centuries. It is widely accepted that anthropogenic activities, which are significant sources of greenhouse gas (GHG) emissions, are in fact responsible for the current scenario and, more than that, are critical to build a sustainable future.

Brazil, because of its economic relevance, leadership in the generation of power from renewable sources, and a land of invaluable biodiversity and natural resources, can - and should - be one of the pillars of this new economics based on low-carbon rates. Undoubtedly, the path to enable this includes internalization of a new perspective in organizations and sharing efforts between public and private initiatives. Inclusion of the low-carbon topic in the government positive agenda and in the regular decision-making process of businesses is fundamental to match the incorporation of the topic to its importance.

Considering this, many organizations and

representatives of the civil society have taken actions that contribute to the emergence of a new economic model, in which the development of countries and companies is dissociated from increases in GHG emissions. It is widely known that investments made in the next 10-20 years will have great impact on the climate in the second half of the 21st century, in such a way that economic growth and environmental sustainability shall be balanced. Massive investments on technologies that have lower impact on the climate in different significant industries, combined with the promotion of an integrated agenda among various sectors of the civil society, the private sector, governments, NGOs and the academia, are key factors in the building of a low-carbon economy. Individual efforts are important, but not sufficient.

Beyond uncertainties, what we see is that, by implementing and changing processes and activities, many organizations explore business opportunities and strengthen their future competitiveness, in a world where sustainability is increasingly ubiquitous.

In this context, the Companies for the Climate Platform (EPC), a Brazilian permanent business forum for debate, qualification and building of partnerships

for the transition towards a low-carbon economy, justifying the Brazilian leadership in the area and expressing genuine business responsibility, proceeds to the work started in 2010 and presents the Brazilian society with a new set of public policies propositions in order to build a low-carbon economy.

Such efforts aim at contributing to: **(i)** strengthen the national industry competitiveness 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 an internal 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.

Thus, in 2011, EPC conducted a new series of sector studies, focused on diagnosis and analysis of climate challenges in the national context, with the purpose of supporting the formulation of public policies and providing guidelines to implement the Brazilian National Policy on Climate Change, the Brazilian

National Plan on Climate Change, and Sector Plans. In the document published in 2010, public policy propositions were presented for the energy, transport and agricultural sectors.

The studies elaboration process relied on the support of a number of experts from their corresponding sectors, business representatives, government and the civil society, in a continuous process of dialogue and review of the results obtained in partial reports in round tables at Getulio Vargas Foundation, from June to September, 2011.

With the present document, the companies that form the EPC platform aim at encouraging an extremely urgent and necessary dialogue about a complex topic, seeking to foster a low-carbon economy and sustainable development in Brazil. Therefore, the analyses have the purpose to identify bottlenecks in the Brazilian economy that should be handled by public policies, either specific or integrated, in order to generate the necessary conditions to drive a low-carbon economy and ensure greater competitiveness of different economic sectors in Brazil. Once the topics are determined, future studies can bring further detailing

INDUSTRIAL PROCESSES AND WASTE TREATMENT



(instruments, costs, time frames etc.) about the propositions resulting from both sector studies, in such a way to allow for effective reduction of GHG emissions at the national level.

Fighting climate change is extremely challenging, and the time to take action is now. Move forward and enjoy the best opportunities generated by a low-carbon economy will be a competitive edge for businesses willing to invest in that. It also represents a competitive edge to countries that are willing to be ranked as one of the largest economies in the world. Analyzing the results of the studies, we come to the conclusion it is more beneficial to act in a proactive manner, establishing partnerships with the public and the private sector that can lead to pragmatic regulations aiming at implementing more cost-effective actions that support the transition to a low-carbon economy.

Moving forward also represents a chance for Brazil to extend and diversify its exports, in such a way to also include services and technologies and move away from its traditional role of commodities exporter. The Industrial Processes sector, as well as the Waste Treatment sector, although in smaller scale, are strategic areas for

Brazil, and planning and investment discussions in those sectors for the next decades shall engage the academia, the private sector, the government and the civil society in the debate. Through infrastructure planning, long-term investments, and the creation of economic instruments, a new path can be paved for Brazil. A timely cooperation momentum between various production sectors in Brazil is emerging, aimed at building a new economic development model, more appropriate to a scenario where natural resources are scarce and where there is need for a more responsible and harmonic interaction with the environment. The studies presented here should be seen as a cooperation invitation for the public and private sectors, along with the Brazilian society, to jointly build this new reality.

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

In spite of the global severity of climate change, international experiences show that, if properly performed, industrial processes restructuring and the implementation of

sustainable waste management pose an opportunity for the business, bringing along cost reduction and increase in competitiveness, and it is not necessarily a negative externality one has to deal with. Inclusion of the waste treatment sector and the industrial processes focused on climate change in the government positive agenda is extremely important for all this potential to be effectively explored.

In order to build a new economic model, in which sustainable development symbiotically coexists with economic growth, a number of challenges must be overcome. With this purpose, 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 seek 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) sustainable and low-carbon industrial processes in Brazil; (ii) integrated waste management; (iii) sustainable universalization and modernization of the wastewater treatment sector.

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

1. Policies to increase the carbon efficiency of industrial processes and waste treatment, focused on competitiveness.
2. Policies to promote new technologies and low-carbon innovation in industrial production and in waste treatment focused on competitiveness.
3. Policies to raise awareness of society and train the workforce.

The propositions presented here rely on short-, medium- and long-term actions, and on the approval of multi-sector public policies. Besides, there must be legal security with permanent assurance for current or 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 data and information, so qualified 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.

POLICIES AIMED AT INCREASING THE CARBON EFFICIENCY OF INDUSTRIAL PROCESSES AND WASTE TREATMENT, FOCUSED ON COMPETITIVENESS

Both in the industrial processes sector and in the waste treatment sector in Brazil there are measures that could be taken in order to reduce emissions, without requiring neither technological changes nor great amounts of investment. For industrial processes, this is often related to changes in the quality of the raw materials used, or update of certain parts of the equipment that are not so efficient, the so-called industrial retrofit. On the other hand, for the waste treatment sector, this is closely related to waste non-generation, generation reduction, and maximization of reuse.

In order to effectively explore all the potential in the industrial processes sector, incentive policies to increase carbon efficiency shall be implemented, such as:

- **Perform diagnoses of the plants and production systems current status in each sector in order to determine which steps in the industrial process and components could benefit from retrofits.**

INDUSTRIAL PROCESSES AND WASTE TREATMENT

¹ A carbon intensity benchmark is a quantitative indicator that determines the GHG emission intensity that would be considered proper for a certain industrial sector. There are many different ways to calculate the benchmark value. Regardless of the methodology used, what really matters is that the indicator should be considered less carbon intensive than the average in a certain category. Thus, a real incentive is created for plants to adjust to their benchmark.

- **Identify which components are available for purchase in Brazil and create a 'reference list of components for retrofit'.**
- **Make subsidized credit lines available for industries engaged in retrofit operations.**
- **Create retrofit operation certificates to certify the implementation of more efficient production systems for each industrial plant.**
- **Create carbon-intensity benchmarks¹ for each industrial subsector with the goal to identify less carbon-intensive industries in each subsector.**
- **Use benchmarks to offer 'carbon efficiency seals' to industries that have proper plants according to their benchmarks.**
- **Develop a methodology to map the carbon footprint of a certain product, comparing that footprint with a carbon footprint benchmark for that type of product.**
- **Rank, in an easy and communicative way for society, which products are more or less carbon intensive, within the same category, and then provide an official 'low-carbon product' seal.**
- **Prioritize 'low-carbon products' in public procurement.**
- **Use benchmarks as a commercial policy component, to differentiate national low-carbon products from imported products that do not meet the carbon efficiency criteria.**

There are many economic instruments proven as effective by international experiences to increase carbon efficiency in waste treatment, acting particularly to:

- **Enable selective waste collection.**
- **Minimize the amount of waste submitted for final disposal, which can only be done by maximizing waste non-generation, reduction, reuse, recycling and composting.**

- **Eliminate improper disposal practices.**
- **Promote control of pollutant substances at their source, since it reduces the need for wastewater treatment.**
- **Create and strengthen the markets for reuse, recycling and composting products.**

POLICIES TO PROMOTE NEW TECHNOLOGIES AND LOW-CARBON INNOVATION IN INDUSTRIAL PRODUCTION AND IN WASTE TREATMENT FOCUSED ON COMPETITIVENESS

Although isolated changes can be implemented resulting in great positive impact to mitigate climate change, promoting new technologies and low-carbon innovation is critical for continuity of sustainable development.

In order to satisfy the demand for low-carbon technologies, investments on research and development (R&D) are required. Encourage and drive the research according to the objectives of industrial production and low-carbon waste treatment is a long-term issue that is associated with future business competitiveness and many other challenges. Therefore, it is a matter of managing to involve the academia and the institutions responsible for incubating and transforming those low-carbon innovations into solutions that are actually feasible in the market, as well as improving opportunities and creating joint solutions to overcome those new technologies implementation challenges.

Thus, it is necessary to outline public policies that foster the incorporation of new technologies and low-carbon innovations into industrial processes, taking the following into account:

- **Ensure financial resources to elaborate pilot projects in order to demonstrate and test technologies that are in a more mature state, but still not mature enough to go to market.**
- **Direct tax incentives to businesses that have R&D operations in areas related to low carbon.**

- **Make a list of Best Available Technologies (BAT) and Best Ways to Produce (MFP), for each industrial sector.**
- **Make credit lines available to finance new industrial plants that use BAT and MFP.**
- **Grant subsidized credit lines and tax exemptions for industries that produce capital goods considered components needed for MFP and BAT production systems.**

As for the waste sector, public policies shall take the following into account:

- **Enable development, demonstration and deployment of new technologies capable of producing fewer residues or that privilege waste non-generation, minimization, reuse, composting, and recycling.**
- **Modernize the wastewater treatment sector targeting at climate change.**
- **Create and extend incentives to leverage biogas in landfills, anaerobic STP, and any other waste treatment systems (industrial plants, agricultural hubs, etc.).**

POLICIES TO RAISE AWARENESS, TRAIN AND QUALIFY THE WORKFORCE

To ensure development and implementation of new technologies, there must be a qualified workforce in the country, trained to operate low-carbon technologies, which, often times, differ from conventional technologies. The technical qualification process involves both the public and the private sector, and in both cases they need to restructure academic careers, create new ones, and engage and foster the cooperation between seasoned professionals and experts in industrial processes and sustainable waste management.

Establishing an effective communication and articulation channel between the population, public administrators, business organizations

and the academia, although often challenging, produces more trust and reliability to create joint solutions. It is fundamental to communicate clear, transparent and reliable information, that explain why it is important to move toward a low-carbon economy, how to do it, and also the final results and impacts of their actions.

Additionally, educating and raising awareness of the population, the business sector and political institutions to the importance and opportunities related to low-carbon intensity industrial processes and waste treatment are highly relevant challenges that need to be overcome. Although there has been improvement in the past years concerning this topic, there is still a long way to go.

Implementation of public policies to reduce ignorance on the topic, raise awareness and enable training and qualification of the workforce for low-carbon activities shall focus on:

- **Grant scholarships for low-carbon related topics.**
- **Create specific research centers for low-carbon technologies.**
- **Elaborate a robust database system targeted at low-carbon activities, with easy-to-access, available, organized and standardized data, enabling public administrators to make rational and effective decisions, and conveying reliability of governmental actions to the organized civil society.**
- **Train public administrators and other professionals related to industrial processes and waste management on climate change, as well as promote their exchanges with experts and the academia in their areas of interest.**
- **Expand academic careers, specialization courses, and technical programs aiming at training and qualification of professionals in order to enable the application of low-carbon technologies and organizational processes, thus creating a green workforce (green collar workers).**