

LATIN AMERICAN PERSPECTIVES ON CLIMATE CHANGE

A Briefing Book

prepared for the
Pew Center on Global Climate Change

by



Center for Sustainable Development in the Americas
1700 Connecticut Avenue N.W. Suite 403 • Washington, DC 20009
Tel: 1-202-588-0155 • Fax: 1-202-588-0756

July 11, 2000

INTRODUCTION	3
CURRENT TRENDS	4
KEY PLAYERS IN THE REGION	6
POLICIES AFFECTING GHG EMISSIONS	14
KEY COUNTRY POSITIONS	21
REFERENCES	28
APPENDIX 1	29
Activities Implemented Jointly in Costa Rica	29
APPENDIX 2	30
APPROVED AIJ PROJECTS IN LATIN AMERICA	30
APPENDIX 3	31
Contact information	31
GOVERNMENTS	31
MULTILATERALS	36
NON GOVERNMENTAL ORGANIZATIONS	37
PRIVATE SECTOR	38



INTRODUCTION

Despite the fact that the whole of Latin America currently emits only 5% of the world's total greenhouse gases, the continent has emerged in the past few years as an indisputable leader in the international climate change debate. The region is conscious of both its potential for mitigation, as well as its need for adaptation. The emerging financial mechanisms of the Convention and the Protocol have been recognized as promising opportunities to attract environmentally sound investment in some of the most important sectors of the economies of the region: energy, transportation, and land use. Having suffered last year's El Niño Oscillation in South America and the Mitch hurricane in Central America, the countries have also become increasingly aware of their vulnerability to climate change, and their need to adapt.

However similarly affected by climatic extremes, the group of twenty-two nations hold somewhat different positions in the international negotiations, in direct correlation with their national interests and political circumstances. Furthermore, the countries sometimes share but do not necessarily adhere to the official position of the Group of 77 and China, the political block of 132 developing nations.

This paper summarizes the regional perspectives and positions in the climate change scenario. The paper identifies:

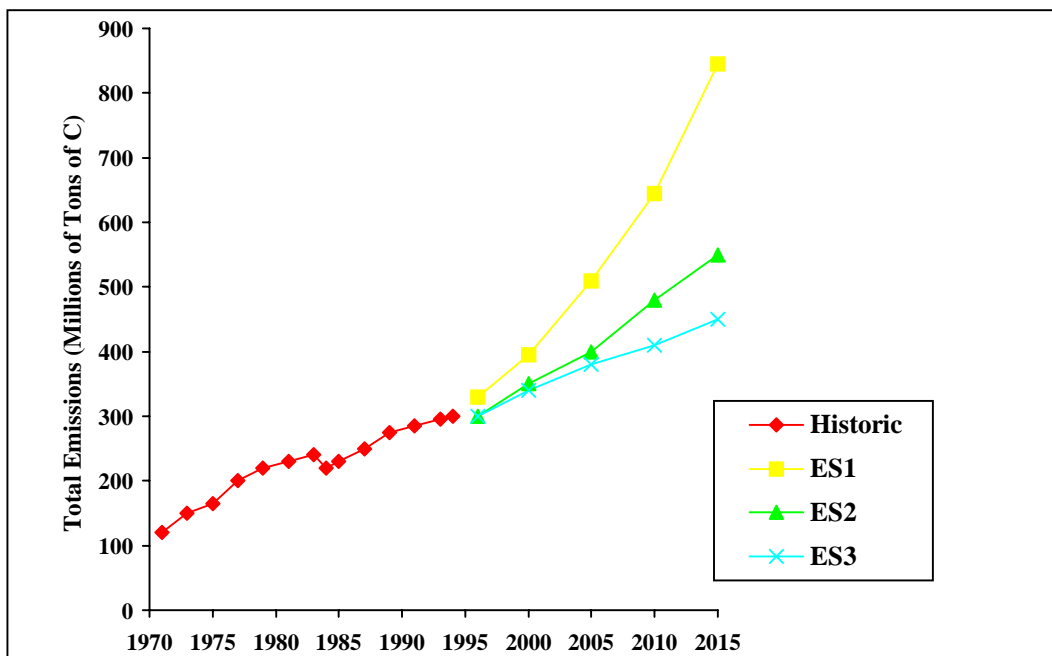
- Current emission trends;
- Key players in the region;
- Policies and measures affecting GHG emissions;
- Key country positions in the international debate;
- Contact information.

CURRENT TRENDS

In 1995 Latin America emitted a total of 309 million tons of carbon, or 5% of the world's total emissions. As a region it ranked as the fifth emitter, after the US (1,371mt/C), the OECD countries (982mt/C), China (835mt/C) and the Russian Federation (455mt/C). (LA Business Council for Sustainable Development, 1998).

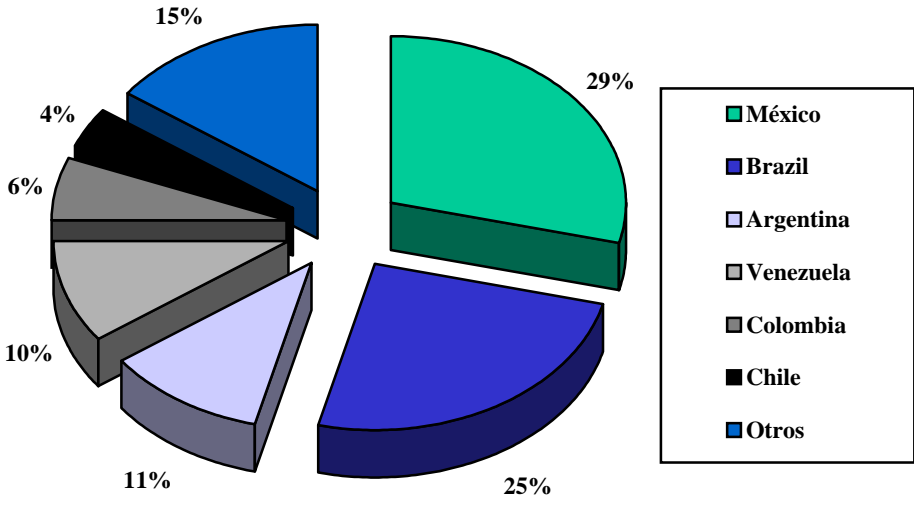
Emissions models based on several regional economic growth scenarios for the future have been developed. Considering the expected tendency of economic and demographic growth in Latin America, as well as an increasing demand for energy, forecasts predict that the 5% contribution of Latin America to world totals could increase to 6% by the year 2015. In a business as usual scenario, the increase will be directly dependent on economic growth. The following graph shows total carbon emissions resulting from the burning of fossil fuel in Latin America, between 1972-1995. Future projections toward year 2015 were made using 1995 as the base year. Three economic scenarios were drawn: one (ES1) based on an average annual 5% growth rate; another (ES2) based on a 3% annual growth rate; and a third (ES3) estimating a 2% annual growth rate. (LA Business Council for Sustainable Development, 1998).

**Carbon Emissions (Millions of Tons)
from the Burning of Fossil Fuels in Latin America**



Source; CESPEDES, with information based on the model by Quintanilla and Bauer (1995). Taken from LA Business Council for Sustainable Development, 1998.

The Latin American countries with the largest emission volumes (without considering deforestation) are Mexico, Brazil, Argentina, Venezuela, Colombia and Chile, in that order. These six countries contributed 85% of total emissions for the region in 1995. The following graph shows the percentage emissions for each country.



Source: CESPEDES, with information from IEA, 1997; IMF, 1997; UNFPA, 1997. Taken from LA Business Council for Sustainable Development, 1998.

Even under the most aggressive of emission growth scenarios, Latin America as an entire region will only grow to 6% of world emissions by 2015. This minimal contribution to global warming accounts for the fact that climate change is not a priority concern in the region. Much more pressing are concerns of economic growth, inequitable income distribution, health, and urban migration. In fact, without few exceptions, it is only the small group of people who are directly working on the Climate Change Convention who are aware of the issue at all, and who have a challenging time prompting the interest of others in the country.



KEY PLAYERS IN THE REGION

Government

Without a doubt it is the governments of the region that are currently exercising a leadership role in the UNFCCC. It is important to remember that the region's interest in climate change arose out of the potential national benefits that could accrue through participation in the market mechanisms. Forward looking countries recognized that the payment of global environmental services could be a source of funding for a specific subset of projects which have priority under the rather new sustainable development objectives (increase of renewable energy generation, increase of energy efficiency, modernization of the transportation sector, increase reforestation, etc). It is precisely because of the coincidence of national interests with global benefits which now have a market, that Latin America has become so active in the climate regime. Barring political pressure exerted by the United States (see voluntary commitments below) this is unlikely to change in the near future.

NGOs

The NGO sector is in a similar situation. NGO participation in the climate debate is very recent in Latin America. Participation is again motivated by the possibility of funding for sustainable development, and has been mainly stirred by the results of conservation projects in the AIJ phase, most of which are organized by the Nature Conservancy and its local partners. Hence, the very few NGOs currently interested in the topic are those dedicated to conservation activities, whose major concern is the debate around the inclusion/exclusion of forestry related projects in the CDM (see appended list of NGOs). The only NGOs with a broader perspective are FUNDECOR of Costa Rica, under the leadership of Franz Tattenbach, and Climate Action Network Latin America (CAN-LA), lead by Eduardo Sanhueza of Chile. However, both of these individuals form part of the official delegation of their countries, blurring the boundary between government and NGO.

In any event, it is only fair to recognize that NGOs still only have minimal influence of on Latin American governments in general, not only in the specific climate change arena. In most countries there is a tense relationship, if there is a relationship at all, between NGOs and government. In the climate regime, NGOs are in a position to benefit from decisions which may be taken by their governments. They are rarely in a position to influence that decision.

Private Sector

The opposite is true of the private sector. Private sector plays a key role in decision making in Latin America. Most government representatives are entrepreneurs in their own right, and thus the ties between public and private are intimate. The private sector has not become as engaged as it could be in the climate debate in Latin America- there is a clear opportunity here. The current involvement of the private sector has been lead by the Business Councils for Sustainable Development, particularly the one in Mexico, and the one in Argentina (see appendix for contact information). Both of these BCSD's have been long involved in the analysis of the effects of climate change on the region, and the range of responses which could be entertained by private sector.

There are a few individual Latin American companies, which have begun to experiment with mitigation projects: Cementos El Salvador (CEESA), Empresas Publicas de Medellin (EPPM), Perez Companc in Argentina, Aeroenergia de Costa Rica, Capex S.A. from Argentina, Belize Electricity Limited, Corporación Nacional del Cobre de Chile, Plantas Eólicas S.R.L. from Costa Rica, Molinos de Viento del Arenal S.A. from Costa Rica, Aero Generación de Centroamérica S.A. from Costa Rica, Energía Global de Costa Rica S.A., Biomasa Generación S. De R. L. from Honduras, Comisión Federal de Electricidad from Mexico, C and R Inc. from Nicaragua, and CAOBO Inc. from Nicaragua.

Multilaterals

In Latin America multilateral institutions are playing a very important role.

The Global Environment Facility (GEF) was created with the intent of assisting developing countries and nations transitioning to market economies in developing programs and policies that benefit the global environment. . The GEF provides grant financing for projects in global climate change as well as other global environmental areas.

The current GEF pipeline for the Latin American and Caribbean Region includes the following projects related to climate change initiatives:

Country	Implementing Agency	Project	Description
Regional	UNDP	Caribbean Renewable Energy Development Project	Assesses the policy, financing, capacity, and awareness barriers to the exploitation of renewable resources and the components necessary to remove them.
Regional	UNDP	Greenhouse Gas Assessment and Least Cost Global Warming	Considered the first phase of a multi-phase process. The project involves support to OLADE and selected member countries in the Region.



		Mitigation Strategies for LAC	
Argentina	World Bank	CO2 Re-injection Pilot	Introduces relatively new enhanced oil recovery technology. This is based on the re-injection of CO2 into producing oil formations to increase ultimate recovery of oil from these fields, prevent these GHGs from being released into the atmosphere and convert CO2 from a waste product into a valuable commodity.
Brazil	UNDP	Reducing the Long-term Costs of Solar Thermal Power Generation	Reduces the long-term costs of solar thermal power production so that, through learning and economies of scale, the levelized energy costs will decline to commercially competitive levels.
Brazil	UNDP	Hydrogen Fuel Cell Buses for Brazil (São Paulo)	Helps accelerate the commercialization of fuel cell buses that can use hydrogen produced from renewable resources. It is anticipated that reaching commercially mature cost levels will allow such buses to play major roles in the urban mass transit systems of Brazil and other countries, thereby helping to reduce the emission of a variety of pollutants, of which CO2 is the most important from a global perspective.
Chile	UNDP	Removing Barriers to Rural Electrification with Renewable Energy	Removes barriers to rural electrification with renewable energy. It aims to make renewable energy technologies viable and practical options for companies that bid for concessions under the government's technology-neutral rural electrification program.

Costa Rica	UNDP	National Off-grid Electrification Program Based on Renewable Energy Sources	Identifies, evaluates, and designs meaningful avenues to reduce/remove financial, institutional, technical and human resource barriers related to renewable energy based off-grid rural electrification. It will further identify requirements and initiate a process to develop a national program that supports the development of renewable energy based rural electricity supply.
Cuba	UNDP	Development of Electric Energy from Sugarcane Biomass for Displacing Fossil Fuel Consumption	Objectives include: (a) increase the electric and thermal energy by sustainably-produced biomass streams arising from the production and processing of sugarcane, thereby (b) reducing the use of oil nationwide and its associated greenhouse gas emissions.
Ecuador	UNDP	Removal of Barriers to the Renewable Energy in Ecuador, Renewable Electrification of the Galapagos	Identifies and removes the barriers to the expanded use of renewable energy in the rural areas using the Galapagos Islands as a pilot area. The project will develop a pilot to demonstrate the use of renewable energy to replace diesel generation.
Mexico	UNDP	Project to Demonstrate Fuel Cell Buses and an Associated Fuel Supply System in Mexico City	Promotes the application of hydrogen fuel cell bus technology to facilitate the commercialization by means of viable demonstrations and to assist in the reduction of manufacturing, production, and operational costs to commercially competitive levels.
Mexico	World Bank	Integrated Solar Combined Cycle System Project	Increases the contribution of renewable energy sources in Mexico's future energy mix; enhances participation of the private sector in Mexico's power development plan and positions Mexico as a world leader in the commercialization of a major environmentally benign technology.
Mexico	World Bank	Second Air Quality Project	Improves the air quality in the Mexico City Metropolitan Area in accordance with key measures included in the long-term PROAIRE program. Assists



			in the transition to low emission fossil fuels and the implementation of measures to reduce emissions resulting from changes in land use.
Mexico	World Bank	Methane Gas Capture and Use at a Landfill Demonstration Project	Provides additional support to an existing project on solid waste management to enable the internalization of the global dimension of landfill gas capture and use.
Venezuela	UNDP	Reduction of Methane Leaks in the Maracaibo Natural Gas Distribution Network	Reduces emissions of methane through leaks from the Maracaibo natural gas distribution network. This will be done through the support of institutional change, provision of capital for monitoring and repairing equipment, etc.

UNDP

The Latin American and Caribbean Bureau of the UNDP has an agenda to address climate change. The objective of their plan is to support the transition towards sustainable development in the region, focusing mainly on adequate energy services, and provide services that allow for conservation and the protection of biological diversity, while providing social and economic development. This strategy focuses on the following:

Provide regional support for promoting political dialogue among countries. This dialogue will focus on furthering the understanding of the Kyoto Protocol as well as its implementation.

Provide support to activities that will advance the Climate Convention. Provide countries with assistance to fulfill the obligations stated in the Convention.

Provide capacity building on climate change. Provide technical assistance to the countries of the region concerning the Convention, provide capacity building on sustainable development (specifically the CDM), and provide information on lessons learned in joint implementation.

Identify the opportunities in the CDM for the region. Provide assistance in the development and implementation of the CDM.

Develop financial tools for development and implementation of projects. Continue assistance to the countries of the region to further identify viable projects to national project portfolios and mobilize financing for the specific projects developed.

Gather and disseminate information that responds to the problems of climate change.

World Bank

Prototype Carbon Fund (PCF)

The Prototype Carbon Fund (PCF), approved for a capitalization of \$150 million by the World Bank's Board of Directors in July 1999, will invest contributions made by industrialized country governments and companies in projects designed to produce emission reductions fully consistent with the Kyoto Protocol and the emerging framework for Joint Implementation (JI) and the Clean Development Mechanisms (CDM). Contributors, or "Participants" in the PCF, will receive a pro rata share of the emission reductions, verified and certified in accordance with agreements reached with the respective countries "hosting" the projects. Under the current pipeline, the PCF will set up a renewable energy fund which would invest in several projects in Costa Rica, with the intent of spreading the risk of investment, and increasing carbon market trade through underwriting the risk of private intermediaries in the early market.

National Strategy Studies

The World Bank is also implementing a series of national strategy studies in key countries of the region: Argentina, Colombia, Bolivia, Brazil, Mexico, Guatemala. Prior to the Kyoto conference, the program focused on countries with economies in transition. Following agreement in Kyoto on the establishment of a Clean Development Mechanism (CDM), the scope of the program has been expanded to also include developing countries and assist them in assessing their role in the CDM, identify potential investment projects and develop national policies regarding the CDM. The World Bank, Switzerland, and other bilateral donors (e.g., Finland, Australia, Germany and Austria) provide co-financing to host countries to analyze these issues in a National AIJ/JI/CDM Strategy Study (NSS). Host country interest, donor preferences and a country's GHG emissions reduction (i.e. GHG offset potential) are among the factors that determine the selection of NSS host countries.

The World Bank serves as an advisor, assisting host country governments in drafting the terms of reference for the studies, making arrangements for donor funding, administering contracts with consultants and providing methodological guidance. The national strategy studies program aims at building local capacity. Studies are therefore conducted by host country experts, in collaboration with experts from donor countries and the World Bank, as necessary.

Each NSS is designed to emphasize the needs and interests of the participating country. The objective of each study is to provide the relevant national authorities and other stakeholders with an opportunity to develop and analyze options to better understand the issues and opportunities presented by potential international markets and other financing opportunities for greenhouse gas (GHG) offsets.

Central American Bank for Economic Integration / Banco Centroamericano de Integración Económica (CABEI)

Headquartered in Tegucigalpa, Honduras, CABEI is the multilateral bank for the integration and development of Central America. Its purpose is to contribute to raising the quality of life of the region's population, providing financial and technical cooperation resources, so as to satisfy the needs of these countries within a regional vision. Traditionally, CABEI has financed the governments of the area through the public sector, but, in response to changing trends, a strategic decision was made towards the end of 1991 to expand its activities to address the needs of the private sector as a fundamental aspect of the Bank's development mission. CABEI has just launched a regional Carbon Fund, with the purpose of promoting carbon reduction projects in the member states.

Andean Development Corporation/Corporación Andina de Fomento (CAF)

Without a doubt, the most important multilateral institution in the climate change arena in Latin America is the Corporación Andina de Fomento (CAF), theregional financial institution, headquartered in Caracas, Venezuela. CAF promotes sustainable development and regional integration by attracting capital resources for the provision of multiple financial services to the public and private sectors of the shareholders countries. Principal members are Bolivia, Colombia, Ecuador, Peru and Venezuela; other shareholders countries are Brazil, Chile, Jamaica, Mexico, Panama, Paraguay, Trinidad & Tobago; 22 private banks in the region are also shareholders of the Corporation. The Corporation's authorized capital is US\$ 3.0 billion. At present, the CAF is the financial institution with the greatest net worth in the Andean region.

The CAF is into the second year of its Latin American Carbon Program (PLAC), now with a budget of \$2 million. PLAC operates through the following components:

Technical assistance to support member countries in the development of informed positions; support the public and private sectors with project design and implementation; and contribute in the financial input and options for the design of the CDM.

Technical exchanges to support the exchange of experiences on the CDM negotiations; national instruments and mechanisms for the quantification, certification and verification of carbon offsets; financial models, instruments and mechanisms; and the identification, preparation and implementation of eligible investment projects.

Regional workshops and special meetings to promote regional dialogue and the exchange of information and experiences among member countries; and support meetings where market options, financial instruments, project development and implementation and other relevant issues are discussed.

Publications and outreach materials including: proposals for the CDM prepared by member country organizations; public awareness and education materials; and other contributions that assist the establishment of the carbon market

Project development support for projects that: are profitable; use methodologies acceptable under the Kyoto Protocol; and generate verifiable carbon reductions.

POLICIES AFFECTING GHG EMISSIONS

There is no national or international motivation for Latin American countries to enact climate change policies. However, over the past few years Mexico, Brazil and Argentina, the three highest emitters of the region, have all undertaken policies and measures which have resulted in significant reductions in greenhouse gas intensity levels. It must be clearly stated that these measures were not implemented for global environmental protection purposes, but rather for national economic reasons. As is the case with many reasonable greenhouse gas abatement measures, they are a sound long-term investment from the national perspective, but have major initial implementation costs for the country.

In contrast to the three large countries, Costa Rica has explicitly used the financial mechanisms emerging from the Climate Change Convention to finance specific mitigation activities. In order to do so, the government has had to set up the enabling regulatory and legal framework.

Mexico

In response to its UNFCCC commitments, Mexico developed the Climate Change Country Study in 1990, and updated its inventory of GHG emissions in 1996. Mexico emits a total of 450,000 Mtons of CO₂, with emissions coming mainly from the use of fuels for energy generation, changes in land use, agriculture, and emissions due to fuel and gas leaks. (Government of Mexico, 1997).

Despite Mexico's rapid industrialization and demographic growth, both of which put high demands on energy supply, the country has managed to implement several measures which have contributed to lowering its carbon intensity. Since 1970 Mexico's number one priority has been energy self-sufficiency, resulting in exponential growth in domestic energy production. However, since 1995, the long-term economic and social costs of indiscriminate energy generation have become more apparent and government attention has been shifting toward energy conservation. Although Mexico's energy consumption has grown by an average of 2.3% per year since 1990, the carbon content of this energy supply has been falling steadily since 1990. (WRI/UNDP, 1999).

The decrease in carbon content is due to the implementation of specific measures and policies. The 1994 Integrated Fuel Policy seeks to reduce the use of fuel oil and increase the use of natural gas. By the year 2005 the share of natural gas as a fuel in fixed sources is expected to increase from 37% (1994 levels) to 53%, due to the construction of new natural gas industries and the growing prevalence of combined cycle technology. The Electrical Energy Savings Trust (FIDE), established in 1990, has implemented an incentive program for the residential and commercial sectors, which has already saved 2700 GWh in

consumption and 300 MW in demand. The National Energy Savings Commission (CONAE) has developed energy efficiency standards for new boilers, refrigerators, small air conditioners, buildings, and electric motors. It is undertaking voluntary programs with industry for energy conservation and energy audits. CONAE has also promoted renewable energy generation through wind and hydroelectric plants. An installed capacity of 3800 MW is expected to be in operation by the year 2007. (WRI/UNDP, 1999). Price reform, through a reduction of subsidies, has also become an effective part of the effort to switch to the use of cleaner fuels. Finally, government policies are encouraging forest conservation, sustainable forest management and afforestation. Large-scale schemes for sequestering carbon in the biomass of forests are being implemented in Chiapas, and are beginning to shed light on the community level benefits which may come with these activities.

All the above GHG emission-reducing measures have not come without a cost to the country. Only the reduction of fuel oil and increase in natural gas consumption will require an investment of \$7.6 billion, in order to increase the crude oil refining capacity, build the necessary infrastructure, and increase the gas supply. However, Mexico is committed to the continued pursuit of policies and measures which mitigate climate change without compromising the nation's development goals.

In 1997 Mexico established an Inter-Ministerial Committee in charge of coordinating issues that affect climate change. The Committee is constituted by representatives of the Ministry of the Environment, Natural Resources and Fisheries (SEMARNAP), the Ministry of Energy, and the ministries of Foreign Affairs, Commerce and Industrial Development, Agriculture, and Social Development. The Committee has been working to create a national AIJ/CDM office for several years. There is a clear intent to launch the program this year, although the intent may be delayed by the national presidential elections. Meanwhile, the Instituto Nacional de Ecología (INDE) is serving as a coordinating entity for both climate change policy and for potential mitigation project evaluation.

Brazil

Brazil was the first country to sign the United Nations Framework Convention on Climate Change on 4 June 1992. The Brazilian Congress ratified the Convention on 28 February 1994, and it entered into force 90 days later. The government agency in charge of climate change issues is the Ministry of Science and Technology, which has developed has one of the largest and better trained climate change teams in Latin America. Brazil's participation in the international negotiations on climate change has been instrumental, especially in the creation of the Clean Development Mechanism.

The country's vast territorial extension and the fact that forests cover a large part of it, turn it into an important piece in world efforts of balancing global carbon emissions. The Brazilian Amazon stretches along a 5 million sq.km (500 million hectares) area, of which 3.7 million sq km (74% of the total area) is covered by tropical rainforests. The Amazon stock of CO₂ is approximately 6 billion t/C (excluding deforested areas), which amounts to 37% of all carbon stored in tropical forests around the world (UNEP/WRI, 1999).

Although very active in international negotiations on climate change, the issue of greenhouse gas mitigation has not yet acquired a prominent place among domestic environmental concerns. Environmental problems in general are given a lot of importance, however environmental and economic goals do not usually bear the same weight. More often than not, environmental projects are cancelled to give way to other social or economic priorities.

However, government efforts in the forestry and energy sectors, although not adopted to specifically curb greenhouse gases have indirectly contributed in that direction. Illegal timber exploitation is commonplace in Brazil. Monitoring and law enforcement are too weak to prevent it. Between 1978-1998, the average annual rate of deforestation was estimated at two million hectares, resulting in CO₂ emissions of about 300 million t/y or 6 billion t/c (CO₂) in 20 years. Forestation regeneration has not been taken into account by these estimates, for lack of available data (UNEP/WRI, 1999). It is thought that around one billion tons of carbon could be abated by replacing illegal logging practices.

The government has taken several actions to combat deforestation. For example, in some areas it is conducting programs to teach farmers more sustainable agriculture practices, away from current slash and burn. Also, a large-scale reforestation project called FLORAM (stands for "forest/environment" in Portuguese) was conceived in 1990, but could not be implemented for lack of funds. If put in practice, Floram could sequester 154 million tons/C/y over a 20 to 30 year period, in an area of 20 million ha (2,3% of Brazilian territory). Also, Brazil's climate is ideal for silvicultural plantations, which have not yet been developed due to lack of long-term financing and capital constraints.

Furthermore, Brazilian federal and state laws state that a certain percentage of the land should be kept as forest: 50% in northern states, and 20% in the south. In certain areas where the law is not being taken into consideration, the government is giving landowners until year 2005 to comply.

In the energy sector, one of the main contributions to GHG mitigation has been the aggressive program to use ethyl alcohol (ethanol) from sugar cane in automobiles, initiated in 1976. Since its start, production rapidly grew to about 200,000 barrels a day, replacing one-half of the gasoline that otherwise would have been used. Since ethanol from sugarcane is a renewable resource, 9.45 MtC per year, or approximately 15 percent of Brazil's total emissions from fossil fuels,

is avoided (Goldenberg, 1999). Brazil also instituted an electricity conservation program known as PROCEL, to improve the efficiency of refrigerators, air conditioners, lighting, and other appliances. The program was expected to avoid the installation of 1,600 MW of new electricity generation, at one quarter of the cost of generating the additional power.

Electricity generation is currently dominated by hydroelectricity. Although business as usual projections predict a move towards fossil fuel sources of energy, especially natural gas and fuel oil, once the country's hydro capacity is used up. At this point, the energy sector is expected to offer great potential for CDM projects to develop alternative energy sources.

Both the forestry and energy sectors offer great potential for mitigation projects. The government of Brazil is adamant to pursuing policies that further contribute to global efforts at mitigating GHG, as long as they do not harm the country's current development efforts. Brazil is now putting together its country GHG inventory which is much awaited for shedding light on the real extent of deforestation activities in the Amazon, and the potential for CDM projects in that area. That is, if forestry were ever allowed under CDM activities. If so, forestry could open up an enormous window of opportunities for carbon sequestration through plantation growth or conservation efforts. That would mean a strong contribution to world carbon mitigation efforts due to the enormous extensions of Brazilian forests.

Argentina

Argentina was the first country in Latin America to produce a detailed inventory of GHG emissions, submitted in 1997. The second communication was submitted in 1999. Argentina ranks third among the Latin American emitters. The latest data indicate CO₂ emissions of 50973.21 million tons, and CH₄ emissions of 3163.27 million tons. Emissions stem mainly from the use of fuels for energy generation, industrial processes, agriculture, and wastes.

Over the past 25 years Argentina has managed to lower the intensity of its greenhouse gas emissions through very specific policies and measures, and at a significant cost to the country. In the 1980's the government initiated a broad based substitution of carbon intensive fossil fuel power generation through the construction of major hydroelectric plants, nuclear stations and natural gas pipelines. In 1984 the government launched a program to promote the use of compressed natural gas in vehicles, through the elimination of the gasoline tax on natural gas. Today Argentina's natural gas fleet is the largest in the world. In 1994 the government adopted specific measures to gradually reduce natural gas flaring. Successful forestry legislation is promoting reforestation of large tracks of degraded lands.

As a result of all these actions, the carbonization index (CO₂/energy ratio) of the total emissions in Argentina fell about 25% from 1970 to 1985. During that period energy consumption doubled, but absolute CO₂ emissions rose by only 47%. (WRI, UNDP 1999).

As is the case with many transformations toward sustainability, these measures make financial and economic sense in the long term. However, the initiation of the measures imply a significant economic cost to the country. Estimates indicate that the investment to control flaring have cost the oil industry approximately \$350million. The building of hydroelectric plants and pipelines for the transport of natural gas demand high up-front investments, which were accomplished with loans from the international finance community. These investments account for a major part of the foreign debt Argentina incurred during the 1980's. In turn, the country's debt payment services are one of the major strains on today's economic performance.

In 1998 Argentina became the first non-Annex I country to voluntarily announce its intent of taking on emission reduction commitments. The country chose a 10% mitigation target for a business as usual (BAU) scenario based on middle GDP and high agriculture growth projections for the 2008-2012 period.

The design of the target was based on projections of the evolution of the economy up to 2012. Due to the uncertainty implicit in projecting the future evolution of the Argentine economy, three potential scenarios were construed: with high, middle and low economic growth. Emissions projections were calculated in each of those scenarios, for several sectors of the economy, excluding the agriculture sector. The target was established from an average GDP growth for the 2008-2012 period, obtained from the three economic scenarios. In contrast to the targets taken by the industrialized countries under the Kyoto Protocol, the Argentinean target is a dynamic one, allowing for greater reductions when there is greater GDP growth, and lower target levels during economic decline.

Argentina is requesting a "third option" within the Kyoto Protocol, as it would neither enter Annex B nor remain without reduction obligations as non-Annex I. Argentina is also requesting access to all of the flexibility mechanisms, while continuing to be a non-Annex I country. Currently Argentina can only participate in the Clean Development Mechanism (CDM), which does not explicitly include capture of carbon through sinks. Forestry constitutes an important part of Argentina's potential target achievement. In order to maximize its possibilities, Argentina is interested in having access to Joint Implementation (JI) and Emissions Trading (ET), as well as CDM.

Argentina's request to access those mechanisms requires acceptance on the part of the Conference of the Parties, and most likely an amendment to the Protocol. The new government of Argentina, which took office in December 1999, will have

to decide with what vehemence the country pursues the intention announced by the previous administration.

Costa Rica

In contrast to the three large countries mentioned above, Costa Rica has explicitly used the financial mechanisms emerging from the Climate Change Convention to finance specific mitigation activities. In order to do so, the government has had to set up the enabling regulatory and legal framework.

In the early 1990s' Costa Rica began its pioneering initiative to achieve environmental goals by marketizing the environmental benefits of forests. That initiative takes a proposition from theoretical economics -- that forests would be better maintained if forest owners were compensated for all the services they provide -- and puts it to work in the real world. The new forestry law (Law No. 7575) explicitly recognizes four environmental services of forests: carbon fixation, hydrological services, biodiversity protection, and provision of scenic beauty. With the intention of financially motivating landowners to manage their forests in a sustainable manner, the law permits landholders to be compensated for providing these services.

Costa Rica's new approach to forestry delinks the provision of environmental services from the financing of these services. The government acts as an intermediary in the sale of services. It sells forest services such as carbon sequestration and watershed protection to domestic and international buyers. Funds from these sales - and from a domestic fuel tax -- are used to finance the services. Some services are provided directly by the government, from national parks and other public lands. However, the most innovative part of the system is the provision of services by private landholders under contract.

In 1994 Costa Rica became the first developing country to establish a bilateral international agreement on Activities Implemented Jointly within the context of the Climate Change Convention. OCIC, the Costa Rican joint implementation office, was set up in 1996 to coordinate AIJ/JI activities. By October 1997, Costa Rica hosted nine UNFCCC-approved projects, five in energy and four in the forestry sector. A list of current activities implemented jointly in Costa Rica is included in Appendix 1.

The renewable energy projects under Costa Rica's AIJ program are a crucial component of the country's effort to reduce the carbon intensity of its energy matrix, minimize fossil fuel imports, and reduce national vulnerability to climatic extremes. Today 9% of installed generation capacity stems from wind and hydro AIJ projects.

Although Costa Rica is best known for its pioneering AIJ work, it should be noted that during the 1990's the country also implemented a series of policies and

measures with emission reduction effects. In 1990, the new energy law allowed private power to be generated and sold to the national utility only if that power came from renewable sources. In 1992 the government imposed a 15% tax on the use of fossil fuels, with the explicit purpose of using the income for climate change mitigation purposes. In 1994 a new energy efficiency law obliged high consuming industries to implement efficiency measures. With its long standing environmental awareness, Costa Rica continues to be in the forefront of the international climate change arena.

KEY COUNTRY POSITIONS

With the exception of Mexico, all Latin American countries are members of the Group of 77 and China, the largest United Nations political block of 132 developing nations. In the climate change debate, the G77 holds both of the extreme interest positions: the OPEC countries which seek to stall any progress on the Convention in order to protect their oil exports, and the Alliance of Small Island States (AOSIS) which untiringly press for quick action due to the threat of rising sea levels flooding their countries. In addition, G77 members China and India seek to protect the interest of an important percentage of the world's population which does not have the economic development typical of the industrialized countries, and vehemently negotiate for a per capita right to emit. Having such diverse and opposing interests, the G77 is continually challenged to develop consensus as a group. Unavoidably, positions resulting from always heated debates, tend to be minimum common denominator agreements.

The diversity of positions and interests of the G77 is also present at the Latin American level. Venezuela is an active member of OPEC, and aligns itself more with the oil producing interests of Arab nations than with Latin America. . The nations of the Caribbean, on the other hand, are active members of AOSIS, and negotiate in the interests of small island states. Currently their main interest is the implementation of Article 4.8 of the Convention, concerning adverse effects of climate change on the most vulnerable nations. The Caribbean is interested in improving information gathering and data analysis on the various effects (sea level rise, salinization of the water sources, loss of coastal areas, etc.). Through the CPACC Private Sector Seminar of the OAS, they have already initiated systematic observations and monitoring networks, and are enhancing their technical training for vulnerability assessments. Through the involvement of the insurance sector, the Caribbean nations now want to establish early warning systems for extreme weather events, and enhance the institutional capacity for integrating adaptation into sustainable development programs. Due to their very particular needs under the UNFCCC, the Caribbean negotiates within the AOSIS block, and does not share strategic positioning with the rest of the countries in Latin America.

There are in fact very few overriding positions which are shared by G77 members as a whole:

- The opposition to take on any additional obligations beyond those stipulated in the Convention and the Protocol.
- The obligation of industrialized countries to transfer environmentally sound technologies.
- The need for capacity building in all the areas related to climate change.
- The desire for a fast implementation of the CDM.

- All mechanisms, including the CDM, must be supplemental to domestic GHG mitigation actions.

Following the adoption of the Kyoto Protocol in 1997, the Buenos Aires Action Plan determined that the design of the CDM would be the first priority of the Parties. The details of the CDM have been the main point of concern to the G77 during the last year and most probably until final agreement is reached at the Sixth Conference of the Parties in November 2000.

The G77 position on the CDM, as expressed in the official submission FCCC/SB/1999/MISC.10/Add.2, can be summarized as follows:

- The principle of equity shall apply to all aspects of the CDM.
- A share of the proceeds from certified project activities should be used to meet costs of adaptation.
- An adaptation fund should be established.
- The developing country where the CDM project is implemented will decide if the project meets national sustainable development objectives and priorities.
- Project activities must ensure access to environmentally-sound technology.
- Funding for the CDM must be additional to other financial commitments of the developed country Party.
- CDM project activities must be supplemental to domestic actions of the industrialized countries.
- Baselines should be established on a project-by-project basis.
- CERs will accrue to the developed country Party participating in the project.

The most active Latin American countries in the climate change debate are: Argentina, Brazil, Colombia, Costa Rica, Bolivia, Chile, Peru, Mexico, and Guatemala. Of these, the leading voices are Argentina, Brazil, Costa Rica, Mexico, Chile and Colombia. The following section compares and contrasts the positions of these countries with respect to each other and to the G77, on the most salient issues of the negotiations.

Voluntary commitments

As a whole, the Latin American countries adhere to the G77 position on voluntary commitments. Like the other member states, they uphold the principle of common but differentiated responsibility, and oppose making any kind of commitments for mitigating GHG, while the industrialized world does not comply with its quantified emissions limitations under the Kyoto Protocol.

In 1998 Argentina broke ranks with this position. Prior to 1998 Argentina was a clear leader in the G77, frequently contributing valuable insight into the

negotiations. However, the country's interest in considering voluntary reduction commitments and a desire to use all the mechanisms of the Protocol, met with overwhelming opposition from the G-77/China group.

However, having taken the first step toward additional developing country obligations, Argentina has taken a position of leadership among a small subset of G77 countries: those quietly considering the advantages and disadvantages of voluntary targets. Argentina has done the most thorough analysis of the issue, and is expected to continue to lead the way on that issue.

Transfer of technology

The transfer of technology has been one of the main topics in the debate among developing countries in general. Although the LA region is not one of the strongest advocates of this issue, the countries adhere to the position of the G77. Developing nations argue that technology transfer must be primarily achieved under the Convention (which is already in force), and not the Protocol, which is unlikely to enter into force for several years. They have expressed support for the creation of a technology transfer mechanism to allow for the transfer of clean technology from the industrialized world. Developed countries on the other hand, have strongly opposed the idea of creating such a mechanism because they maintain that the private sector should be the sole vehicle for transferring technology.

Capacity building

The call for climate change capacity building in developing countries has increased since the signing of the Kyoto Protocol, and the imminence of the international carbon market. Although the request has been most vehement in the African region, the LAC region has also expressed a need for technical training in carbon quantification and project preparation.

Together with the GEF, the UNFCCC Secretariat launched a Capacity Building Initiative which has started with an inventory of needs in all the developing regions of the world. The results of the needs assessment were presented at SB12 in Bonn. The process was generally criticized for its lethargic pace and lack of focus. Developing countries continue to clamor for capacity building which is country driven, timely, comprehensive and flexible.

Vulnerability and adaptation

The G77 includes two groups of vulnerable countries: the small island states which are acutely vulnerable to the adverse effects of climate change (referred to in Article 4.8 of the Convention), and the OPEC countries which claim vulnerability to the implementation of UNFCCC response measures (referred to in Article 4.9 of the Convention). Although there have been many efforts to

separate the two issues, the Arab nations have exercised their excellent negotiating tactics and have stopped any separation. As the implementation of Articles 4.8 and 4.9 had not progressed under the Convention, the matter was inserted into the Protocol under Article 3.14. Current negotiations center around the impossibility of assessing the cost of vulnerability which is specifically due to climate change, and thus Annex I resistance to incur "carte blanche" financial obligations. On the Latin American side the three countries involved in this discussion are Colombia, Venezuela and El Salvador.

AIJ activities

Although it has been a long-standing conflict within the G77, the Latin American countries have succeeded in getting G77 to support the eventual graduation of AIJ projects into the CDM, should they meet the requirements defined for the CDM. As a whole, Latin America has an important stake in the fate of AIJ projects. The region has close to thirty approved projects, more than any other non-Annex I region. (See Appendix 2).

There is however, a divergence of opinion among the Latin American countries about the timing of credits in an AIJ/CDM transition. The countries with most of the current AIJ projects (Costa Rica, Bolivia, Guatemala, Honduras) are of the opinion that credits emanating from current AIJ projects eventually accepted into the CDM should be recognized as of the beginning of the year 2000, the date they interpret is established in the Kyoto Protocol. Brazil and other LA countries argue that recognition of credits from current projects should start only at the point when CDM rules and procedures have been established, possibly November of this year.

Sustainable development in the CDM

Latin American countries are united behind the idea of an early entry into force of the CDM, as established by the Protocol itself. They also all uphold the G77 position that the contribution of projects to sustainable development should be determined by the non-Annex I country in which the project is implemented.

However, Bolivia has recently introduced the notion that national sustainability criteria should be complemented by adherence to international sustainability guidelines, such as those emanating from the U. N. Agenda 21 and its Commission on Sustainable Development. Bolivia is being supported by several LA countries. The matter has caused friction within the G77, and is yet unresolved.

Land use, land use change and forestry in the CDM

One of the major rifts in the G77, and indeed even within the Latin American countries, is the issue of land use, land use change and forestry (LULUCF) projects in the Protocol in general, and specifically in the CDM. Article 3.3

allows reforestation, afforestation and deforestation activities in Annex B countries to count toward their reduction commitments. Brazil argues that these project types should be narrowly defined in order to prevent natural storage of carbon in boreal forests to nullify the Kyoto targets. Brazil has been equally resistant to include forest based projects in the CDM. Article 12 of the Kyoto Protocol does not explicitly include nor exclude LUCF projects, in fact it is silent on removals by sinks.

Recognizing that CDM funding could help decrease deforestation and promote the reforestation of degraded lands, most of the Latin American countries favor including all LUCF activities in the CDM. At COP5 a subset of LA nations formed an informal negotiation block called the GRILA with the purpose of advocating the inclusion of sinks. The participants of GRILA are Argentina, Bolivia, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, and Uruguay. (FCCC/SB/1999/MISC.10/Add.3)

Within Latin America the inclusion of forestry has been the topic of innumerable meetings at the highest political levels, particularly among the Amazon Basin countries. Brazil has recently acquiesced to include reforestation, but not conservation, in the CDM. The matter will not be finalized until the Parties make a decision on Articles 3.3 and 3.4 based on the recently released LULUCF Special Report.

Baselines

From the very beginning of the discussion about the modalities of the CDM, the G77 has held the position that baselines need to be project based. This position is not only a desire to be consistent with the nature of the CDM as a project based mechanism, but rather it is also a protective measure against sectorial baselines, which the G77 interprets as a first step toward reduction obligations. With the exception of Peru, the Latin American countries have adhered to the G77 position. It is only recently that the GRILA group has come to consider multi-project baselines, with the view of reducing project preparation costs. The idea has been met with vehement resistance on the part of Venezuela within the region, and on the part of most of the other members of G77.

CDM model

Under the influence of China and India, the G77 position on the CDM implies a bilateral model for project finance. According to this model, an entity in an industrialized country assumes an equity or debt position in a GHG reduction project in a developing country, and attains the resulting CERs in exchange for the finance. The Latin American countries have different models in mind. Costa Rica proposes the multilateral model in which all CERs are commercialized through a centralizing clearing house. Colombia and Guatemala propose the

unilateral model according to which a company in a developing country can access financing from any entity, implement the project, and retain ownership of the resulting CERs until the moment of direct sale to an Annex B company or country. It seems that the GRILA group is willing to come together by supporting a hybrid model, or open architecture system, in which the various models described above are allowed to co-exist. But the issue continues to be one of the contentious issues within the G77.

Tradability of the CERs

Again under the leadership of China and India, the G77 holds the position that CERs resulting from CDM projects do not affect the assigned amounts of Annex B, and cannot be traded between Annex B countries. In the case an Annex B country acquires more CERs than it needs to reach its Protocol target, it could hold those over-compliance CERs for a future commitment period. The GRILA group is radically opposed to this notion, arguing that Article 3.12 already states that CERs acquired shall be added to the assigned amount, thus making CERs fully tradable and fungible with ERUs and PAUs. This issue, which will greatly affect the ultimate value of CERs in the immanent international carbon market, promises to be one of the most contentious issues within the G77 during the next five months of negotiation.

Conclusion

Latin America is undoubtedly in the forefront of the climate change debate. However, this leadership is currently limited by two factors: the motivation for participation, and the sectors actually involved. The current motivation for active participation in the climate regime is clear: the perspective of national benefits to be achieved through the international financial mechanism of the Convention. This focus is unlikely to change dramatically in the near future. It is clear that in the short term, developing countries have to place their national development needs at a higher priority than global environmental protection. It is in fact the miraculous combination of both of these objectives, which gives the CDM its strength. The current focus may gradually expand as an increasing number of nations finish their vulnerability studies, and begin to realize that the very source of their future growth is threatened. It is not until this realization takes root in the region, that political will will start to develop for further actions under Convention.

The other limiting factor is the sectors actually involved in the climate regime. Governments have clearly taken the leadership in Latin America. A few private sector companies have begun to explore with the CDM, but only a few. Here there is an evident role for the Pew Center on Global Climate Change: to encourage more private sector participation in Latin America. For this purpose, the key ally in the region is the Corporación Andina de Fomento, through its Latin American Carbon Program. Although there are many players already in the field,

the value added of potential Pew involvement is the bringing together of US based corporations with Latin American companies to discuss the ongoing climate negotiations from the private sector perspective. No other institution is better positioned than Pew for that purpose.

REFERENCES

Business Council for Sustainable Development, Global Climate Change: The private sector challenge in Latin America. Mexico, 1998.

Center for Sustainable Development in the Americas, LAC Region Participation in the International Carbon Market. Produced for the InterAmerican Development Bank. 1999.

Gobierno de Argentina, Segunda Comunicacion Nacional ante la Convencion Marco de las Naciones Unidas sobre el Cambio Climatico. 1999.

Centro Internacional de Politica Economica para el Desarrollo Sostenible, "Las negociaciones sobre el Cambio Climático y Costa Rica. Políticas para los Países en Desarrollo". Gitli, E., Murillo, C., Miranda, D., and Villalobos, E.. 1999, Costa Rica.

Gobierno de Costa Rica, Reporte Nacional sobre Actividades Conjuntas durante la Fase Piloto. Febrero, 1999.

Gobierno de Mexico, Primera Comunicacion Nacional ante la Convencion Marco de las Naciones Unidas sobre el Cambio Climatico. 1997

Goldenberg, J., Medium Term Opportunities (Between Now and 2005) For Green" Energy Development in Key Countries: Brazil. (Paper presented at Washington Summit on Protection of the World Climate, Sept. 4 6, 1999, Washington, D.C.).

UNFCCC, FCCC/SB/1999/MISC.10/Add.2

UNFCCC, FCCC/SB/1999/MISC.10/Add.3

World Resources Institute and United Nations Development Program. Trends and Baselines. 1999.

World Resources Institute Climate Note, "How much Sustainable Development can we Expect from the Clean Development Mechanism?", 1999, Washington, D.C.

World Resources Institute, Seroa da Motta, R., Ferraz C., and Young C., "Brazil: CDM Opportunities and Benefits", in Financing Sustainable Development with the Clean Development Mechanism"._2000, Washington, D.C.

APPENDIX 1

Activities Implemented Jointly in Costa Rica

Type of Project	Title of Activity	Status	GHG (mt CO ₂)
<u>Plantas Eólicas</u>	Renewable Energy: Wind	Operation	62,333
<u>Tierras Morenas</u>	Renewable Energy: Wind	Implementation	311,666
<u>Aeroenergía</u>	Renewable Energy: Wind	Implementation	36,842
<u>Doña Julia</u>	Hydroelectric	Implementation	311,666
<u>National Proposal For Territorial and Financial Consolidation of Costa Rican National Parks and Biological Reserves (PAP) (1)</u>	Forestry: Conservation and Regeneration	Approval to be announced by the USIJI (4 th round)	55,817,248
<u>Ecoland</u>	Conservation Forestry:	Implemented	1,267,124
<u>Carfix</u>	Conservation, Regeneration/ Reforestation	Partially Financed	21,778,313
<u>Biodiversifix</u>	Forestry: Regeneration	Not Financed	18,481,680
<u>Klinki</u>	Forestry: Reforestation	Partially Financed	7,216,656
<u>Costa Rica/Norway AIJ Pilot Project (2)</u>	Forestry: Conservation Regeneration/ Reforestation	Implementation	1,150,139

Source: Oficina Costarricense de Implementacion Conjunta (OCIC).

APPENDIX 2

APPROVED AIJ PROJECTS IN LATIN AMERICA

COUNTRY	APPROVED PROJECTS
Argentina	<ul style="list-style-type: none"> • Capex, SA Electric Generation Project. • Landfill Gas Management in Greater Buenos Aires
Bolivia	<ul style="list-style-type: none"> • Noel Kempff Mercado Climate Action Project • Rural Solar Electrification in Bolivia: Pilot Phase
Chile	<ul style="list-style-type: none"> • Wind Energy Project
Costa Rica	<ul style="list-style-type: none"> • Aeroenergia SA Wind Facility • Dona Julia Hydroelectric Project • ECOLAND: Piedras Blancas National Park • Klinki Forestry Project • Plantas Eolicas SRL Wind Facility • Territorial and Financial Consolidation of Costa Rican National Parks and Biological Reserves • Tierras Morenas Windfarm Project
Guatemala	<ul style="list-style-type: none"> • Matanzas Hydroelectric Project • Santa Teresa Hydroelectric Project • The Rio Hondo II Project
Honduras	<ul style="list-style-type: none"> • Bio-Gen Biomass Power Generation Project, Phase I • Bio-Gen Biomass Power Generation Project, Phase II • Solar-Based Rural Electrification
Mexico	<ul style="list-style-type: none"> • APS/CFE Renewable Energy Mini Grid Project • Community Silviculture in the Sierra Norte of Oaxaca • Project Salicornia: Halophyte Cultivation in Sonora • Scolel Te: Carbon Sequestration and Sustainable Forest Management in Chiapas.
Peru	<ul style="list-style-type: none"> • The Central Selva Climate Action Project

APPENDIX 3

Contact information

GOVERNMENTS

ARGENTINA

S.E. Sra. Elsa Kelly
Embajador, Director General de Asuntos Ambientales
Ministry of Foreign Affairs, International Trade and Religion
Esmeralda 1212
Buenos Aires, Argentina
Tel: (54-11-4) 819-7414
Fax: (54-11-4) 819-7413
E-mail: ekg@mrecic.gov.ar

Sr. Gabriel Maffei
Ministro de la Embajada
Misión Diplomática de la Republica Argentina
Adenauerallee 50-52
D-53113 Bonn Germany
Tel: (49-228)22-8010
Fax: (49-228)228-0130

BRAZIL

Gylvan Meira Filho
General Coordinator on Global Change Research
Executive Secretary
Inter-ministerial Commission on Global Climate Change
Ministry of Science and Technology of Brazil
Esplanada dos Ministerios Bloco E sala 398
70067-900 Brasilia DF Brasil
Phone: (+ 55 61) 317-7923; 317-7523; 317-7512 e 317-7557
Fax: (+ 55 61) 317-7657
E-mail: miguez@mct.gov.br
www.mma.gov.br

Jose Gonzalez Miguez
Coordinator on Global Change Research
Ministry of Science and Technology
Esplanada dos Ministerios Bloco E, Sala 473
70067-900 Brasilia-DF Brazil

Tel: (55-61)317-7523,224-4364
Fax: (55-61)317-7657,223-4134
E-mail: miguez@mct.gov.br

BOLIVIA

Sergio de Jáuregui Ocampo
Ministerio de Desarrollo Sostenible y Planificación
Av. Arce 2147
Casilla 12814
La Paz, Bolivia
Tel: 591-2/ 372063; 363331; 391071
Fax: 591-2/ 392892

Oscar Paz Rada
Coordinador del Programa Nacional de Cambios Climáticos
Viceministerio de Medio Ambiente, Recursos Naturales
Ministerio de Desarrollo Sostenible y Planificación
Avenida Arce 2147 Casilla 12814
La Paz Bolivia
Tel: (59-12)37-2063/2378, 41-3408
Fax: (591-2)39-2892

CHILE

Juan Pedro Searle
CONAMA
Obispo Donoso No. 6
Providencia, Santiago
Chile
Tel: (562) 240-5699
Fax: (562) 244-1262

Jaime Bravo
Comision Nacinal de Energia
Teatinos 120
Santiago, Chile
Tel: (56-2)335-6800, 272-1901
Fax: (56-2)335-6888

COSTA RICA

S.E. Sr. Franz Tattenbach Capra
Embajador en Misión Especial
Oficina Costarricense de Implementación Conjunta
P.O. Box 7170-1000
San José, COSTA RICA

[email:ocicgm@sol.racsa.co.cr](mailto:ocicgm@sol.racsa.co.cr)

Tel: (506) 220-0036 ext. 846

Fax: (506) 290-1238

Paulo Cesar Manso Sayao
Gerente de la Oficina de Implementacion Conjunta
Oficina de Implementacion Conjunta
Ministerio de Medio Ambiente y Energia
Apartado 10104-1000
San Jose, Costa Rica
Tel: (506)223-2124
Fax: (506)257-0697

COLOMBIA

Thomas Black
Chief of Economic Analysis
Ministry of Environment
Calle 37 # 8-40, piso 4
Bogota
Colombia
Tel: (571) 340-6279

Adriana Wolff
Chief of the International Negotiations Office
Ministry of Environment
Calle 37 # 8-40, piso 4
Bogota
Colombia
Tel: (571)288-9860
Fax: (571)288-6954

GUATEMALA

Dr. Adrian Juarez
Consejo Nacional de Cambio Climatico
7ma. Avenida 7-09
Zona 13
Guatemala 01013, Guatemala
Tel: (502) 440-7916
Fax: (502) 440-7928

Julio Roberto Curruchiche Gomez
Comision Nacional de Medio Ambiente
7 A Avenida 4-35, Zona 1

Tel: (440) 7916-17
or 7947-48
E-mail: conama@rds.org.gt

HONDURAS

Sergio Zelaya
Director Ejecutivo
La Oficina de Implementacion Conjunta y Mecanismo de Desarrollo Limpio de Honduras (OICH)
Tel: 504/ 239-3631 or 232-1579
Fax: 504/
E-mail: oich@sdnhon.org.hn

MEXICO

Fernando Tudela-Abad
Coordinador de Asesores
Chief of Advisors to the Ministers
Secretaria de Medio Ambiente, Recursos Naturales y Pesca
Anillo Periférico sur 4209, Piso 6 Fracc. Jardines en la Montana
14210 Mexico D.F. México
Tel: (525)628-0704
Fax: (525)628-0706

Biól. Julia Martínez
Directora de Cambio Climático Global
Instituto Nacional de Ecología
Av. Revolución 1425, nivel 31
Col. Tlacopac San Angel
Del. Álvaro Obregón
C.P. 01040, México D.F.
Tel: (52 5) 624-35-46
Fax: (52 5) 624-35-93
E-mail: jmartine@ine.gob.mx

PERU

Sra. Patricia Iturregui
Presidente de la Comisión Nacional de Cambio Climático
Consejo Nacional del Ambiente
Av. San Borja Norte 226
Lima 41 Peru
Tel: (511) 941-1999
Fax: (511) 225-5369

Maria Cecilia Rozas
Ministra Consejera
Directora de Medio Ambiente y Desarrollo Sostenible
Ministerio de Relaciones Exteriores
Lampa 545 - Lima 1
Tel: (51-1) 311-2626
E-mail: mrozas@rree.gob.pe

TRINIDAD Y TOBAGO

John Ashe
Ambassador, Deputy Permanent Representative
Permanent Mission of Antigua and Barbuda to the United Nations, New York
610 Fifth Avenue, Suite 311
New York
NY 10020 UNITED STATES OF AMERICA
Tel: (1-212)541-4117
Fax: (1-212)757-1607
E-mail: jashe@un.int

Roanna Gopaul
Ministry of Foreign Affairs
Knowsley Building
Queen's Park West
Republic of Trinidad and Tobago
Tel: (868) 623-4116/20
Fax: (868) 627-0571

VENEZUELA

Sr. Norman Pino
Dirección General Sectorial de Economía y Cooperación Internacionales
Ministerio de Relaciones Exteriores
Esquina de Carmelitas Torre MRE
Piso 14 1010
Caracas, Venezuela
Tel: (58-2) 862-8197
Fax: (58-2) 83-1662

Evelyn Bravo Diaz
Directora Asistente para Asuntos Ambientales
Ministerio de Energía y Minas
Torre Oeste, Piso 17 Parque Central
Caracas Venezuela
Tel: (58-2) 507-6727/507-6728

Fax: (58-2) 575-4375/3486

MULTILATERALS

CAF (Corporación Andina de Fomento)

Mr. Carlos Quintela
11157 Conestoga Ct.
Oakton, VA 22124
E-mail: cequintela@ecoq.com
Tel: (703) 385-3556
Fax: (703) 385-3557

Ms. Mariana Awad
Sustainable Development Office
Av. Luis Roche, Torre CAF, Altamira
P.O. Box: Carmelitas 5086
Caracas - Venezuela
E-mail: mawad@caf.com
Tel: (582) 209-2107
Fax: (582) 209-2406

WORLD BANK

National Strategy Program

Mr. Peter Kalas
Program Manager
1818 H Street, NW
MC 4-208
Washington, DC 20433
USA
Tel: (202) 458-5647

PCF (Prototype Carbon Fund)

Mr. Ken Newcombe
Senior Manager
1818 H Street, N.W.
MC 5-123
Washington, D.C. 20433
USA
Tel: (202) 243-6010

UNDP

Mr. Pablo Mandeville
Senior Advisor
One UN Plaza

New York, NY 10017
Tel: (212) 753-9854
Fax: (212) 753-0322
E-mail: pablo.mandeville@undp.org

BCIE/CABEI

Ms. Gracia Maria Barahona
Environmental Project Analyst
P.O. Box 772
Tegucigalpa, M.D.C.
Honduras, C.A.
Tel: (504) 228-2153
Fax: (504) 228-2155
E-mail: gbarahon@bcie.org

NON GOVERNMENTAL ORGANIZATIONS

FUNDACION MOISES BERTONI

Nancy Cardozo
Executive Director
Fundacion Moises Bertoni
Procer Carlos Arguello 208
e/Mcal. Lopez y Boggiani
Asuncion, Paraguay
Tel. 595-21-608-742
Fax 595-21-608-741
mbertoni@pla.net.py

FUNDECOR

Mr. Franz Tattenbach Capra
Executive Director
Fundacion para el Desarrollo de la Cordillera Volcanica Central
San Jose, Costa Rica
(506) 231-2800
ftattenb@fundecor.icr.co.cr

ARCA

Silvia Chavez
Coordinadora General
Alianza Regional de Politicas Conservacionistas
Para America Latina y el Caribe
San Jose, Costa Rica
Peysil@sol.racsa.co.cr

FUNDACION FUTURO LATINOAMERICANO

Yolanda Kakabadse
Directora Ejecutiva
Fundacion Futuro Latinoamericano
Av. Atahualpa 1127 y Juan Gonzalez piso 2
Casilla 17-17-558
Quito, Ecuador
Tel. 5932-456521
Fax 5932-920635
flla1@fulano.org.ec

FUNDACION BARILOCHE

Daniel Bouille
Piedras 482, piso 2do H
1070-Buenos Aires,
Argentina.
Tel.: (54-11) 4331-1649/1816
Ideefb@mbbox.servicenet.com.ar

FUNDACION ECOLOGICA UNIVERSAL

Oswaldo Canziani
Consultor
P.O.Box 141
Aranguren 342
1405 - Buenos Aires,
Argentina.
Tel.: (54-11) 4982-4862
feuarg@pinos.com

FUNDACION VIDA SILVESTRE ARGENTINA

Javier Corcuera
Director General
Defensa 245
1065 - Buenos Aires,
Argentina.
Tel.: (54-11)343-3778/4086
director@vidasilvestre.org.ar

PRIVATE SECTOR

BCSD-LA

Chairman: Eugenio Clariond Reyes-Retana
Executive Director: Sylvia Adriana Pinal
Monterrey, Mexico
innova@bcstdla.org

<http://www.bcsdla.org>

CEADS

Raimundo Florin
Argentinean Business Council for Sustainable Development
Florida 141
Piso 3o
1005 Buenos Aires, Argentina
Tel. 541-342-2671
Fax 541-331-8609
E-Mail: pcheetha@pecom.com.ar

CEHDES

Honduran Business Council for Sustainable Development
E-Mail: cehdeso@hn2.com

**CONSELHO EMPRESARIAL BRASILEIRO
Para el DESENVOLVIMIENTO SUSTENTAVEL**

Paulo Protasio
Director.
AV. das Americas 1155 Sala 901
22631-000 Barra de Tijuca
Rio de Janeiro, Brazil.
Tel: (021)494-3021/439-9211
prot@sio.com.br

Perez Companc in Argentina

Mr. Rodolfo Eduardo Labbe
Maipu 1 Floor 2
C1084ABA Buenos Aires
Argentina
Tel: 54-11-4344-6199
Fax: 54-11-4344-6623
E-mail: relabbe@pecom.com.ar

Empresas Publicas de Medellin (EPPM)

Sr. Luis Javier Velez
Cordinador de Proyectos
Empresas Públicas de Medellín
Carrera 58
Número 42-125
Edificio Empresas Públicas de Medellín
Medellín, Colombia
Tel: (574)380-2140
(574)380-2153

Fax: (574)380-6746
E-mail: lvelezd@eppm.com

Cementos El Salvador (CEESA)

Mariano Herrera
Avenida El Espino, Urbanización Madreselva
Antigua Cuscatlán
La Libertad
El Salvador
(503) 243 7722
(503) 243 7717
cessaof@es.com.sv

Capex S.A. from Argentina

Enrique Gotz
President
1638 Vincent Lopez
Buenos Aires
Argentina
Tel : 54-1-791-3359
Fax: 54-1-796-6046

Corporación Nacional del Cobre de Chile

Tapia Fernaldo
Environmental Affairs
Huerfanos 1270 piso 9
Santiago
Chile
Tel: 56-2-6903950
Fax: 56-2-6903917
E-mail: Ftoledo@STGO.CODELCO.CL

Plantas Eólicas S.R.L. from Costa Rica

Roger Morgenstern
Manager
Apdo. 250-1002
San José
Costa Rica
Tel: 506-258-0843
Fax: 506-256-5608

Aeroenergía de Costa Rica

Salomón Lechtman
General Manager
Apartado 1689-1000
San José

Costa Rica
Tel: 506-221-3413
Fax: 506-255-3410
E-mail: genelec@sol.racsa.co.cr

Molinos de Viento del Arenal S.A. from Costa Rica

Rick Winsor
Director
8201 Corporate Drive, #1250
Landover, MD 20785
USA
Tel: 301-918-7381
Fax: 301-459-2842

Energía Global International Ltd. de Costa Rica S.A.

Rick Winsor
Senior Vice President
401 Edgewater Place
Suite 1100
Wakefield, MA 01880
USA
Tel: 507-224-1125
Fax: 507-224-3375
E-mail: Rwinsor@egiltd.com

Biomasa Generación S. De R. L. from Honduras

Ricardo Lima
President
2811 Boulevard C.C.E.E.
Tegucigalpa
Honduras
Tel: 504-337-288
Fax: 504-337-598

Comisión Federal de Electricidad from Mexico

Carlos Gonzalez
Chief of the Electricity Unit
Rio Atoyac 97-318, 06598
Mexico, DF
Mexico
Tel: 525-229-4400

C and R Inc. from Nicaragua

Roberto McGregor
President
P.O. Box 2114

Managua
Nicaragua
Tel: 505-2-666166
Fax:505-2-666165

CAOBO Inc. from Panama

Rolando García
President
P.O. Box 6-7685
El Dorado
Panama
Tel: 507-227-4930
Fax: 507-263-2603
E-mail: Rgarcia@NS1.panamet.com