
CLIMATE CHANGE:

Opportunity for the Business Sector

Vision of the Mexican Business Sector on Climate Change

October 2009





The phenomenon of Climate Change is without doubt one of the biggest challenges we face as businessmen and women, as a country and as a species. Its effects will be decisive, having a decisive impact on the context in which, from now on, our work in business will have to take place as a fundamental part of Mexico's development and modernization.

This document contains the Vision of Business on Climate Change, and is the result of analysis, reflection and dialog among specialists and representatives of the bodies forming part of the Business Coordination Council.

This Vision sees the environmental challenge as an opportunity not only to build accords within the Business Sector, but also with the public sector and society as a whole. The objective of this would be to raise Mexico's competitiveness globally through the development of new clean energy sources, the optimization of current sources, as well as the espousal of adaptation strategies to ensure that Mexico's economic growth will be sustainable.

These accords will be the foundations on which to construct State policy on climate change. Ideally they should form part of a national regulatory framework for development. The Business Sector will therefore be making systematic and sustained contributions.

I wish to express my deepest gratitude to all those directly or indirectly involved in the making of this document. I hope it will become a reference and point of departure for the arrival of new culture of sustainability that will open the way to growth and development that will include all Mexicans, in congruity with their responsibility in the country's advancement.

Respectfully,

Armando Paredes Arroyo Loza

President of the Business Coordination Council

ORIGIN OF THIS DOCUMENT

This document is the result of a process of reflection, analysis and dialog on the issue of Climate Change and its relationship with the Business Sector. This process took place through a series of forums and working meetings called and organized by Consejo Coordinador Empresarial, A.C., through its Private Sector Studies Commission for Sustainable Development (CESPEDES), which involved experts on the issue and representatives of the leading bodies of this Commission.

These forums, which took place during May, June and July of this year, dealt with issues which for their relevance are indispensable from a business standpoint. They included: clean development and mitigation; adaptation; competitiveness; energy security; awareness-raising and dissemination; and, of course, the challenges that arise in the form of different barriers and obstacles to implementing actions.

The methodology adopted was to use working committees for each of the issues, to be able to broach them with the depth they warranted in order to take the conclusions of each month to the full forums until a consensus was reached.

A first draft was made and sent to all participants to get their feedback, using the conclusions from these forums, which were then incorporated in this final document.

This process of reflection and analysis in the Business Sector is just the beginning of a space for dialog that will need to be kept up to gain increasing awareness and to take the initiative incumbent upon it as Mexico's main engine of growth.

That space will consolidate the Business Sector as the interlocutor with other agents of the government and civil society with whom mechanisms of cooperation and synergy have to be found that will enable Mexico to take advantage of the phenomenon of Climate Change as an opportunity for growth.

The following entities were involved in the process of drafting this document:

PARTICIPATING BODIES:

- National Association of the Chemical Industry (ANIQ)
- Mexican Bar Association (BMA)
- Nuevo León Chamber of the Transformation Industry (CAINTRA)
- National Chamber of Cement (CANACEM)
- National Chamber of Metal Container Manufacturers (CANAFEM)
- National Chamber of the Cellulose and Paper Industry (CNICP)
- National Chamber of the Iron and Steel Industry (CANACERO)
- National Chamber of the Pharmaceutical Industry (CANIFARMA)
- National Chamber of the Transformation Industry (CANACINTRA)
- Confederation of Chambers of Industry of the United Mexican States (CONCAMIN)
- Confederation of Employers of the Republic of Mexico (COPARMEX)
- Business Coordination Council (CCE)
- National Council of Ecological Industrialists (CONIECO)
- Nuevo León Institute for Environmental Protection (IPA)

PARTICIPATING COMPANIES:

- CEMENTOS MOCTEZUMA
- CEMEX
- FEMSA SERVICIOS
- FORD
- GRUPO CEMENTOS CHIHUAHUA
- GRUPO MÉXICO SOUTHERN MINERÍA
- HOLCIM APASCO
- PEÑOLES
- INICIATIVA PARA EL DESARROLLO AMBIENTAL SUSTENTABLE (IDEAS)
- SERVICIOS ADMINISTRATIVOS FRESNILLO
- ENERGÍA TECNOLOGÍA Y EDUCACIÓN (ENTE)
- PRICEWATERHOUSECOOPERS
- CAUX ROUND TABLE MÉXICO (CRT-México)
- CENTRO DE ESTUDIOS ESTRATÉGICOS PARA LA COMPETITIVIDAD (CEEC)
- COORDINACIÓN DEL PROCESO Y ELABORACIÓN DEL TEXTO: FWD CONSULTORES



EXECUTIVE SUMMARY

The phenomenon of Climate Change is one of the biggest challenges facing mankind, as it is a key factor to the sustainability of the planet. Its consequences, which are not only environmental, are already changing the context of economic, financial, social and cultural issues.

Climate Change is the result of current CO₂ and methane concentrations in the atmosphere, which are the highest they have been for 650,000 years. Stabilizing global warming at 2°C on average means that between now and the year 2050 emissions worldwide need to be reduced by 50% with respect to the 1990 baseline, which presupposes reductions in industrialized countries in the order of 60 to 80% over this period, with progressive participation by the developing countries.

As response to this phenomenon, the 1992 United Nations Framework Convention on Climate Change (UNFCCC) was put together, which led to the Kyoto Protocol in 1997, the policy instrument which obliges the industrialized countries defined in Annex I to the Protocol to lower their CO₂ emissions.

Various actions have been taken in Mexico, such as the creation in 2005 of the Inter-Secretariat Climate Change Commission, which is responsible for the Special Climate Change Program (PECC), published on August 28 in the Official Gazette of Mexico, which establishes the target for Mexico of a 50 million ton reduction of CO₂e by 2012 and the aspirational target of a 50% reduction in GHG emissions by the year 2050, equivalent to 340 million tons of CO₂e.

The first commitment period of the Kyoto Protocol ends in 2012 and in the next world summit to take place in Copenhagen in December 2009 it is hoped to lay the groundwork for a new global accord that will stabilize the concentration of greenhouse gas in the atmosphere.

Looking ahead to this summit, Mexico must take up a position based on the principle of common but differentiated responsibilities and its respective capacities, in accordance with the country's reality. Above all, Mexico must continue to grow. While it is important for countries to reach a consensus to control GHG emissions, it is also important for the world to recognize Mexico's legitimate right to grow and develop in economic terms, which necessarily means increasing its energy consumption.

The Mexican Business Sector, aware of the enormous relevance of the phenomenon of Climate Change, has conducted a process of internal dialog that has culminated with it defining its vision on this issue. This vision will guide how it will have to act in this context, as a leader and fundamental agent of Mexico's economic development.

VISION OF THE BUSINESS SECTOR IN MEXICO:

From the Business Sector's perspective, Mexico's economic growth has to be based on clean development, through the sustainable use of its resources, the exploitation of its renewable energies and the use of cleaner technologies and environmentally-friendly fuels.

Structural changes, which in the long term would make a difference to the economy and to the population's standard of living, have been neglected for a long time. Mexico currently lacks the infrastructure to address the effects of Climate Change.

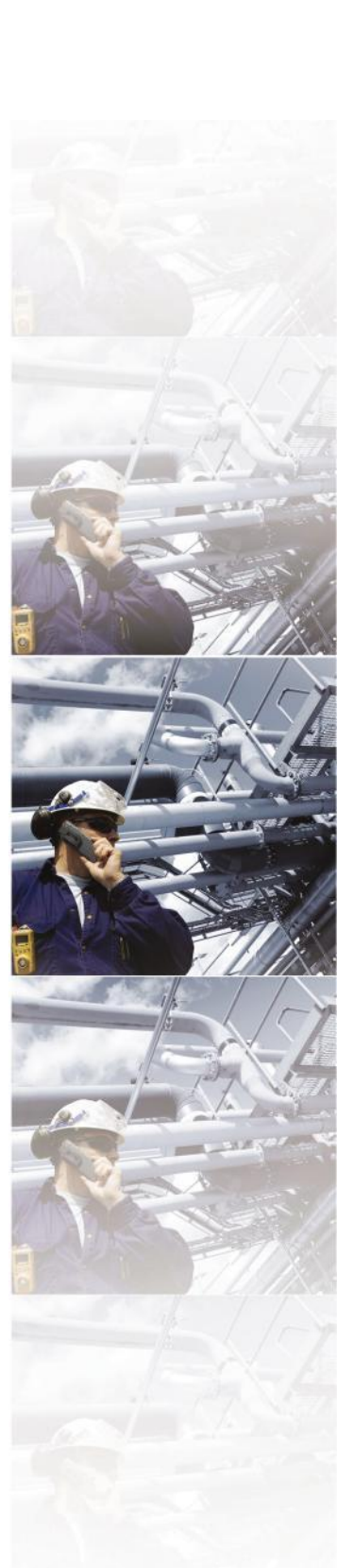
Given that context, a relative reduction of Greenhouse Gas (GHG) emissions and move towards decarbonization of the economy need to be undertaken. Acting on Climate Change requires new energy sources, food security, the availability of water and raw materials, disease prevention and a consolidation of civil protection schemes.

It also means providing incentives for the development of new businesses, sources of employment and chains of production related with renewable energies.

As the country manages to reduce its carbon footprint, it will be able to improve its competitiveness in the international markets.

The opportunities that will enable it adapt to the generation of clean energy and efficient energy use need to be identified.

The current legal framework fails to afford institutions sufficient capabilities or legal certainty to take steps to reduce GHG generation. There needs to be state policy on Climate Change as part of a national business development policy.



It is therefore urgent to make top-down changes in all domestic areas to address the new rules on the environment and trade.

The Sector's Vision on Climate Change tackles the following aspects: Clean Development and Mitigation, Adaptation, Competitiveness, Energy Security, Awareness-Raising and Dissemination, and the Challenges raised by Climate Change.

CLEAN DEVELOPMENT AND MITIGATION:

There is an established need for growth that is based on the sustainable use of resources, the exploitation of renewable energies, the use of cleaner technologies and environmentally-friendly fuels, and on a strategy of relative long-term mitigation, i.e., the reduction of emissions per unit of products or services, resulting from programs not only within the production processes but throughout the value chain.

ADAPTATION:

Mexico is highly vulnerable to the impact of climate change and lacks the infrastructure to cope with its effects.

A risk is identified when existing resources against Climate Change are dedicated more towards mitigation than to adaptation. In this sense, it is imperative to design strategies for adaptation which, in addition to managing the risk, will ensure sustainable growth with the incorporation of a new way of thinking that takes adaptation into account, driven by innovation and the development of new products, markets, adaptive capabilities and a more favorable regulatory framework.

It is essential for each sector to develop its own analysis, identify risks and evaluate its level of vulnerability and the opportunities, as well as its adaptation needs. It is also a priority for each to develop its capacities and build key alliances with the relevant players, and to work together with the authorities on the design of programs. The aim of all this is to eliminate or reduce the risk and vulnerability throughout the entire value chain.

COMPETITIVENESS:

Mexico must not delay in focusing its efforts on becoming more efficient in the use of all

its resources and taking advantage of opportunities to conquer new markets. It has to avoid being sidelined by the new carbon footprint-based trade barriers. Its approach to competitiveness must therefore be all-inclusive, encompassing the whole chain of production.

For their part, the authorities will have to come up with a Climate Change policy that goes hand-in-hand with a policy of industrial change, taking into account not only the big industries but also the small and medium-sized businesses. It will be necessary to identify new markets where Mexican know-how and innovation, and above all, talent, will offer a competitive advantage.

ENERGY SECURITY:

Energy Security is a key factor to achieving Mexico's repositioning in the global competitiveness index. Critical deficiencies in this field are a real obstacle to a successful transition towards decarbonization of the economy. For this reason, comprehensive energy reform is urgently needed to guarantee a cheaper, cleaner and more efficient energy supply.

Cogeneration also needs to be boosted through incentives, removing the current red tape choking its development. It is also vital for the private sector to gradually generate its own energy from renewable sources with the aid of incentives that will encourage the implementation of technologies and electricity diversification.

AWARENESS RAISING AND DISSEMINATION:

Society has to be aware of the impact its behavior has on energy consumption and the environment. Making information transparent and promoting information-based decision making will be the tool for generating more responsible consumers. Alliances between government, society, universities and companies to spread knowledge about the consequences of Climate Change, as well as the exchange of information, are fundamental in generating a culture that will change behavior with respect to this phenomenon.



CONTEXT AND CHALLENGES

CHALLENGES:

The main challenge the country is facing on the issue of Climate Change is the lack of a pertinent regulatory framework. High electricity rates and the lack of tax incentives and deductibility schemes for technological improvements, helping pave the way towards sustainability and clean energy projects, are some of the aspects that need to be overcome by creating a legal framework with a market logic and a generalized relaxation of any mechanism that will help the conversion and adaptation of businesses seeking energy efficiency and cleaner production processes.

The Federal Executive's actions to advocate the reduction of GHGs could be viewed as just wishful thinking as they lack the support to make them legally binding, given the Legislature has no intention of bringing the Mexican legal framework into line with the circumstances.

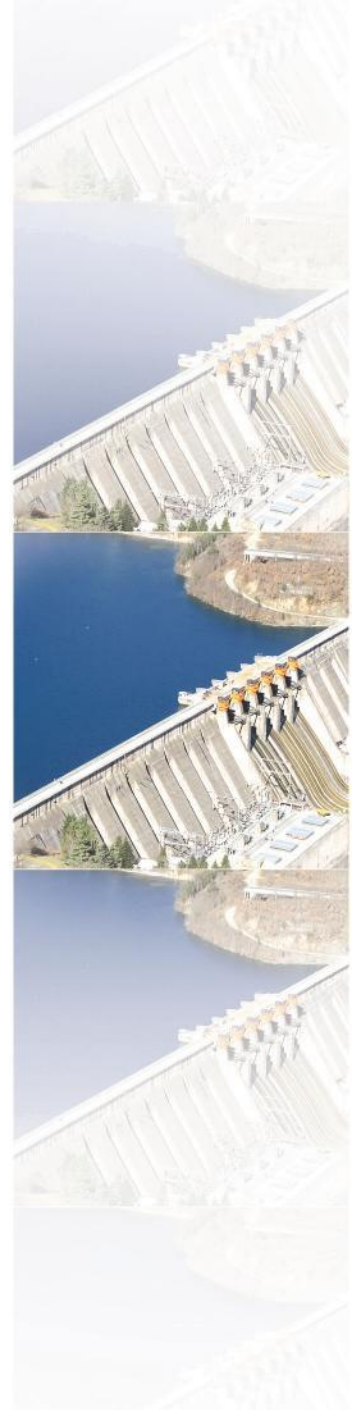
In short, this document represents a firm step by the Business Sector towards exercising its leadership in the dialog with every sector of the society that will turn Mexico into a competitive country capable of creating a space where the opportunity for development is open to all.

The phenomenon of Climate Change is one of the biggest challenges facing mankind. Giving it the relevance it deserves will be key to the sustainability of the planet and, consequently, of all development processes. Its consequences are felt not only by the environment but also economically, financially, socially and culturally.

There is no question about the magnitude of the effects of Climate Change. Addressing and overcoming it requires the participation of every country, sector and social group. The issue has been gaining importance over the past two decades. An example of this was the advancement of negotiations through an international convention, under the aegis of the United Nations. The Framework Convention on Climate Change (UNFCCC) was signed in 1992 during the "Rio Summit".¹

The ultimate objective of the Convention is to stabilize greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent human interference with the climate system. The fundamental principles of the Convention include that of protecting the climate system on the basis of equity and the concept of common but differentiated responsibilities and respective capabilities. The parties have to take precautionary measures to prevent or minimize the causes of Climate Change and to mitigate its adverse effects. To achieve this objective, the Kyoto Protocol was adopted during COP-3 in 1997. This international policy instrument establishes binding obligations on Annex I Parties to reduce their emissions by 5.2%, based on emissions recorded in 1990. These obligations relate to the first commitment period of 2008-2012.

According to data issued in the fourth assessment report by the Intergovernmental Panel on Climate Change (IPCC), global GHG emissions due to the effect of human activities since the pre-industrial era rose by 70% between 1970 and 2004. Atmospheric CO₂ concentrations have risen, from a pre-industrial figure of around 280 ppm, to 379 ppm (recorded in 2005). The increases are mainly down to the use of fossil fuels and, to a lesser extent, changes in land use.



¹ The United Nations Framework Convention on Climate Change, E. de Alba. Cambio Climático una visión desde México; SEMARNAT.

This increased CO₂ in the atmosphere has been linked to the rise in the overall average air temperature of the earth's surface, which rose by 0.74 °C over a 100-year period (1906-2005).²

The synthesis of the 2007 IPCC report states that “continued GHG emissions at or above current rates would cause further warming and induce many changes [...] during the 21st century [...] larger than those observed during the 20th century”.³

FIGURE 1 EXAMPLES OF IMPACTS ASSOCIATED WITH THE GLOBAL ANNUAL AVERAGE CHANGE IN TEMPERATURE COMPARED WITH THE 1980 - 1999 PERIOD (°C)

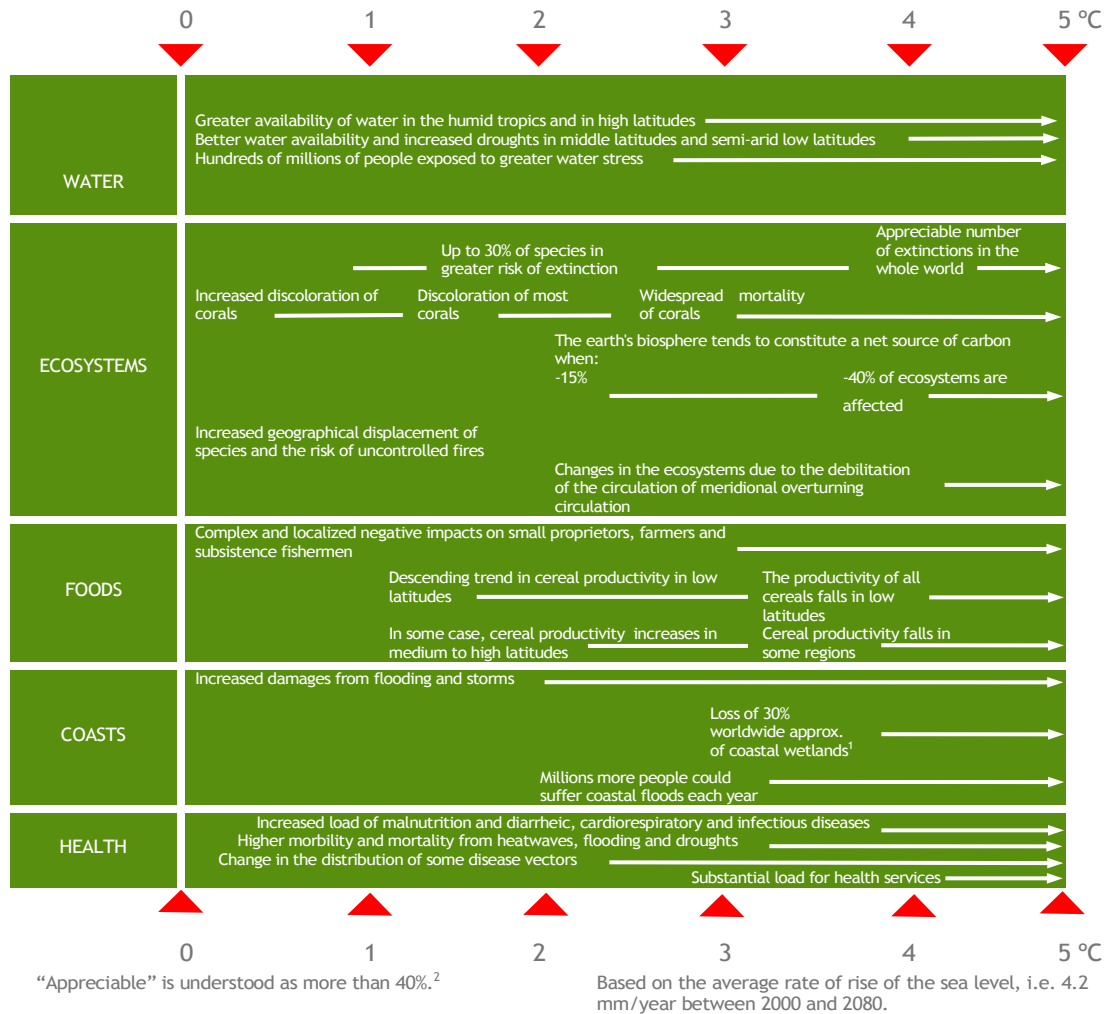


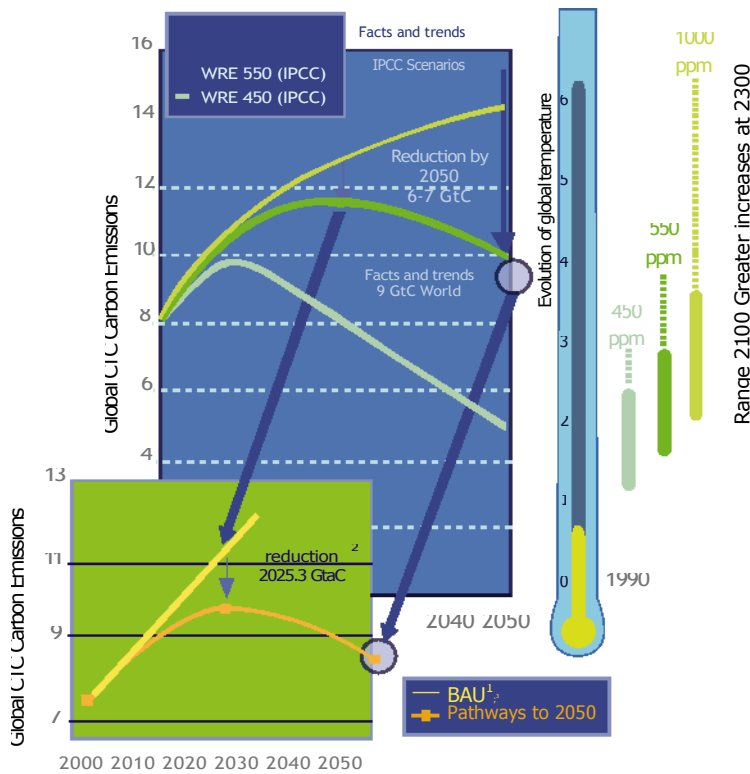
Figure 1 shows the impacts associated with the temperature change in different sectors. It shows that the more the temperature changes there are, the more adverse effects there will be, such as the extinction of species, loss of coral life, higher number of people with water stress, lower food production, etc.

² Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report, Climate Change 2007: Synthesis Report, Summary for Policymakers November 17, 2007.

³ Pathways to 2050, WBCSD.

Today, the negotiations of the UNFCCC Conference of Parties (COP) center on achieving a global agreement by the end of 2009 at the 15th COP to be held in Copenhagen, in which all nations will be included, to enable global warming to be kept below 2°C. The basis of the agreement has to be in relation to what scientists have mentioned: limiting atmospheric concentrations to around 450 ppm, allowing certain medium-term increase in emissions, achieving global stabilization of emissions by a deadline of 2030, followed by continuous reduction.

FIGURE 2. EMISSIONS SCENARIOS⁴



Looking ahead to this Summit and a long-term plan, Mexico has to take a stance following the principle of common but differentiated responsibilities and its respective capabilities, according to the reality of the country and the capabilities of the different sectors. Recently, within the framework of the World Environment Day, held on June 5 and 6, President Felipe Calderón announced Mexico’s commitment to reducing 50 million tons of CO₂e emissions. In the inauguration of the Third Preparatory Meeting of the Major Economies Forum on Energy and Climate, held on June 22 last in Jiutepec, Morelos, the Federal Executive once again stressed Mexico’s commitment to reducing carbon emissions and called upon all the governments of the world to set aside the “paradigms, self-interest and grievances” that hamper agreements on combating Climate Change.

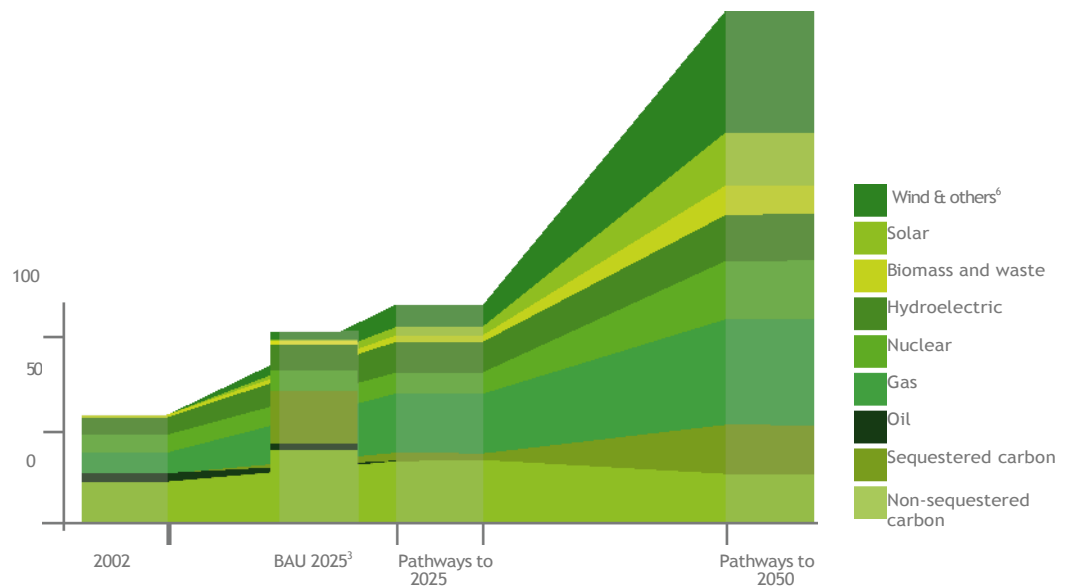
While it is important for countries to reach a consensus to control Greenhouse Gas (GHG) emissions, it is also important for the world to recognize Mexico’s legitimate right to grow and develop economically, which necessarily means increasing its energy consumption.

Climate Change represents not only an environmental challenge; it also has economic consequences. In 2007, Sir Nicholas Stern (head of Britain's Government Economic Services) produced a model of the impact on the economy, estimating average losses at between 5 and 10% of global GDP, with costs to poor countries at more than 10% of GDP. According to the analysis, achieving stabilization at under 550 ppm CO₂e would require global emissions to reach a maximum in the next 10-20 years, to gradually drop to a minimum rate of 1-3% per annum. By 2050, global emissions would need to be 25% below current levels. For this reduction, the report has calculated that the annual costs of stabilization at 500-550 ppm CO₂e would be approximately 1% of GDP by 2050.⁴

In a rapidly-developing world, a trend of maximum emissions of 450 ppm is a target. It requires large-scale development of a wide range of technologies with high investment and complex decisions, for a complete transformation of production and energy use. The problems concerning energy security and access will play an important role in this transformation process.

Every terajoule of energy used should generate less than 45% of the carbon emissions it did in 2002, which means a 1.3% improvement in carbon intensity. Electricity generation trends in 2050 will have a similar profile to the one shown in figure 3.

FIGURE 3. ELECTRIC POWER GENERATION BY FUELS⁵



⁴ Stern Review: The economics of climate change.
⁵ Pathways to 2050, WBCSD.

DOMESTIC CONTEXT

INTER-SECRETARIAT CLIMATE CHANGE COMMISSION (CICC)

Congruent with Mexico's responsibilities as a nation with respect to Climate Change, on April 25, 2005, the Official Gazette of Mexico published a ruling creating a permanent Inter-secretarial Climate Change Commission (CICC), formed by the incumbents of the Secretariat of the Environment and Natural Resources (SEMARNAT), the Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA), the Secretariat of Communications and Transport (SCT), the Secretariat of Social Development (SEDESOL), the Secretariat of Economy (SE), the Secretariat of Energy (SENER) and the Secretariat of Foreign Relations (SRE).

This Commission is in charge of coordinating, in its respective areas of competence, the actions of the agencies and entities of the Federal Public Administration related with drawing up and implementing national policies for the prevention and mitigation of GHG emissions, adaptation to the adverse effects of Climate Change and, in general, promoting the development of climate action programs and strategies relating to compliance with the commitments signed by Mexico in the UNFCCC and other instruments derived from it, particularly the Kyoto Protocol.⁶

NATIONAL CLIMATE CHANGE STRATEGY (ENACC)

In 2007, the Federal Government launched the National Climate Change Strategy (ENACC). This identifies measures, possibilities and opportunities for reducing GHG emissions, proposes studies required to define more precise mitigation goals and outlines what the country needs to move forward in the construction of adaptation capabilities.

The ENACC, whose area of competence focuses on the Federal Public Administration, contributes to a broad and inclusive nationwide process, based on building governmental and social consensuses to:

- identify opportunities to reduce emissions and develop mitigation projects.
- recognize the vulnerability of the respective sectors and areas of competence and start up projects to develop nationwide and local capabilities for response and adaptation.
- propose lines of action, policies and strategies that will serve as the basis for putting together a Special Climate Change Program to be written into the 2007-2012 National Development Plan.⁷

SPECIAL CLIMATE CHANGE PROGRAM (PECC)

On August 28, 2009, the Official Gazette of Mexico published the executive order approving the Special Climate Change Program (PECC), based on the National Climate Change Strategy (ENACC). The PECC defines specific goals and actions on this matter for the 2008-2012 period, which in turn back up the pronouncement made by President Calderón on June 5 last in the context of World Environment Day, on the target of a 50 million ton reduction of CO₂e in 2012.

The PECC also sets out a long-term vision that will contribute to achieving the stabilization of the GHG concentration in the atmosphere at no more than 450 ppm and an average global temperature rise of up to 2°C. The four chapters of the PECC are: Mitigation, Adaptation, Transversal Policy Elements and Long-term Vision.



⁶ http://www.semarnat.gob.mx/queesemarnat/politica_ambiental/cambioclimatico/Pages/cicc.aspx

⁷ http://www.semarnat.gob.mx/queesemarnat/politica_ambiental/cambioclimatico/Documents/enac/sintesis/sintesisjecutiva/Estrat_nal_Sintesis%20espa%C3%B1ol.pdf

MITIGATION

The PECC establishes a goal of reduction by 2012 of 50 MtCO₂e in four categories of emission sources, as shown in table 1:

TABLE 1. REDUCTION GOALS ESTABLISHED IN THE PECC

Emission category	Reduction target (MtCO ₂ e)	
	2008-2012	2012
Generation and use of energy	73.99	29.9
Agriculture, forests and other land uses	46.46	15.29
Waste	8.58	5.46
Total	129.03	50.65

According to the National Inventory of Greenhouse Gas Emissions (INEGEI 1990-2002), each of the above categories could, after the period defined by the PECC (2008-2012), contribute further reductions as shown in table 2.

TABLE 2. REMAINING EMISSIONS TO BE ASSESSED FOR A POST 2012 PERIOD

Category	% emission according to INEGI	Emissions according to INEGI (MtCO ₂ e)	Reduction according to the PECC (MtCO ₂ e)	Remainder of emissions post 2012 period (MtCO ₂ e)
Generation and use of energy	24	154.32	73.99	80.33
Agriculture, forests and other land uses	21	135.03	46.46	88.57
Waste	10	64.3	8.58	55.72

ADAPTATION

For the 2008-2012 period, the plan is to assess the country's vulnerability and to evaluate economically the priority measures of adaptation identified.

The priority outcome of this stage will be the design of a comprehensive adaptation system with the following components:

- Publication of the National Atlas of Vulnerability to Climate Change.
- Publication of a Proposal for Adjustment of the National Civil Protection System, from a comprehensive risk management approach.
- Revision and appropriate modification of the economic instruments that will increase future vulnerability to Climate Change.
- Proposal of adjustments to the National Planning System to guide long-term spatial evolution of economic activities and human settlements.

LONG-TERM VISION

The PECC assumes the indicative objective or aspirational target of a 50% reducing in GHG emissions by the year 2050, compared with baseline emissions generated in the year 2000, stated by the Secretary of the Environment and Natural Resources at COP14 in Poznan, Poland, and it sets out a long-term vision centered on two lines of action:

- **Long-term mitigation:** Taking the mitigation measures defined for the first period from 2008 to 2012, the PECC aims to consolidate a pattern of development in which economic growth does not have a significant bearing on the increase of GHG emissions. Accordingly, following a downwards trend, Mexican emissions would have to reach a point of inflection during the second decade of this century, to then drop gradually to the indicated level in 2050: approximately 340

MtCO₂e, equivalent to a global average emissions per capita of 2.8 tCO₂e in the year mentioned.

- **Long-term adaptation:** Once the first stage of work is concluded, where the plan is to assess the country's vulnerability and evaluate economically the priority measures identified (2008-2012 period), the long-term vision takes in two further stages: the aim of the second stage is to strengthen the strategic adaptation capabilities (2013-2030), while the objective of the third is to consolidate built capacities (2030-2050).⁸

It should be stressed that the long-term goal is not legally binding and is conditional upon both a multilateral arrangement with financial and technological support, and on the principal of common but differentiated responsibilities and respective capabilities.

CLIMATE CHANGE AND ITS ECONOMIC IMPACTS ON MEXICO

Among the analyses most relevant to Mexico's situation is one that contributes elements of the utmost importance to the establishment of the goal described above, entitled: "La Economía del Cambio Climático en México" (The Economics of Climate Change in Mexico).

Coordinated by Dr. Luis Miguel Galindo Paliza of the UNAM Faculty of Economics at the request of the Secretariat of the Treasury and Public Credit and the Secretariat of the Environment and Natural Resources, the study looks to estimate the possible economic costs of anthropogenic Climate Change to Mexico, particularly for those sectors of the population in poverty that are most vulnerable.

The most noteworthy results of the study include the costs derived from inaction and the total costs of reducing emissions under the scenario defined up to the year 2050. The results are shown in the following table:



⁸ Special Climate Change Program, Federal Government.

TABLE 3 TOTAL COSTS OF CLIMATE CHANGE AND COSTS OF REDUCING EMISSIONS.

Discount rate	Cost of inaction	Cost of reducing emissions
0.5%	11.98%	3.24%
2%	6.95%	2.43%
4%	3.71%	1.75%

These results show that the cost of the actions undertaken on Climate Change in a scenario leading up to 2050 range from 1.75% to 3.24% of GDP, whereas the cost of the impact and inaction associated with this phenomenon begin at 3.71%, possibly rising to 11.98%, of Mexico's GDP.

It is therefore evident that the costs of effective and efficient action to combat the phenomenon of Climate Change are very much lower than the economic damages that we could avoid.⁹

VOLUNTARY ACTION BY THE BUSINESS SECTOR

The Mexican Business Sector, aware of its responsibility and willing to cooperate with the implementation of measures that will help fight Climate Change, has undertaken various actions, the most notable of which being the Volunteer Greenhouse Gas Accounting and Reporting Program (Mexico GHG Program). The objectives of this program are to develop capabilities in the industrial sector for:

- preparing corporate greenhouse gas inventories.
- identifying, quantifying and documenting projects to reduce emissions.

This initiative is coordinated by the SEMARNAT and the Public Sector Studies Commission for Sustainable Development (CESPEDES), with the technical support of World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).

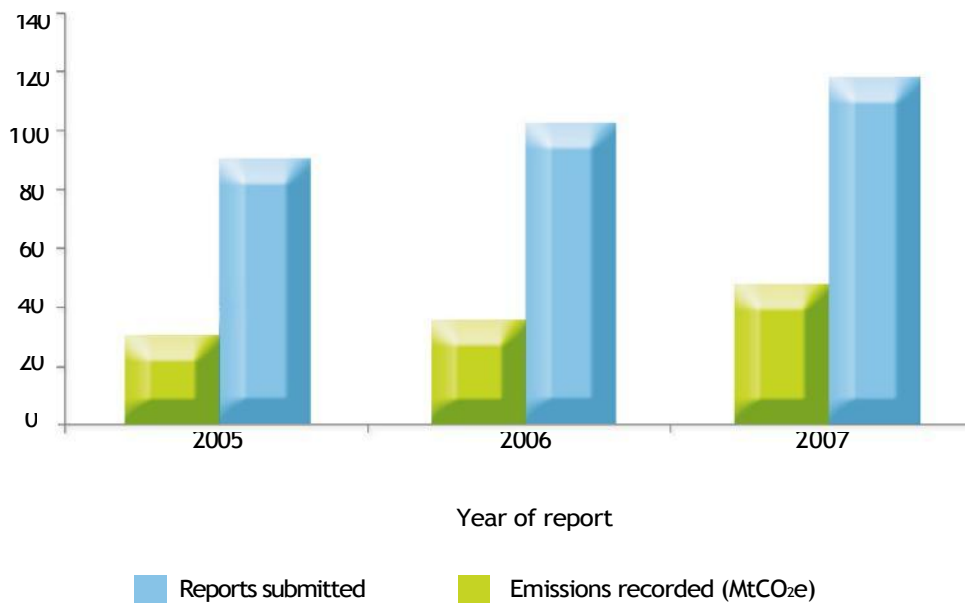
Today, the Mexico GHG Program, thanks to its calculation methodology based on the Greenhouse Gas Protocol, has a Corporate Accounting and Reporting Standard which offers the Mexican business sector the possibility of developing an inventory in keeping with international guidelines and compatible with programs designed to create a reliable database on sectoral indicators.

⁹ Universidad Nacional Autónoma de México, Dr. Luis Miguel Galindo (coord.): "La Economía del Cambio Climático en México"

The GHG Program has moved forward year upon year, a fact reflected in the some of the results obtained to date:

- The number of sectors participating in the Program has risen to 19, and the industrial sectors have been joined by the academic, governmental, transportation and entertainment sectors.
- Emissions reported for the year 2007 rose to 118 million tons of CO₂, representing 18% of the National Annual Inventory of Greenhouse Gas Emissions.

EVOLUTION OF THE GHG PROGRAM



The GHG Program has also pushed for the adoption of Climate Change strategies within businesses, including:

- The development of mitigation strategies and setting of reduction objectives.
- The development of internal energy efficiency programs.
- The identification of risks in the face of climate change.
- The identification of opportunities for the development of Clean Development Mechanism (CDM)¹⁰ projects.

The Mexico GHG Program has been adopted by both the National Climate Change Strategy and the Special Climate Change Program, with the specific goals of incorporating new industrial sectors; reporting 80% of emissions from energy generation and industrial energy use and processes, and promoting participation in carbon markets, designing and implementing a GHG emissions registry platform that will enable the recognition of voluntary actions and the assessment of potential for emissions reduction.

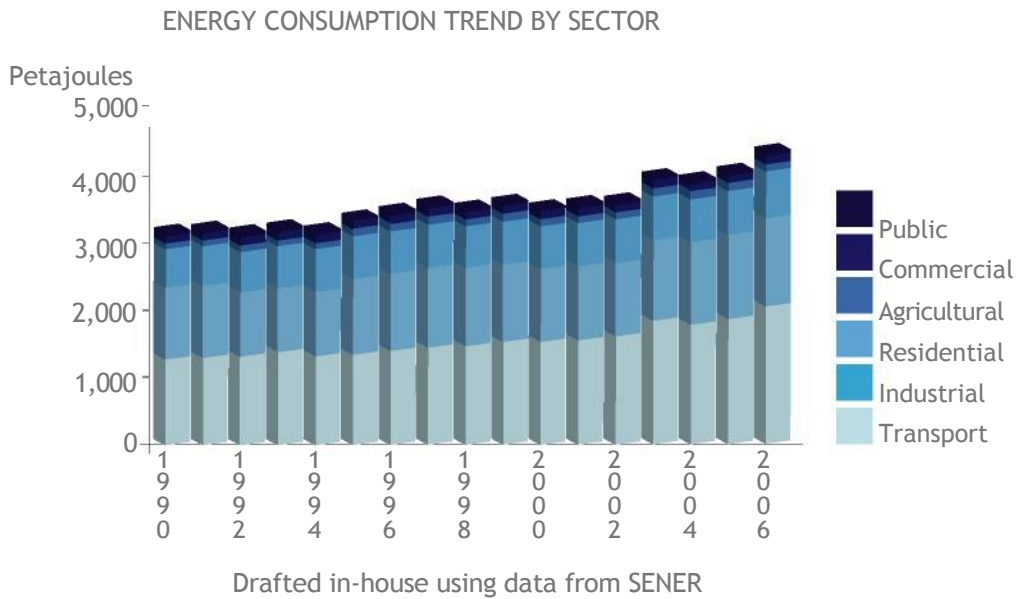
¹⁰ Drafted by by CESPEDS.

KEY CONSIDERATIONS OF THE BUSINESS SECTOR

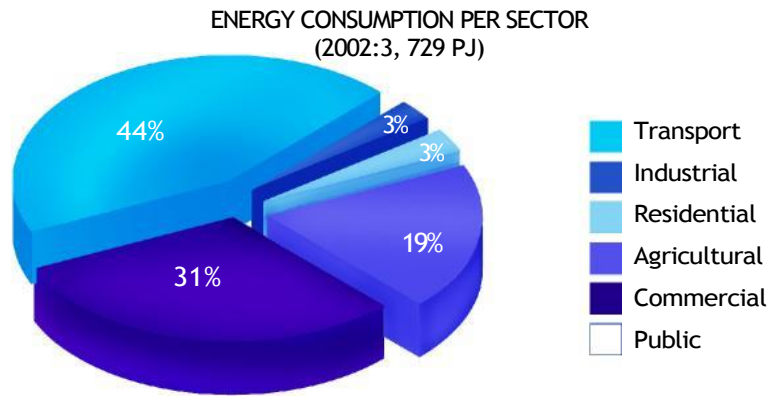
The Mexican business sector recognizes the relevance of Climate Change and the need for meaningful transformations on all domestic fronts to address its challenges.

On the basis of the close relationship between Climate Change and energy performance, and as an initial reference framework, some of the elements for analysis are presented below:

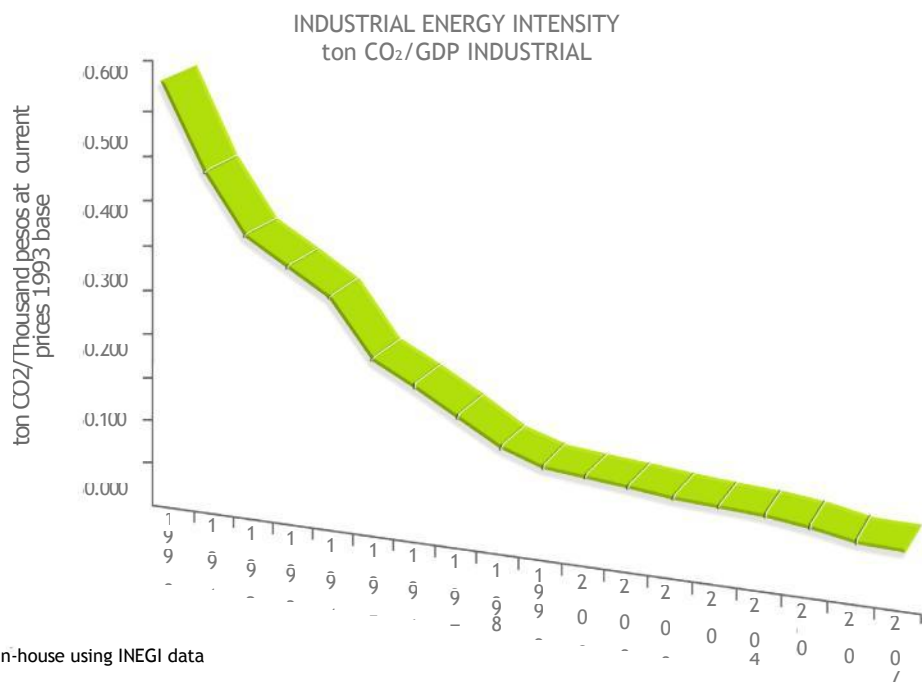
The industrial sector is the second biggest consumer of fuels in the country after transportation, representing 31% in the year 2002, followed by the residential sector (see graphs 1 and 2). Because of the impact of the price of fuels on the costs structure, Mexican industry has been implementing energy efficiency since the 90's, which has led to a significant drop in energy intensity (see graph 3). This has uncoupled the link between economic growth and energy consumption, as shown in graph 4.



Graph 1. Energy consumption by sector

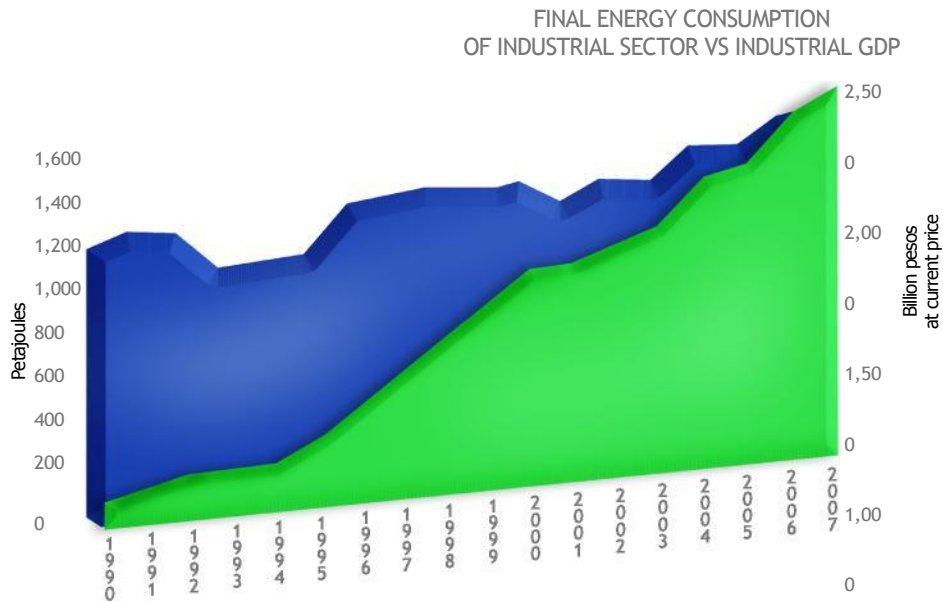


Graph 2. Energy consumption



Drafted in-house using INEGI data

Graph 3. Industrial energy intensity



Drafted in-house using INEGI data

Graph 4. Energy Consumption vs. Ind. GDP

- Final Energy Consumption of the Industrial Sector
- Industrial GDP (Billion pesos at current price)

According to its energy profile and to the National GHG Emissions Inventory (INEGEI 1990-2002), the industrial sector contributed to 27% of emissions in 2002, in the following emission categories: energy (consumption of fossil fuels and electric power), processes, waste and transport, as shown in table 1.

Category	Subcategory of source	Emissions (Mton CO2e)
Industrial processes	Mineral products	30.6
	Chemical industry	1.2
	Metal products	15.3
	Other industrial processes	4.9
Energy	Manufacturing and construction industry	51.2
Waste	Industrial wastewater	18.3
Indirect	Electricity purchased	52.4
	TOTAL	174

Table 1. GHG Emissions by the industrial sector ¹¹

11 INEGI 190-2002, SEMARNAT

THE MEXICAN BUSINESS SECTOR'S VISION ON CLIMATE CHANGE

Based on an analysis of the information and realities concerning Climate Change from a global and domestic perspective, throughout the process of dialog and the exchange of information between representatives of leading organizations of the business sector described at the beginning of this document, the sector's vision was formed around seven basic concepts: Clean Development and Mitigation, Adaptation, Competitiveness, Energy Security, Awareness-raising and Dissemination, and areas of opportunity with respect to the reduction of GHG emissions.

I CLEAN DEVELOPMENT AND MITIGATION

Mexico's economic growth should be based on clean development, through the sustainable use of its resources, the exploitation of its renewable energies and the use of cleaner technologies and environmentally-friendly fuels.

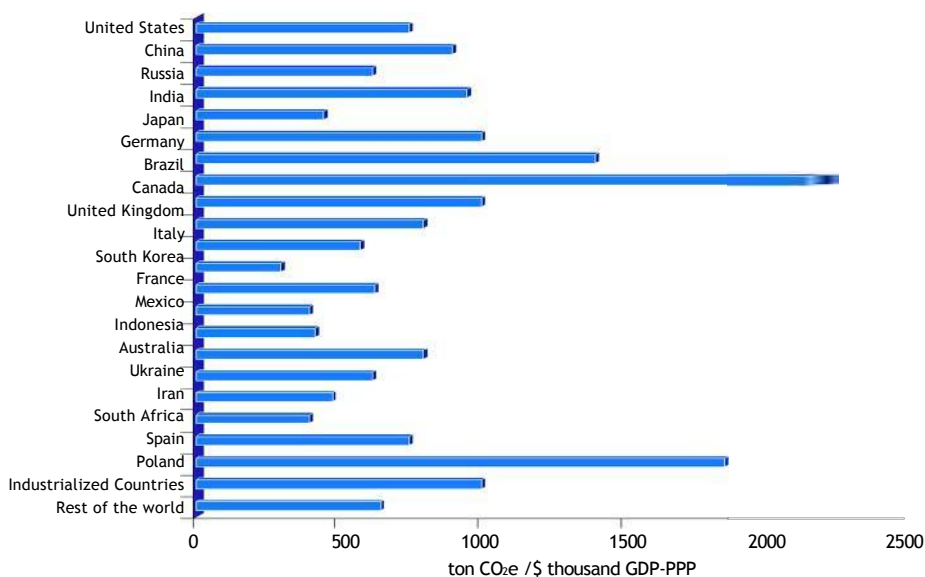
For economic growth to be achieved in Mexico, an increase in its energy consumption in the coming years is both necessary and inevitable. It is also important to begin a transition in the short-term towards a low-carbon economy.

The foreseeable impacts for Mexico, including the loss of natural resources, biodiversity, water stress and more intense meteorological phenomena, make it vital for there to exist a real commitment in the world to reducing GHG emissions, to address the phenomenon of Climate Change that will ensure a maximum limit in increasing temperatures of 2°C.

Mexico therefore has to promote the accords related with the fulfillment of the Convention's objectives. The challenge to both the private and public sectors will be to work together in favor of clean economic growth —one that will help create jobs, diversify energy through renewable resources and reduce the loss of woodlands and biodiversity. It is urgent for these activities to meet the demands of a growing population requiring productive opportunities and jobs to ensure a better quality of life.

Mexico is currently among the 10 countries with the best energy intensities (see graph 5). This does not imply that there is no room for improvement. Mexico has the potential to reduce its emissions through mitigation actions and not as a result of economic decline (see graph 6), such as that which occurred because of the crisis that began in 2008, as is the case with the manufacturing sector, where the reduction of emissions was brought about by the drop in its production during the second half of the year.

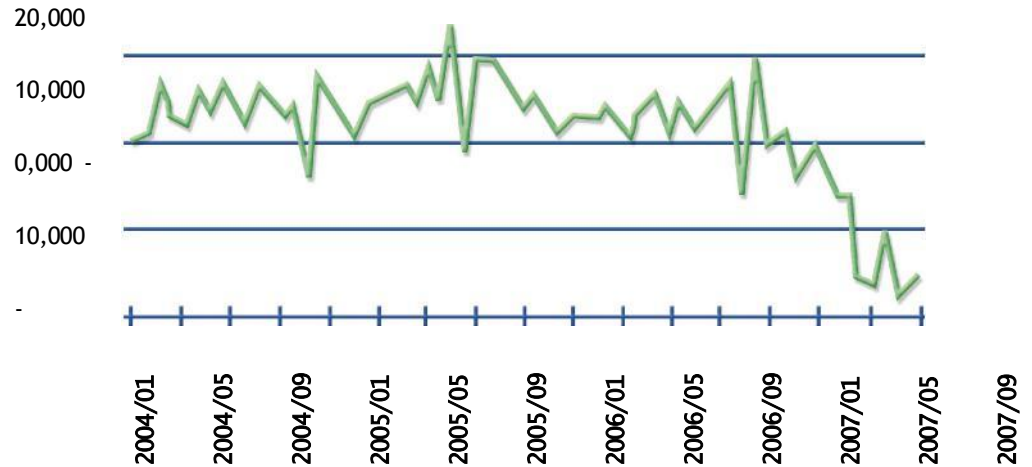
GRAPH 5. MEXICO'S POSITION, RELATIVE TO ENERGY INTENSITY.¹²



¹² Target: Intensity; An Analysis of Greenhouse Gas Intensity Targets. WRI, 2006.



INDEX OF PHYSICAL VOLUME OF MANUFACTURING PRODUCTION



Graph 6. Variation of the index of manufacturing production volume.¹³

OPPORTUNITIES FOR REDUCTION IN THE INDUSTRIAL SECTOR

By CESPEDES' estimation, there is potential for mitigation in the area of energy efficiency of around 7 million tons of CO₂, for the systems of motors and steam.

Areas of energy efficiency in the industrial sector	Energy saving (PJ, 2002)	Potential emissions reduction (ton CO ₂ /year, 2002)	Percentage of emissions reduction
Engine systems	62.2	9,434,865	6.18*
Steam systems	31	2,402,558	4.69*
Total	94	11,837,424	6.79**

*With respect to specific consumption

**With respect to the total of the sector

Table 2. Potential for emissions reduction in the area of energy efficiency

¹³ Drafted in-house using INEGI data.

All efforts at mitigation in Mexico will have to look for a relative reduction of GHG emissions (less emission per product unit), not an absolute reduction, except in activities with very high energy inefficiency.

It is important to encourage production, distribution, installation and operation of materials, equipment and systems which, by their application and functioning, will enable a reduction in emissions throughout the value chain.

For Mexico to be able to grow cleanly it will be necessary:

- To establish a growth scenario, i.e., consider the level of growth which the country needs to achieve its development and which in turn seeks to have better emissions generation indices (building a long-term emissions strategy).

- To continue developing capabilities for observing the carbon footprint throughout the value chain in all of the country's industries.

- To benefit from and use the experience, knowledge and tools developed by Mexico GHG Program, pushing forward the assessment of the carbon footprint throughout the value chain.

- To consolidate the Mexico GHG Program and steer its evolution towards the recording of GHG emissions.

- To promote sustainability within the different sectors and businesses in the face of Climate Change.

- To diagnose opportunities for mitigation in the country with a view to focusing the areas of research and development in which the Business Sector has to participate (such as renewable energies).

- To facilitate the transfer of technology to Mexico to implement actions for reducing emissions (liaison with national and international bodies that can provide this is needed).

- To identify and prioritize the lines of research and development in which the Business Sector should participate to take advantage of opportunities for positioning itself as leader in the development of low-

carbon intensity technologies and services.

- To promote efficiency from the standpoint of the users. Users are the engine for change; their decisions, based on a knowledge and awareness of responsible use of the products and services, will be a driving force behind a sustainable lifestyle.

- To adopt decisions in which the present will have the decisive environmental impact on the future of energy consumption. Any investment will have to entail an analysis of the long-term opportunity for the investment of the change in technologies.

- To analyze the opportunities for and the risks of creating a domestic emissions market (e.g., a national CDM), to evaluate a comprehensive and versatile perspective of a market mechanism, so that low energy efficiency sectors will have the chance to improve, either through mechanisms that encourage mitigation and more cost-effective reductions, or through a certification mechanism.

- To start putting together a basket of comprehensive projects, able to be developed under the scheme of programmatic projects in the framework of the CDM, or in voluntary schemes.

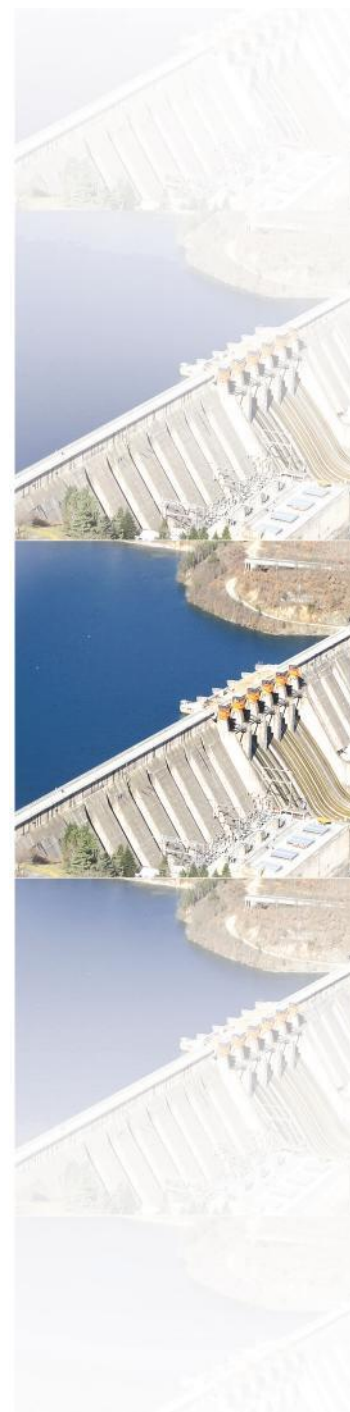
II ADAPTATION

Mexico currently suffers from a lack of infrastructure to address the effects of Climate Change.

The Mexican business sector has identified the risk of allocating greater budgets to mitigation than to adaptation, since the latter has not been given the importance it deserves, taking a more reactive than preventive approach.

Changes in the global climate system can give rise to repercussions in the way businesses operate. While the magnitude and frequency of the impacts are uncertain, below are some of the consequences with negative effects on industry:

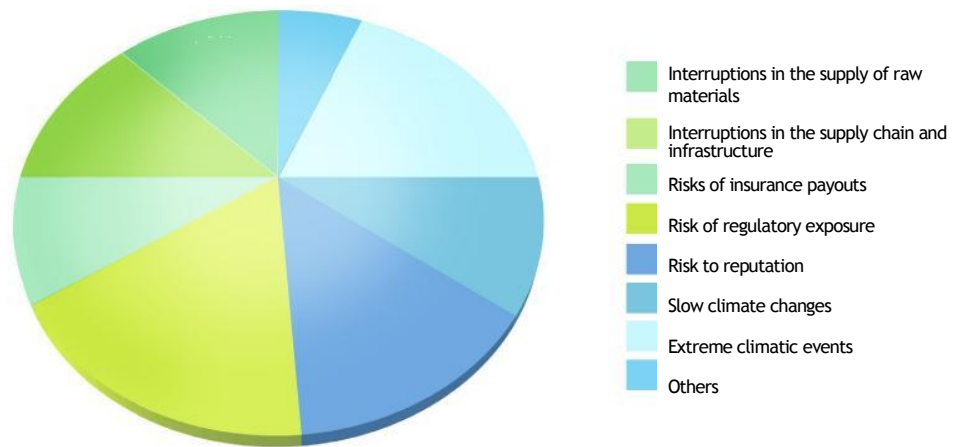
- High temperatures could affect location, design, efficiency, operations and markets, business structure, and production and services.



- Water scarcity and the loss of natural resources may halt the operations of businesses with a particular dependence on those inputs.
- Increases in the frequency of extreme climatic events, which may harm the business infrastructure, interrupt logistics and affect the continuity of the business and its costs.

The risks to businesses are as follows:

FIGURE 3. BUSINESSES' CURRENT AND FUTURE RISK EXPOSURE.¹⁴



Others: changes in patterns of electricity use and brownouts.

To take advantage of the opportunities that also exist in the field of adaptation, it is urgent for the Sector to evaluate the potential risks of Climate Change and the costs of failing to act to prevent the damages, and to design a strategy for adaptation. This strategy, in addition to risk management, should ensure sustainable growth with the incorporation of a new way of thinking that takes adaptation into account, driven by innovation and/or the development of new products or services, new markets and a more favorable regulatory framework.

It is of the utmost importance for the business sector to incorporate in its strategic planning the development of its capability for adaptation, to build key alliances with relevant players, and to participate with the government in the design of programs to eliminate or reduce risk and vulnerability throughout the value chain.

¹⁴ Adaptation: an Issue Brief for Business, WBCSD.

Given the importance of Adaptation, it is necessary:

- To strengthen the Sector’s institutional capabilities to prepare and apply measures of adaptation in its design processes and its operation of productive activities.
- To develop capabilities managing the risk, which implies an assessment of the vulnerability, an economic analysis of the impact and an identification of measure that will help reduce and/or minimize the impact of Climate Change.
- To develop its own analysis that identifies the risks, assesses the level of vulnerability and the opportunities and/or adaptation needs for each sector “bottom-up”, with a view to improving the capacity for response throughout the production chain.
- To consider Adaptation in the cleanest, least disruptive, way, and as a strategic element of the business (i.e., cultural).
- To have the adaptation plans incorporate the building of alliances formed by the community, government, industry and other relevant actors, to ensure the ability to adapt locally, as well as actual and effective adaptation according to local needs. This will ensure that the adaptation plans maintain a win-win logic (Federal/State/local) and are not developed in isolation.
- To integrate micro, small and medium businesses.

III COMPETITIVENESS

The phenomenon of Climate Change represents considerable opportunities for businesses to raise their competitive level, as new rules will be established concerning the efficient use of resources with commercial implications. Under a new accord in Copenhagen, Mexico must seize the opportunity to improve its competitive position internationally.

Once of the crucial elements that determine the level of competitiveness of the markets is the legal framework governing them, particularly where it relates to the possibility of having electricity supply options, and it is in this respect that Mexico is at a disadvantage compared with its main trade partners where these options do exist. For this reason, Mexico is facing considerable challenges that it must overcome to move towards a green economy, such as legal barriers and a lack of incentives.

The structural changes, which in the long term would make a difference to the economy and the standard of living of the population, have been neglected for a long time.

Competitiveness has to be adopted as an element of Climate Change policy. It is without doubt a relevant factor for the transfer of technology and the attraction of financial resources. For this reason it is mandatory that Mexico improve its competitive position. According to the Mexican Institute of Competitiveness (IMCO), in 2007 Mexico fell two places in the General Competitiveness Index (an index that measures a country’s capacity to attract and retain investments and talent). This implies a lack of general conditions for maximizing the socioeconomic potential of businesses and individuals.

According to IMCO, Mexico is lagging behind in investment to the tune of US\$18,068 per Economically Active Population (compared with the top 5 countries). Over the past 6 years, Mexico has remained in position 30-32, occupying 30th place in 2004 and 32nd in 2007.



In IMCO's assessment of the factor of sustainable management of the environment, Mexico is 32% behind. The main reasons for this include that of water stress, which is aggravated by low efficiency in water consumption, especially in agricultural production.

IMCO also mentions that Mexico suffers from low productivity and elevated costs of production factors (energy, land, capital and labor) in the markets. Additionally, the country maintains the worst rating in the liberalization index of the energy sector in the world and a high level of rigidity in its labor market.

TABLE 1. MEXICO'S PERFORMANCE COMPARED WITH THE WORLD AND ALSO OVER TIME

Factor	Units	Mexico's Performance				Top 5*	World**	%
		Data		Change		Data	Behind the world	
		2007	2004	%	Better ✓ Worse ✗ Equal =	2007	%	
Reliable and objective system of law		43.9	45.2	-3%	✗	88.2	59.0	-16%
Sustainable management of the environment		23.6	24.1	%	✗	49.5	34.6	-12%
Inclusive, educated and healthy society		39.9	39.7	%	✓	74.7	50.5	-21%
Stable and dynamic macroeconomy		78.9	80.5	%	✗	88.2	78.5	1%
Stable and functional political system		55.1	62.4	%	✗	86.0	67.2	-18%
Efficient factors market		31.7	31.1	%	✓	52.1	41.5	-24%
World class precursors sectors		29.1	23.9	%	✓	49.6	37.4	-22%
Efficient and effective government		39.7	40.4	%	✗	71.4	49.5	-20%
Advantage taken of international relations		33.0	34.9	%	✗	55.0	41.9	-21%
Economic sectors in vigorous competition		24.3	27.7	%	✗	54.6	34.0	-20%
Overall index		38.3	39.2	%	✗	65.9	48.2	-20%

* Top 5 averages the ratings of the top five places of the subindex: Switzerland, Sweden, Denmark, Norway and Finland.

**World averages the ratings of the total countries. Source:

IMCO 2009

Table 1 Mexico's performance compared with the world¹⁵

¹⁵ <http://www.imco.org.mx/indice2009/indicegeneral.html>

Mexico must focus its efforts on using all its resources more efficiently and taking advantage of the opportunities to conquer new markets. It has to avoid being sidelined by the new carbon footprint-based trade barriers.

For this reason it is indispensable that a competitive approach be incorporated, and this should:

- be all-inclusive, without considering certain sectors alone, but rather all industries and spheres (infrastructure, government, companies, transport) and the entire chain of production.

- consider “clean development” as a premise for decoupling energy consumption from economic growth.

- analyze the risks and opportunities represented by the market instruments that have been developed to follow the Kyoto Protocol, which in the short, medium and long term, may be of use to the country as a whole; instruments to be evaluated include:

- Cap & Trade - Carbon Tax.

- push for a national policy to address Climate Change; government needs to set out a policy on Climate Change that relates to a national business development policy.

- take into account Small and Medium Businesses (PYMES), which are fundamental to the country.

- identify market signals that are erroneous and unhelpful to domestic competitiveness (water subsidies in agriculture, enormous costs for some sectors in terms of water, fuel prices, etc.).

- take into account the fact that the business sector concurs with the Federal Government’s position in that the Mexico’s actions need to be established under a non-binding legal framework, dependent on both the financial and technological aids stipulated in the UNFCCC, and on reaching a global accord in Copenhagen, in accordance with the “principle of common but differentiated responsibilities and respective capabilities”.

It is important for the country to seize the opportunities that will open up in terms of competitiveness and financing if and when a consensus is reached at the Copenhagen meeting. New markets have to be identified, where Mexican know-how and innovation and, above all, talent, represent a competitive advantage.

IV ENERGY SECURITY

Energy security is needed if Mexico is to up its ranking in the competitiveness index. Mexico is a petroleum-dependent country at a time when production is falling and international projections on the behavior of deposits contradict the outlook of the Secretariat for Energy (see graph 7).

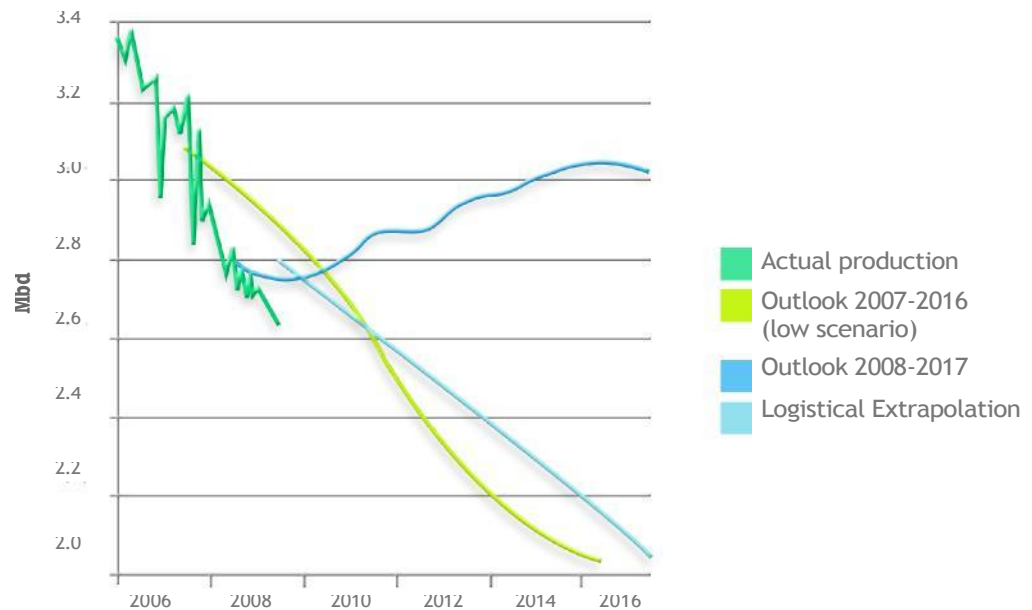
Efficient energy supply at competitive prices is a great engine for economic growth and productivity. Prices of natural gas, electricity and fuel in Mexico have risen dramatically in recent years and are among the highest in the world.¹⁶ Furthermore, the high subsidies to specific sectors are a barrier to efficient use of fuels.

The world is moving away from fossil-fuel sources to renewable energy sources. Mexico must not be the exception. It has to guarantee its long-term energy supply and at the same time minimize its environmental impact.

Climate Change represents an opportunity for an energy transition. Mexico must implement strategic measures to ensure the long-term sustainability and competitiveness of the energy sector. In the hydrocarbons sector it is estimated that around 130 billion dollars will be needed before 2012 to restore the rate of reserve and minimize imports through activities including exploration and production, refining and petrochemistry.



GRAPH 7. DECLINE OF OIL PRODUCTION IN MEXICO ¹⁷



Internally, Mexico is faced with a real obstacle to achieving a successful transition toward a green or sustainable economy. The stumbling block is, without question, the lack of comprehensive energy reform. The country requires a change of paradigm in the energy debate as it stands. A cheaper, cleaner and more efficient supply of energy is indispensable.

To make better use of the energy, there needs to be a recognition of the opportunities in the chains of production concerning renewable energies and the opportunities for global competition.

Energy Security is a priority for the country; therefore, the following are essential:

- A structural and comprehensive reform of domestic energy sector to enable the cogeneration, distribution and sale of cleaner, cheaper energy.
- The advancement of cogeneration through incentives, removing current restrictions (red tape and methodological hindrances) that prevent its development from taking off.
- The private sector needs to gradually generate its own energy from renewable sources, and to invite all sectors to build incentives that will encourage the implementation of technologies and electricity diversification.
- Domestic electricity rates need to be leveled out.
- The Federal Electricity Commission needs independence from the Secretariat of the Treasury.
- Other international models which the country could adopt should be looked at.
- The possibility of developing nuclear energy must be analyzed.

V AWARENESS RAISING AND DISSEMINATION

It is important to recognize the lack of clear and homogenous dissemination in Mexico regarding the phenomenon of Climate Change and its implications on the country's development.

Our society needs to understand that every decision by the consumer has an impact on energy consumption and the environment. Making information transparent and promoting decision making which is based on that information will be the tool for creating more environmentally-responsible consumers.

The more sectors of society there are with an awareness of the issue, the better the opportunities will be for the country to negotiate favorable terms at the Copenhagen summit and better conditions for promoting a real state policy in favor of clean growth.

Climate Change is currently the most important issue in the development plans of dozens of countries and one of the top priorities on government agendas. It is essential to raise the profile of the issue in Mexico, by raising awareness about its environmental, economic, social and market consequences. A strategy of communication about the issue needs to be incorporated in all sectors.

Awareness-raising strategies include:

- Developing a strong public information campaign about the consequences and risks of Climate Change, as well as the opportunities it affords.
- Promoting alliances between governments, society, universities and businesses to foment the exchange of information and generate knowledge around the issue of adaptation.
- Pushing forward sweeping cultural change on this issue in Mexican society.
- Fomenting education about efficient energy use.
- Raising awareness about the age of oil and moving into the era of renewable energies.
- Taking the lead as the business sector to influence the various groups in society and the government.

Climate Change is one of the most critical challenges we face. It has forced us to look towards clean development, energy security and adaptation in Mexico.

The Business Sector is committed to helping with this effort to analyze needs and find solutions to the challenges.

VI CHALLENGES AND AREAS OF OPPORTUNITY WITH RESPECT TO THE REDUCTION OF GHG EMISSIONS

To be able to provide institutional confidence and legal certainty in the activities aimed at reducing GHG emissions, Mexico is squaring up to the challenge of creating an adequate legal framework.

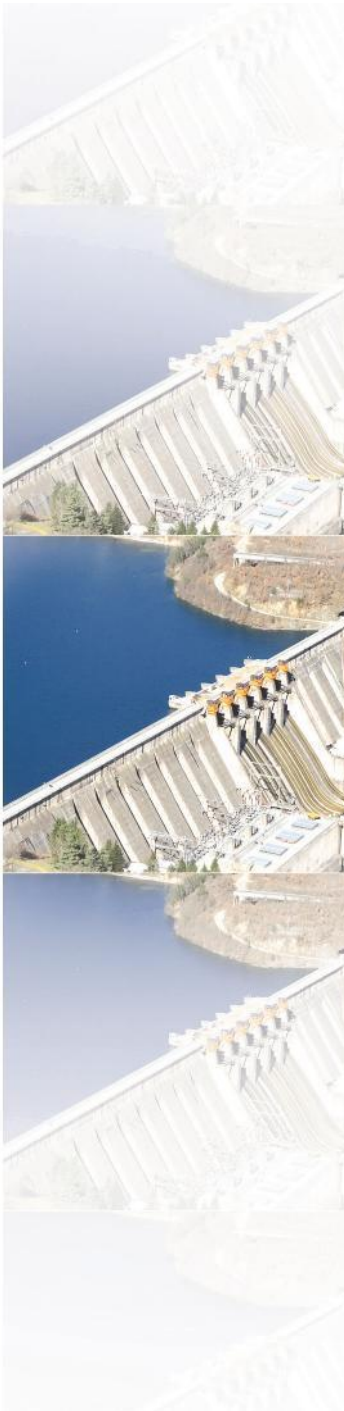
Although the Federal Executive has taken what might be considered as actions in good faith to foment the reduction of GHGs, such steps have been met with support to make them legally binding.

On the other hand, there have been remarkably few intentions on the part of the legislature to adjust Mexico's legal framework to promote the development of policy measures and actions that would give way to optimizing natural resources and fuels and to promoting alternative sources.

To date, 22 initiatives related with Climate Change have been presented, which is a reflection of the scant understanding of the real issues it represents. These initiatives range from constitutional reforms, add-ons to substantive laws (General Law on Ecological Equilibrium and Environmental Protection [*Ley General del Equilibrio Ecológico y la Protección al Ambiente*]) to the creation of a Law on Nitrogen Fertilizers and Carbon Dioxide Capture [*Ley de Fertilizantes Nitrogenados y Captura de Anhídrido Carbónico*]; however, our legislators are yet to be convinced of the fact that the phenomenon of Climate Change requires wide-ranging, detailed attention.

In this context, what is needed, more than barriers, is to identify the existing opportunities in the country that will open the way to developing actions aimed at mitigation and adaptation to cope with the phenomenon.





The lack of an appropriate legal framework is without question Mexico's biggest challenge in this regard. Presented below are the aspects hampering the development of actions aimed at the reduction of GHGs, as well as areas of opportunity that could serve as a point of departure towards a legal transition.

One of the biggest barriers is the difficulty that businesses currently have in freely marketing their energy surpluses and/or getting adequate compensation for them.

Barriers to the implementation of initiatives aimed at reducing GHGs:

- The existence of an energy duopoly.
 - Energy prices fail to reflect their true cost.
 - Energy subsidies are granted to certain sectors discretionally.
 - High transition costs (real and perceived) in technologies and developments of clean technology.
 - Lack of awareness and confidence in the technology on the part of investors and/or businesses.
 - Inadequate tax breaks and deductibility schemes for users and investors of sustainable energy services.
 - Insufficient publicity and motivation with respect to sustainable power generation alternatives with low emissions reductions.
 - Energy policy takes precedence over environmental policy.
 - Insufficient information about renewable energy resources.
 - Tendency to favor the extension of the network over the exploitation of renewable energies.
 - Underdeveloped chains of supply and services of systems that take advantage of renewable energy in zones beyond the power grid.
 - Under-promotion of the development of renewable energies, as well as transparency concerning the rules and standards governing them.
- Lack of an overall strategy with regard to domestic mobility.
 - Current inadequacies in forestry policy.
 - Existence of red tape, combined with a lack of continuity in application processes with each change of administration.

Areas of opportunity with respect to GHG reduction.

- A legal framework is urgently needed to develop and adapt the country to the phenomenon of climate change; however, it is vital for this to be drawn up with a market logic that will open the way to domestic economic growth.
- Promotion of energy efficiency and competitiveness.
- New Mexican Official Standards (NOMS) on energy efficiency, biofuels and their use, as well as on the development of alternative energies, including the respective tax incentives, are badly needed.
- The system of subsidies for electricity rates ought to be overhauled to contribute to the promotion of efficiency measures and energy saving.
- Funds to meet the high costs of energy transition should be included in the expenditure budget.
- Earmarking of funds to carry out communication and promotion campaigns about the virtues of clean technologies and how they work.
- Creation of tax breaks or, if possible, federal validation of these. There is also however a need for such incentives to be accompanied by a package of properly-integrated, functional public policies to achieve the objectives, which in this case is ecological balance and support for economic development.
- Advantages and disadvantages regarding the development of this type of energy need to be weighed (there may be better suited and more successful renewable sources that are able to be exploited).

- An industry policy (white paper) is needed.

- Article 36 BIS of the Electric Energy Utility Service Act [*Ley del Servicio Público de Energía Eléctrica*] needs to be amended to redraft rate schemes, incorporating external social and environmental factors.

- Incentives should be given for the use of renewable energy projects and better planning to optimize resources.

- Clear rules for the use and promotion of renewable energies must be defined.

- There need to be incentives for the mass promotion of public transport systems.

- Vehicle performance and efficiency standards need to be put forward.

- The creation of Federal Vehicle Efficiency and Vehicle Testing Acts needs to be promoted.

- New standards need to be proposed for the inclusion of technology to control pollutant emissions in diesel vehicles.

- Congress needs to be asked to release funds for the states to provide sustainable public transport.

- The development of sustainable forestry management needs proposing for communities and communal tenure lands (since forests are the best option for short-term mitigation, given their low cost, their capture and storage capability and the boost they will give to rural economies).

- A forestry policy has to be developed aimed at developing efficient medium and long-term adaptation measures.

- Bureaucracy should be minimized and help provided with red tape.

- The existence of coordination agreements between the federation, the states and the municipalities is indispensable to enable policies and actions to be focused toward the same objective.

- A science and technology policy is needed, with easy and adequate access to research funds that will encourage development of clean technologies.

- Measures need to be taken for Mexico to be able to compete internationally under new market schemes (e.g. information about the carbon footprint of each business or product unit).



CLIMATE CHANGE: OPPORTUNITY FOR THE SECTOR

In short, the phenomenon of Climate Change represents a new opportunity for the Mexican business sector to reinforce its leadership by establishing a new dialog with the other sectors of society: the federal, state and municipal governments, the Federal Congress and local congresses, academia, civil society organizations and the media. It signals a new reality where, based on Mexico's talent and its wealth of natural resources, it will be possible to strengthen and generate models of greater energy efficiency and adaptation to the environmental conditions resulting from Climate Change, taking advantage of the technology transfer and financing

mechanisms that may be generated from international accords, as well as the global markets emerging as a response to the planet's needs under global warming.

The vision set out in this document is a solid first step on the way to building a new business culture that approaches the future with the conviction that its leadership will have a decisive influence on Mexican society for the building of a country that guarantees the space for the healthy development of all its inhabitants, i.e. a Mexico that stands out for its competitiveness.



GLOSSARY OF TERMS

ADAPTATION: The IPCC defines this as adjustments to natural or manmade systems in response to the effects of climate, real or expected, with a moderate impact and with the exploration of beneficial opportunities.

CARBON TAX: Tax on the burning of fuels such as carbon, gas and oils. Its objective is to reduce the quantity of carbon dioxide released into the atmosphere.

CAP & TRADE: Regulatory or governing system that sets a target level for emissions, offering flexible mechanisms for compliance, as well as marketing mechanisms to offset surpluses.

UNFCCC: The United Nations Framework Convention on Climate Change, adopted at the Rio Summit in 1992 and entered into effect on March 21, 1994. Its objective is to achieve the stabilization of greenhouse gas concentrations in the atmosphere at a level that would impede harmful anthropogenic interferences in the climate system and over a sufficient period of time to enable the ecosystems adapt naturally to climate change, ensuring that food production is not threatened and allow economic development to continue in a sustainable manner. The policy instrument which the Framework Convention uses to achieve its objective is the Kyoto Protocol.

EMISSIONS TRADING: This is a mechanism of the Kyoto Protocol whereby the Annex I Parties can take part in the trading of emission rights.

COMPETITIVENESS: A country's ability to attract investments and generate market positioning.

COP: Conference of Parties; this refers to the meetings of the countries that have signed the convention. The 15th COP (COP15) will be held this year in Copenhagen. Mexico is looking to become the host of COP 16 next year.

CLEAN DEVELOPMENT: A country's economic growth, through the sustainable use of its resources, the exploitation of its renewable energies, the use of cleaner technologies and environmentally-friendly fuels.

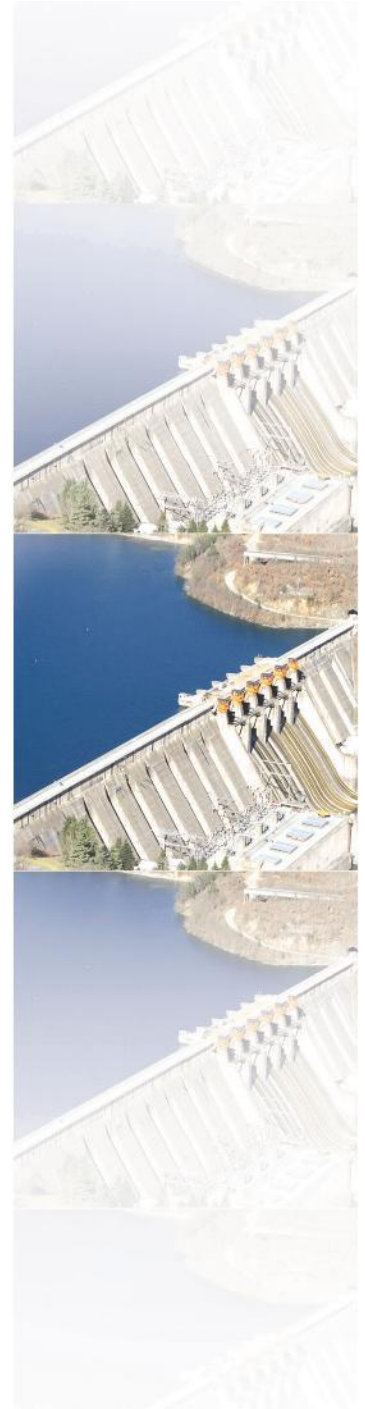
GHGs: Greenhouse Gases - the gases behind the phenomenon. The most common one is CO₂, although they also include: methane, nitrous oxide, chlorofluorocarbons, hydrochlorofluorocarbons and sulfur hexafluoride. The warming potential of these gases is homologous to that of CO₂, which is why GHG emissions are usually referred to as carbon dioxide equivalent emissions.

CARBON FOOTPRINT: Index of carbon dioxide equivalent emissions emitted into the atmosphere and generated over the life cycle of a product or service.

IPCC: Intergovernmental Panel on Climate Change - an intergovernmental scientific-technical body. All member States of the United Nations and of the World Meteorological Organization are members of this body and its work groups. The Panel's mandate is to evaluate the scientific and technical information that exists on climate and Climate Change, identifying and evaluating the economic and social impacts of the development of potential strategies in response to these impacts. Its Fourth Assessment Report was published in February 2007.

JI: Joint implementation, one of the mechanisms of the Kyoto Protocol. It applies to the creation of GHG mitigation projects among Annex 1 countries (industrialized countries).

STERN REPORT: This is a document drafted under the direction of Sir Nicholas Stern and published in 2006. It examines evidence of the economic impacts of climate change and explores the economic aspects of the stabilization of GHGs in the atmosphere.



It establishes that the costs of prevention might be in the region of 1-3% of world GDP, whereas the impact of inaction could amount to 20% of world GDP.

In Mexico, a similar study has been conducted showing comparable data. The study, done at UNAM, was published this year and is called the “Galindo Report” after its coordinator, Dr. Luis Miguel Galindo.

WAXMAN-MARKEY BILL: This is a bill that was passed on June 26 by the U.S. House of Representatives (HR. 2454). The name of the bill is the American Clean Energy and Security Act of 2009 and will be put before the Senate in the second half of this year. It is the first piece of legislation on Climate Change in the U.S. and its main objective is to reduce GHG emissions without halting the American economy.

To achieve this objective, the project's goals and objectives are centered on four main themes: emissions trading, renewable energy standards, the push for clean technologies and energy efficiency standards. One of the possible impacts of this act on Mexico, if it goes through, will be the imposition of compensatory taxes for products imported from countries that fail to regulate their emissions.

CDM (CLEAN DEVELOPMENT MECHANISM): Another mechanism of the Kyoto Protocol. It promotes mitigation projects among Annex 1 and Non-Annex 1 countries (developing countries). The reductions achieved in the latter countries can be loaned or sold in the former.

MITIGATION: This may be defined as a set of actions aimed at reducing the generation of greenhouse gas (GHG) through, among other things, energy efficiency, the use of renewable energy and cogeneration.

RELATIVE MITIGATION: Reduction of GHG emissions per product unit.

ANNEX 1 COUNTRY: Refers to countries in the Kyoto Protocol that have mandatory GHG reduction goals. They are basically the industrialized countries and the average reduction goal is approximately 5% based on emissions in 1990 to be achieved by 2012.

NON-ANNEX 1 COUNTRY: Refers to countries of the Kyoto Protocol that do NOT have mandatory GHG reduction goals. They are basically underdeveloped countries.

PECC: The Mexican Federal Government's Special Climate Change Program.

MEXICO GHG PROGRAM: Voluntary registry and reporting system for GHG emissions operated by SEMARNAT and CESPEDES since 2004.

KYOTO PROTOCOL: The international policy instrument under the UNFCCC consisting of an international accord whose objective is to reduce the emissions of gases that cause global warming. The protocol establishes binding obligations on Annex I Parties, to reduce their emissions by 5% based on their 1990 emissions, through three flexible mechanisms: Clean development mechanism, Joint Implementation and Emissions Trading. The Kyoto Protocol corresponds to the first commitment period of 2008-2012. The second commitment period, between 2013 and 2020, is to be defined at COP 15 in Copenhagen.

Energy transition: This consists in changing the approach of the energy sector through better use of fossil fuels and fomenting the deployment of clean technologies through renewable energy and energy efficiency.





Embajada Británica
en México

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