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SPECIAL CLIMATE CHANGE PROGRAM 2009-2012 MEXICO

EXECUTIVE SUMMARY

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SPECIAL CLIMATE CHANGE PROGRAM 2009-2012 MEXICO

EXECUTIVE SUMMARY

The Government of Mexico acknowledges that climate change represents the primary global environmental challenge of this century and that, in the medium and long-term, it represents one of the greatest threats to human development and well-being. In addition to inducing the displacement of climatic regions, more droughts, floods, intense hurricanes, glacial melting and an increase in sea level, among other effects, climate change also leads to biodiversity loss, and the deterioration of water resources and environmental services provided by ecosystems.

Tackling climate change requires the immediate development of activities that mitigate or reduce greenhouse gas (GHG) emissions, and of others aimed at adaptation or reduction of vulnerability and of risk to human life, nature, and economic development. The effectiveness of these activities increases significantly when various sectors converge in a cross-cutting, mainstreaming policy strategy.

Even though long-term mitigation goals are still under discussion in multilateral fora, to avoid irreversible risks to society and ecological systems, it may be considered necessary that global greenhouse gas emissions reach a maximum in the next ten years and then decrease to a third of their baseline scenario in the year 2050. The nature and scope of the activities and processes required to guarantee this result are equivalent to a new Industrial Revolution.

Recently, several groups of experts in the scientific, economic and social aspects of climate change have raised the possibility that the risks posed are significantly more severe than outlined in previous estimates, such that current mitigation strategies are likely to need updating in the short term.

Besides being a threat, climate change also represents an opportunity to promote sustainable human development. The activities which Mexico intends to implement to develop its mitigation and adaptation efforts entail multiple co-benefits such as energy security, cleaner, more efficient and competitive production processes, improved air quality, and the preservation of natural resources, among others. Adopting the measures envisioned would thus be highly beneficial even in the absence of the climate change challenge.

Mexico enjoys the privilege of being one of the world's most biodiverse countries. This will allow us to capitalize on those adaptation and mitigation measures involving the conservation and sustainable use of ecosystems and their environmental services, including the reduction of emissions from deforestation and forest degradation.

Over the next few years, the resilience – or capacity for recovery – of Mexico's economic, social and natural systems to climate change will depend on the social, political and programmatic initiatives put in place to reinforce and restore their integrity, while reorienting development towards sustainability. For this to be possible, industrial, communications and energy infrastructure will need to be expanded and reconfigured, primary production will need to increase, and the conservation of natural ecosystems, their biodiversity and environmental services, land use planning and the relocation of settlements in high risk areas, will all need to be given greater impetus.

The Special Climate Change Program (PECC, for its acronym in Spanish) is based on the afore-mentioned guidelines and on previous planning efforts, particularly the National Climate Change Strategy (NCCS), submitted in 2007. The PECC builds on and develops the elements contained in the Strategy.

Through the PECC, the Mexican government sets out to demonstrate that it is possible to mitigate climate change and adapt to it, without jeopardizing the development process, and even deriving some economic benefit.

Components of the Special Climate Change Program

In formulating the PECC, four essential components were considered for the development of an integrated policy to tackle climate change: Long-term vision, Mitigation, Adaptation, and Policy mainstreaming.

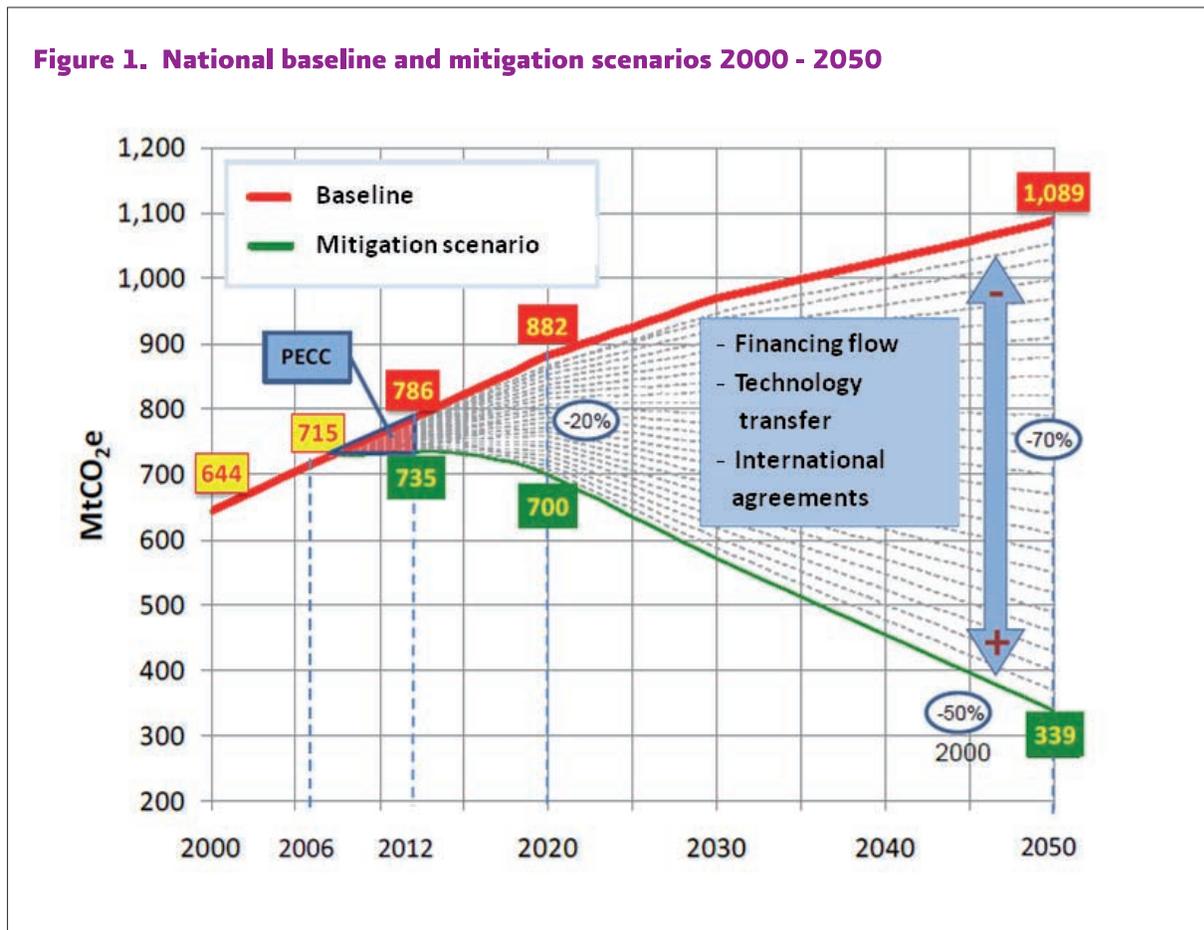
LONG-TERM VISION

The climate change process has a long-term global impact that can only be addressed with appropriate political vision for the future, essential for the planning of human activities consistent with sustainable development. Only through the convergence of the objectives of all countries in a common target for mitigation, international cooperation for making progress on adaptation, and the transformation of planning criteria towards goals and objectives that go beyond the temporary frameworks of public administration, may the challenge of climate change be successfully met in the coming decades.

Mexico sets out as an indicative or aspirational target, a reduction of 50% in its GHG emissions by 2050, compared with the volume emitted in the year 2000. In doing so, Mexico aspires to contribute to a potential stabilization of atmospheric GHG concentrations at a level not exceeding 450 parts per million of carbon dioxide equivalent (CO₂e), compatible with limiting the Earth's average temperature increase to between 2° and 3° C, and a flexible convergence towards global average per capita emissions of 2.8 tons of CO₂e, in 2050.

In this desirable trajectory towards reduction, Mexico's emissions would have to reach an inflection point in the second decade of this century, and then decrease gradually to reach the level indicated in 2050: approximately 340 million tons of CO₂e (MtCO₂e). This trajectory will very likely trace an irregular curve in time, as a result of the dynamics of the economy and the implementation of successive and increasingly complex and more expensive mitigation measures, (see Figure 1 and Table 1).

Figure 1. National baseline and mitigation scenarios 2000 - 2050



Source: National GHG Emissions Inventory 2006, Energy Sector Outlooks 2008-2017 and Environmental Outlook 2030, OECD. Analysis: Semarnat, 2009.

Mexico’s aspirational target will only be met if a multilateral regime is established which includes financial and technological support mechanisms from developed countries on an unprecedented scale. Mobilization of such support is consistent with the principle of “common but differentiated responsibilities” and its ethical rationale is grounded in the accumulated historical emissions generated by developed countries.

TABLE 1. NATIONAL ASPIRATIONAL REDUCTION TARGETS FOR 2020 AND 2030

Mexico's baseline [Figure 1] indicates that total country emissions will grow nearly 37% in 2020, 41% in 2030 and 70% in 2050 with respect to 2000.

	MtCO ₂ e		
	2000	2020	2030
Baseline – Business as usual (BL – BAU)	643.6	881.7	969.4
Mitigation scenario (50% in 2050)	643.6	700.0	571.5
Reduction with respect to 2000	—	+8.8%	-11.2%
Reduction with respect to the baseline	—	-20.6%	-41.0%

The long term mitigation scenario anticipates that Mexico will achieve a 21% reduction by 2020 and a 41% reduction by 2030, with respect to the business as usual scenario. National emissions under the same mitigation scenario will be approximately 9% above in 2020 and 11% below in 2030, with respect to the inventory for the year of reference [2000].

The mitigation effort that Mexico intends to develop requires deep transformations in production and consumption patterns, energy use, natural resource management, and in the ways that land is occupied and used.

With respect to adaptation, the vision for 2050 of this Special Program sets out three major stages: a first stage (2008 to 2012) to assess the country's vulnerability and conduct an economic evaluation of priority measures; a second stage (2013 to 2030) to strengthen the strategic adaptation capacities, and a third stage (2030 to 2050) to consolidate the capacities already built.

The first stage of vulnerability assessment and economic valuation of priority measures corresponds to the enactment of this Special Program in the 2009–2012 period, the main result of which will be the design of an integrated program of adaptation, executed progressively.

The second stage, strengthening strategic, large-scale adaptation capacities, from 2013 to 2030, includes as priorities: attaining equilibrium between degradation/deforestation and restoration/reforestation; the adoption and implementation of sustainable agriculture and livestock production systems; the eradication of measures that encourage environmental degradation and cause GHG emissions; the implementation of relocation programs for human settlements and infrastructure in high risk areas, and the implementation of policies aimed at climate stability and sustainable development.

The consolidation stage, between 2030 and 2050, will result in attaining a positive balance between reforestation and deforestation, development options that ensure environmental sustainability, and a strengthened national planning system based on criteria to decarbonize the economy and minimize vulnerability to climate change.

MITIGATION

The aim of the PECC is to consolidate a development pattern in which economic growth does not impact significantly on the growth of GHG emissions. By inducing a reduction in carbon intensity, expressed as the ratio between emissions and gross domestic product, the PECC provides an initial boost to the decarbonisation of the Mexican economy.

Full implementation of the PECC could achieve a reduction in total annual emissions of 51 million tons of CO₂e in 2012, with respect to the business as usual scenario (in which emissions would rise to 786 MtCO₂e by 2012), resulting from actions carried out in the energy (generation and use), agriculture, forestry, land use, and the waste sectors.

Most of these reductions (85%) would stem from the goals and categories shown in Table 2.

TABLE 2. MITIGATION GOALS

Goal	Categories	Executed By	Mitigation MtCO ₂ e		Cumulative	
			2008-2012	2012	To 2012 MtCO ₂ e	%
M1	Reinjection of sour gas in Cantarell	SENER	27.60	6.90	6.90	14
M82	Landfill sites with controlled methane combustion or energy generation	SEDESOL, SEMARNAT, Local Governments	7.56	4.44	11.34	22
M64	Incorporation of 2.95 million hectares to Sustainable Forest Management	SEMARNAT	11.88	4.37	15.71	31
M18	Promotion of self-supply projects for electrical energy generation with renewables	SENER, Private Sector	3.65	3.65	19.36	38
M78	Pilot project of incentives for reducing emissions from deforestation and forest degradation (REDD)	SEMARNAT	8.97	2.99	22.34	44
M37	Energy savings through new household appliances and incandescent bulb replacement programs. "Para Vivir Mejor"	SENER	4.73	2.68	25.02	49
M43	Installation of 600 thousand efficient wood burning stoves	SEDESOL, SAGARPA	1.62	1.62	26.64	53
M31	Increased use of rail for freight transport	SCT	3.90	1.60	28.24	56
M66	Additional 2.175 million hectares incorporated in programs of environmental services payment	SEMARNAT	6.27	1.43	29.67	59
M65	Additional 2.5 million hectares of terrestrial ecosystems incorporated as Wildlife Conservation Management Units	SEMARNAT	4.19	1.39	31.06	61
M3	Operational efficiency in PEMEX	SENER	4.96	1.24	32.30	64
M27	Construction of 38 new highways	SCT	1.20	1.20	33.50	66
M39	Green buildings and green mortgages	INFONAVIT	2.10	1.20	34.70	69
M15	Wind power generation by CFE	SENER	2.40	1.20	35.90	71
M67	Incorporation of 750,000 hectares of forest ecosystems as Natural Protected Areas	SEMARNAT	3.36	1.12	37.02	73
M11	Thermoelectric plant in Manzanillo, Colima	SENER	1.10	1.10	38.12	75
M29	Scrappage of old motor vehicles	SCT,SHCP, SE, NAFIN	1.10	1.10	39.22	77
M4	Cogeneration in Pemex	SENER	3.77	0.90	40.12	79

M26	Clean highway cargo and passenger transport Program	SEMARNAT	2.70	0.90	41.02	81
M63	Sustainable planned grazing strategy in 5 million hectares	SAGARPA	2.05	0.84	41.87	83
M14	Hydro-electrical power project "La Yesca"	SENER	0.81	0.81	42.68	84
M73	Establishment of 170,000 hectares of commercial forestry plantations	SEMARNAT	1.48	0.61	43.29	85
	Other 31 goals		21.63	7.37	50.65	100

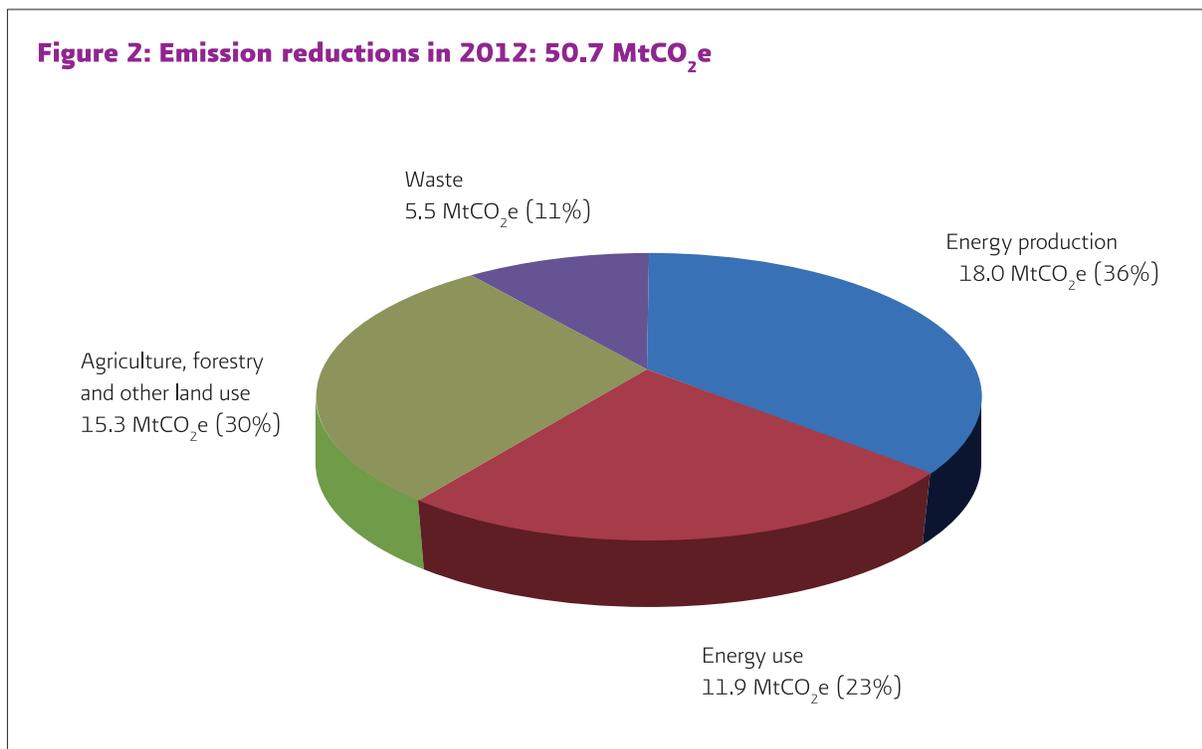
The remaining 15% of reductions expected by 2012 (7.37 MtCO₂e) will be achieved via an additional 31 goals, grouped in four emission categories: Energy production, 2.23 MtCO₂e (4.4%); Energy use, 1.57 MtCO₂e (3.1%); Agriculture, forestry and other land use, 2.55 MtCO₂e (5.0%); and Waste, 1.02 MtCO₂e (2.0%).

A synthesis of total reductions by category and subcategory, and the distribution by category is shown in Table 3 and Figure 2, respectively.

TABLE 3. TOTAL EMISSIONS REDUCTIONS BY CATEGORY AND SUBCATEGORY

Category	INEGEI */ (MtCO ₂ e)	Mitigation Goal (MtCO ₂ e)			
	2006	2008-2012	2012	Accumulated	
				From 2012	%
Energy Production	196.53	51.78	18.03	18.03	35.6
•Oil and Gas	84.07	40.83	10.33	10.33	20.4
•Electricity	112.46	10.95	7.70	18.03	35.6
Energy Use	233.50	22.21	11.87	29.90	59.0
•Transportation	144.63	11.35	5.74	23.77	46.9
•Residential, Commercial and Municipalities	24.88	8.80	5.53	29.30	57.8
•Industry	56.83	1.82	0.52	29.82	58.9
•Federal Public Administration		0.25	0.08	29.90	59.0
•Other use	7.16				
Agriculture, Forestry and other land use	131.56	46.46	15.29	45.19	89.2
•Agriculture	42.56	2.52	0.95	30.85	60.9
•Livestock		2.14	0.91	31.76	62.7
•Forestry	89.00	30.20	9.96	41.72	82.4
•Farming-Forest Frontier		11.60	3.48	45.19	89.2
Waste	100.42	8.58	5.46	50.65	100
•Municipal Solid Waste Disposal	53.83	7.56	4.44	49.63	98.0
•Municipal Waste Water Treatment and discharge	46.39	1.02	1.02	50.65	100
•Other wastes	0.20				
Industrial Process	53.29	-	-	-	-
Total	715.30	129.03	50.65	50.65	100

*/Preliminary data from INEGI 2006, to be published in 2009.



Source: SEMARNAT, 2009

ADAPTATION

The Government of Mexico considers that efforts to adapt to climate change, focused on reducing the country's vulnerability, are a top priority. In some cases, particularly in sectors associated with land use management, adaptation measures can also contribute to mitigating GHG emissions. Addressing objectives related to strengthening the capacities of the population and their possessions, infrastructure and natural ecosystems, generates a window of opportunity for aligning public policies related to adaptation.

The need to develop an integrated risk management policy is also identified, especially for risks related to extreme hydrometeorological phenomena.

POLICY MAINSTREAMING

Assuring intersectoral and inter-institutional coordination through policy mainstreaming is essential, as is promoting actions in areas such as the economics of climate change, education, training and research, as well as information and communication.

To effectively deal with climate change, priorities must be set at the highest level of all tiers of government with regard to public policy on mitigation and adaptation, with the active participation of civil society.

This Program includes some activities on the interface of Federal Government and State or Local Government responsibility, and/or that of the private sector. It may be anticipated that mobilizing state and municipal

governments, as well as civil society –particularly the private sector–, will allow the scope of the PECC to be expanded. Contributions from projects registered under the Clean Development Mechanism of the Kyoto Protocol, and the development of a national carbon market that can interact with regional markets in the near future, will also help in this regard.

In relation to foreign policy and climate change, the PECC develops and updates the criteria outlined in the National Climate Change Strategy. Given that Mexico generates only 1.6 % of global emissions, progress in national mitigation will have little global effect if it is not framed within an equitable, large-scale cooperative multilateral action, in which each country commits its best effort.

In the context of the negotiations started at the 13th Conference of the Parties, and which should culminate in the 15th Conference, to be held in Copenhagen in December 2009, Mexico continues to adopt a proactive stance, willing to build bridges of understanding to facilitate an international agreement.

The PECC represents an important step in the progress of Mexican policies on climate change. As such, it should undergo a continuous updating process to allow it to adapt to very dynamic circumstances, both in the domestic and international arenas.

STRUCTURE OF THE SPECIAL CLIMATE CHANGE PROGRAM, 2009-2012

The PECC is comprised of four chapters and three annexes.

Chapter 1 specifies the long-term vision on which the Program is based. Worldwide, political, administrative and financial systems are poorly adapted to deal with a process of such global and temporal dimensions as those inherent to climate change. The modification of several practices that usually deal only with urgent issues is required, as is the design of a new policy based on a long-term vision and on a real convergence of interests among the nations of the world, with regard to the multiple challenges posed by climate change. This chapter deals with long-term mitigation and adaptation scenarios.

Chapter 2 describes mitigation actions, that is, actions for reducing GHG emissions. It is structured around the most recent guidelines developed by the IPCC for the preparation of national emissions' inventories, stressing four broad categories or sections: energy generation¹; energy use²; agriculture, forests and other land use³; and waste⁴. The chapter has 39 objectives and 86 goals.

Chapter 3 presents public policies for adaptation to climate change. The structure of "systems" corresponds to the approach developed by Working Group II of the IPCC, which when adjusted to the specific conditions of Mexico, results in eight systems. Seven of them correspond to human and natural systems, the remainder to risk management. The chapter has 37 objectives and 142 goals on the theme of adaptation.

¹Corresponding to category 1 of the 2006 IPCC Guidelines.

²Corresponding to category 2 of the 2006 IPCC Guidelines.

³Corresponding to category 3 of the 2006 IPCC Guidelines.

⁴Corresponding to category 4 of the 2006 IPCC Guidelines.

Chapter 4 sets out and groups the fundamental elements for mainstreaming policy and action on climate change, which should support the actions proposed for mitigation and adaptation. The chapter contains five sections that deal with foreign policy, institutional strengthening, the economics of climate change, education, training, information and communication, and research and technological development. The chapter has 29 objectives and 66 goals on the theme of mainstreaming.

In all, the PECC contains 105 objectives and 294 goals.

Annexes

Annex I includes a brief summary of the fundamentals of climate change, focusing specifically on three issues: the general topic of anthropogenic climate change, the international regime, and some aspects of Mexico's institutional framework (the structure of the Inter-Ministerial Climate Change Commission; the PECC and its relationship with the National Development Plan).

Annex II complements the list of objectives and goals outlined in chapters 2, 3, and 4 with a list of strategies, lines of action and the agencies responsible for each of the goals. It also includes a typology of these, making it possible to identify the areas where the greatest climate change efforts are concentrated.

Annex III contains a list of research proposals in matters of mitigation and adaptation to climate change, which will support the efficient implementation of this program.

List of Acronyms	
INFONAVIT	Institute of the National Fund for Employees' Housing
NAFIN	National Financing Development Bank
PEMEX	Mexican Oil Company
SAGARPA	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food
SCT	Ministry of Communications and Transport
SEDESOL	Ministry of Social Development
SEMARNAT	Ministry of Environment and Natural Resources
SENER	Ministry of Energy
SHCP	Ministry of Finance and Public Credit
SRE	Ministry of Foreign Affairs

