Institutional Capacity to Integrate Economic Development and Climate Change Considerations

An Assessment of DNAs in Latin America and the Caribbean

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The report can be downloaded at: ***http://www.iadb.org/sds/env.***

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1. INTRODUCTION

The Clean Development Mechanism (CDM) is the only market mechanism in the Kyoto Protocol that is open to the participation of developing countries. The CDM was established to:

1. Assist developing countries in achieving sustainable development;
2. Assist developing countries in contributing to the stabilization of greenhouse gas concentrations in the atmosphere, the ultimate goal of the U.N. Convention on Climate Change; and
3. Assist industrialized countries in achieving compliance with their emissions reductions commitments under the Protocol.

While the text of the Protocol does not prioritize any one of these goals, current efforts to develop the CDM tend, even if unintentionally, to give more weight to helping industrialized countries meet their eventual reduction obligations. Current CDM efforts fall sadly short of assisting developing countries in achieving sustainable development or contributing to the stabilization of emissions concentrations. This disparity can be traced back to the historical roots of the CDM, and continues to this day.

This study assesses existing institutional capacity to integrate economic development and climate change considerations in Latin America and the Caribbean. The study covers a total of twenty countries in the region,[1] and is composed of three parts:

1. An assessment of the current **institutional provisions** for CDM in each of the twenty countries.
2. Select **case studies** of successful and failed linkages between GHG mitigation and economic development activities.
3. An examination of **capacity building** efforts to date in the region, and identification of strategic gaps.

The study concludes with a view toward a sectoral CDM for the second commitment period, and recommendations on further actions that the Inter-American Development Bank (IDB) may want to consider for its own participation in the CDM market.

History of the Clean Development Mechanism[2]

Today's CDM can be traced back to 1991, when Norway introduced the concept of 'Joint Implementation' (JI) into the proceedings of the Intergovernmental Negotiating Committee (INC), tasked with drafting the text of the eventual UN Framework Convention on Climate Change (UNFCCC). Though identified by the same name as one of the three flexibility mechanisms adopted under the Protocol in 1997, Norway's original proposal was much broader, embracing the general concept of global emissions trading. Norway had recognized that due to

[1] The countries included are: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, St. Lucia, Trinidad &Tobago and Uruguay. Venezuela is not included as it is not a signatory to the Kyoto Protocol nor a participant in the CDM.

[2] This section draws fromseveral chapters in Figueres ed. Establishing National Authorities for the CDM, 2002.

differences in national circumstances, the costs of greenhouse gas mitigation varied significantly among countries. The Norwegian delegation proposed that it might be more cost-effective for two countries to form a partnership in their greenhouse gas reduction efforts, and share the benefits of implementing emission reduction projects in the country where costs are the lowest.[3]

The JI concept was subsequently included in the UNFCCC signed in Rio de Janeiro in 1992. According to Article 4.2(a) Annex I "…[p]arties may *implement* such policies and measures *jointly* with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention[…]". Within the context of this Article there is no reference to the economic development of developing countries. The only concerns of this original proposal were to decrease the cost of mitigation and help to stabilize emissions.

Representatives of developing countries began to raise questions about JI during the negotiations leading up to the First Conference of the Parties (COP-1) in 1995. Many saw it as an instrument to allow industrialized countries to buy their way out of reduction commitments, while providing no benefit to developing countries. Since Costa Rica was the only developing country to embrace the concept,[4] the resistance of the G-77 and China threatened the future of JI.[5] A compromise solution restructured JI and established the "Activities Implemented Jointly" (AIJ) pilot phase. In order to respond to the concerns of developing countries, one of the criteria adopted stated: "activities implemented jointly should be compatible with, and supportive of, national environmental and development priorities and strategies of the host country."[6] For the first time, the international emissions reduction mechanism incorporated the interests of developing countries, albeit in a secondary manner. The mechanism's purpose was to *implement activities*, i.e. mitigation projects. Stating that these activities should be compatible with, and supportive of, the host country's development priorities was more of a political tactic than a concerted effort.

Between 1995 and 2000, several OECD countries, in particular the Scandinavian countries, the Netherlands, Switzerland, and the United States actively supported the goals and principles of AIJ. They established their own national AIJ offices and invested in institutional capacity building activities abroad. Most of this technical assistance went to Latin America, the region most receptive to AIJ at the time. AIJ projects attracted the attention, and in the best of cases, the investment, of some industrialized countries.

In Latin America AIJ became a fertile ground for learning. Ten AIJ entities were established in the region between 1994 and 2000. With no guidance from the UNFCCC, each interested country created the type of entity it thought would best suit its own needs under prevailing conditions. The entities varied in terms of the legal structure used, their sources of technical and financial support, and mandate. Table 1 summarizes some of the major differences.

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[3] Dixon, Robert K. and Irving Mitzer. *Implications of AIJ for CDM* in The UNFCCC Activities Implemented Jointly (AIJ) Pilot: Experiences and Lessons Learned. 1999, p. 407

[4] Michaelowa, A. and M. Dutschke. Climate Policy and Development – Flexible Instruments and Developing Countries. 2000, p.16

[5] G-77 and China is the political negotiation block to which all developing countries belong.

[6] Decision 5/CP.1 in FCCC/CP/1995/7/Add.1

Table 1: Comparison of Latin American AIJ entities 1994-2000

Country	Official start-up date	Funding and support	Legal Nature
Costa Rica	June 1994	National government, private sector, NGO, World Bank	Mixed (NGO, private, public)
Guatemala	June 1997	USAID, private sector, World Bank	Private
Bolivia	1998	National government, US Country Studies	Public
El Salvador	May 1998	National government	Public
Argentina	1998	National government	Public
Honduras	November 1999	Canadian Government	NGO
Panama	January 2000	National government	Non-profit
Paraguay	February 2000	National government, GTZ, TNC, CAF, UNDP	Public
Colombia	2000	World Bank, national government	Private
Ecuador	2000	National government, CAF	One public; one private

In spite of their differences, all AIJ entities sought to maximize the opportunities afforded by the emerging market of mitigation projects. In principle, projects were to be compatible with national priorities, but little effort was made to develop criteria, indicators, or other measurements of this compatibility. At a time when the international mechanism was so new, the priority was to identify projects that would be financed by industrialized countries, with little concern about how to integrate GHG mitigation and economic development for the benefit of the host countries.

Integration of GHG and development concerns under the CDM

The AIJ pilot phase was evaluated in Kyoto in 1997 and many governments again expressed dissatisfaction with the results. In addition to the skepticism about the value to developing countries, the small number of projects was not considered representative due to their concentration in Latin America and Eastern Europe. However, faced with the imminent acceptance of reduction commitments under the Protocol, industrialized countries wanted to keep alive the possibility of cheaper reductions abroad. A Brazilian proposal presented a golden opportunity to resolve international differences over AIJ.

Interested in pressing the industrialized countries to comply with the proposed emissions targets, Brazil suggested the introduction of a penalty system that would subject industrialized countries to a fine if they failed to reach the targets. The fines would then be channeled into a "Clean Development Fund" to support GHG emissions mitigation projects and adaptation measures in countries most adversely affected by climate change. Not surprisingly, industrialized countries opposed this punitive system, but they saw the opportunity to marry the concept with the moribund AIJ. The resulting "Clean Development Mechanism" (CDM) would still finance adaptation, but otherwise function as a market-based measure to help meet reduction

commitments.[7] Recognizing that the mechanism had by now become a key component of industrialized countries' acceptance of reduction targets, developing countries agreed, as long as the additional goal of sustainable development was added to the mechanism. The Clean Development Mechanism became Article 12 of the Kyoto Protocol. For the first time the text defining the international reduction mechanism granted equal importance to GHG mitigation and development concerns.

Similar to its JI and AIJ predecessors, the CDM has a single purpose for industrialized countries: *("to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3").* However, in contrast to previous regimes, the CDM has a dual purpose for developing countries: *("to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention"*). There are two aspects of this language worth noting:

1. The dual goals of achieving sustainable development and contributing to emissions stabilization are merged in one phrase. This is not just because they both apply to developing countries, but more importantly, because they can be pursued simultaneously. Sustainable development and climate change mitigation are sometimes presented as mutually exclusive pursuits. It is indisputable that developing countries have more pressing priorities than climate change. Poverty, employment, health, education, housing, and food security are indisputable priorities. However, these objectives are served most effectively when environmental priorities are given similar weight to economic and social priorities. With the optimal balance of these three objectives a country's development path is sustainable over the long term. In order to stay on such a trajectory, a country's economic growth, energy use and GHG emissions must be decoupled. Historic economic growth around the world has been based on increased fossil fuel energy consumption and consequent increased GHG emissions. Future economic growth both in industrialized and in developing countries must reverse this trend. While economic growth must continue, the efficiency of energy consumption must improve, and the carbon intensity of production must decrease. Although growth, energy intensity and carbon output have been linked throughout modern history, achieving sustainable development in developing countries depends on *decarbonizing* their economies. For developing countries reliant on importing fossil fuels, gradually decreasing the carbon intensity of increased production through enhanced energy efficiency and development of local renewable energy resources is a critical step toward sustainability. The dual purpose of the CDM for developing countries confirms the intent of the CDM to assist developing countries in decarbonizing their economies by mainstreaming climate change considerations in domestic policy, as it is the only way to achieve both sustainable development and the stabilization of emissions concentrations.

2. "Achieving sustainable development" is a higher goal than ensuring that projects are "compatible with and supportive of national environmental and development priorities and strategies." Had the intent been simply for individual CDM projects to be compatible with national policies, the existing language from the AIJ criterion could have been adopted. From the perspective of developing countries, the CDM was intended not as the only instrument responsible for sustainable development but at least as a global financial vehicle which would catalyze the transition toward sustainability. At the time, it was thought that the CDM would substantially increase the flow of "green" private

[7] Michaelowa, A. and M. Dutschke. *Climate Policy and Development – Flexible Instruments and Developing Countries.* 2000, p.27

investment into the energy, transportation and industrial sectors in developing countries,[8] helping them leapfrog over carbon-intensive technologies. Given their experience with previous regimes, the Latin American countries were considered strategically positioned to use the promise of the CDM from which to launch their sustainable development trajectory.

Not only has this lofty goal not been reached, it is not being pursued in an integrated manner. Ironically, in their treatment of sustainable development, developing countries currently participating in the CDM have reverted back to the AIJ criterion of project-specific congruency with existing national priorities. There are three obvious reasons for this.

1. Lack of international guidance: The CDM modalities and procedures defined in the 2000 Marrakech Accords go to great lengths to characterize additionality, baselines, and leakage - all the issues that impact the level of emission reductions achieved by a project and sellable to industrialized countries. The same Accords make only one indirect reference to the sustainable development of developing countries: the Designated National Authorities (DNAs) in developing countries are given the task of issuing a letter confirming that CDM projects contribute to their sustainable development. The modalities are silent as to the assessment of that contribution, mainly because developing countries argued that international standardization of sustainability criteria would impinge on their sovereignty.

2. Project-based instrument: Fearing that industrialized countries would earn too many reduction credits through the CDM, the G-77 and China insisted that the CDM be a project-based instrument. In the heat of negotiations, due consideration was not given to the fact that this restriction would simultaneously diminish the potential of the CDM to transform carbon-intensive economies and mainstream climate into economic growth patterns in the South.

3. Additionality: CDM projects must be additional to what would have occurred in their absence. The intent of this additionality clause is to ensure that business-as-usual projects do not receive CDM credits. However, the same clause acts as a disincentive for developing countries to enact policies that could lead to decarbonizing their economies, because national and sectoral policies are integrated into the baseline of a CDM project. Thus, if a country institutes a renewable energy obligation of 10-15% of the generation mix, for example, it cannot consider renewable energy projects that contribute to that mix as candidates for the CDM. If a country passes energy efficiency standards, it cannot submit to the CDM projects that upgrade the technology in order to meet the standard to the CDM. Countries with the least climate-friendly policies are the most rewarded by the CDM, and the most forward thinking are practically excluded from the CDM.

Under the current CDM design provisos, the expectations for the transformative potential of the CDM are dramatically reduced. The CDM's lofty goal of helping developing countries "achieve sustainable development" has been minimized at the operational level. When a DNA certifies that a potential CDM project contributes to the country's sustainable development, it usually only means that the GHG mitigation project is congruent with the nation's *existing* environmental policies, that are typically not climate friendly. Correspondingly, current "integration" of economic development and climate change concerns based on the mainstreaming of climate

[8] Esty, Dan with Gentry, Brad. *Foreign Investment, Globalization and Environment* in Globalization and Environment. 1997

considerations, can realistically only be minimally measured as the successful outreach to stakeholders involved in economic development, for purposes of the identification of GHG mitigation projects that occur within a non-climate friendly policy framework. In the conclusion to this study we shall examine what future options exist to increase the impact of the CDM in developing countries. In this first part, we focus on the region's existing institutional capacity to integrate economic development and climate change considerations, as presently –and minimally - interpreted and under the current design restrictions.

2. INSTITUTIONAL PROVISIONS

This study assesses institutional provisions for the CDM in Latin America and the Caribbean, from the point of view of the integration of economic development and GHG mitigation.[9] Four main activities were carried out to perform the assessment:

1. Identification of each DNA and the person responsible for its operation. A table with this information is provided in Annex A.
2. Completion of individual country datasheets for basic gathering of information. The datasheets are presented in alphabetical order in Annex D.
3. Interview with the director/coordinator of each DNA to complete and clarify the elements necessary for the assessment.
4. Overall assessment of the information gathered.

The individual country datasheets gather general information on the current status of DNAs in Latin American and the Caribbean. For purposes of the analysis, this study focuses on those aspects that affect the DNA's ability to work with agencies (whether private or public) responsible for national economic development. The highlighted features are: number of projects, accountability, legal structure, funding, outreach, staffing, project approval criteria and influence on national policies.

Number of Projects

As discussed above, the region began experimenting with JI/AIJ projects in the 1990's. This early experience gave the region a head start in the identification of potential projects. The survey of DNAs performed for this study shows that 184 projects are in some stage of preparation and under review on the part of DNAs, and 39 of those have already received some level of national approval (Letter of Endorsement, Letter of Approval, or final National Approval). (See Table 2.)

The region has gained a clear leadership position in the market. Over the past two years the CDM market has transacted 62 million tons of CO2, forty million (64%) of which come from LAC.[10] Of a total of 51 CDM projects that had been presented to the Methodology Panel by May 6, 2004, twenty-two (43%) are located in Latin America and the Caribbean (for a complete list of LAC projects presented to Methodology Panel see Annex C), and six of the nine approved methodologies are for LAC projects.

[9] The Andean Center for Economics in the Environment (CAEMA) produced a more general study at the end of 2002, assessing thirteen DNAs in Central and South America relative to the requirements and responsibilities established by the Kyoto Protocol and the Marrakech Accords. The study concludes that there is a broad spectrum in the development of the region's DNAs and that most of them lack the financial stability to carry out their responsibilities in a sustained manner.

[10] Powerpoint presentation of Carbon Finance Unit of the World Bank, May 5, 2004.

Table 2: Projects underway in LAC

Country	Reviewed	Approval steps			
		LoE	LoA	N/A	Total
Argentina	30	0	0	0	0
Bolivia	8	0	3	0	3
Brazil	0	0	0	0	0
Chile	15	5	0	0	5
Colombia	35	0	1	0	1
Costa Rica	16	0	5	0	5
Dominican Republic	1	0	0	0	0
Ecuador	12	10	0	0	10
El Salvador	10	0	0	2	2
Guatemala	8	0	0	2	2
Honduras	5	0	0	0	0
Jamaica	1	0	0	1	1
Mexico	0	0	0	0	0
Nicaragua	17	0	0	3	3
Panama	20	0	0	3	3
Paraguay	2	0	0	1	1
Peru	3	0	0	3	3
St. Lucia	0	0	0	0	0
Trinidad & Tobago	1	0	0	0	0
Uruguay	0	0	0	0	0
TOTAL	184	15	9	15	39

Note: Approvals are designated as a Letter of Endorsement (LoE) or Letter of Approval (LoA) where specified by the DNA; otherwise they are grouped under "N/A."

While it is undeniable that the LAC region has more experience with international emission reductions than any other region in the world, the following analysis makes evident that the region's DNAs have a surprisingly limited capacity to successfully mainstream GHG mitigation into economic development patterns.

Accountability

With very few exceptions, DNAs in LAC report to the Ministry of Environment or its equivalent (ENV in table below). In fact, in most of the smaller countries (Costa Rica, Dominican Republic, El Salvador, Honduras, Nicaragua, Panama, Paraguay, St. Lucia and Trinidad and Tobago) all three climate-related responsibilities are housed in the Ministry of the Environment. (See Table 3 for a comparison of the seat of the DNA, the UNFCCC focal point and the GEF focal point in each country.)[11] However, this is not always the case. In the other countries the responsibilities are divided between the Ministry of the Environment, the Ministry of Foreign Affairs and

[11] For contact information of DNA, UNFCCC focal point and GEF focal points see Annex B.

sometimes yet a third Ministry or other agency. In seven of the larger countries (Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, and Peru) the UNFCCC focal point is housed in the Ministry of Foreign Affairs (FA in Table 3).

This division of institutional responsibility and accountability suggests that at least in those seven larger countries, the political aspects of the Climate Change Convention could be considered a foreign policy issue, while the technical implementation (either through the DNA or through climate related projects of the GEF) is considered a domestic environmental issue. It could also suggest that mainstreaming climate change is not solely a domestic issue, but rather one that has international implications that must be considered.

Table 3: Institutional Location of DNA, UNFCCC and GEF Focal Points

Country	DNA	UNFCCC Focal Point	GEF Focal Point
Argentina	ENV	FA	FA
Bolivia	ENV	ENV	EXTERNAL FINANCING, HACIENDA
Brazil	SCIENCE &TECH	FA	FA
Chile	ENV	FA	ENV
Colombia	ENV	FA	FA
Costa Rica	ENV	ENV	ENV
Dom Rep	ENV	ENV	ENV
Ecuador	ENV	FA	ENV
El Salvador	ENV	ENV	ENV
Guatemala	INDEPENDENT	ENV	ENV
Honduras	ENV	ENV	ENV
Jamaica	METEOROLOGY, ENV, RESOURCE COUNCIL	METEOROL	ENV
Mexico	ENV	FA	FINANCE
Nicaragua	ENV	ENV	ENV
Panama	ENV	ENV	ENV
Paraguay	ENV	ENV	ENV
Peru	ENV	FA	ENV
St. Lucia	ENV	ENV	ENV
Trinidad & Tobago	ENV	ENV	ENV
Uruguay	ENV	ENV	FA

Note: The following abbreviations are used: Foreign Affairs (FA), Environment (Env).

Legal structure

With the exception of Guatemala, all DNAs in Latin America and the Caribbean are public entities. There are two reasons for this. The AIJ phase proved that it is difficult- at least at this early stage of the climate regime- to finance these national mitigation programs. Thus most privately run AIJ offices were not able to sustain operations. In addition to scarcity of funds, some countries (i.e. Ecuador, Bolivia, Argentina, El Salvador) had already made the decision

during the AIJ phase to keep the program as a public service, so that the government can have direct control of the project approval process, given the fact that emission rights are considered a public good.

Table 4: Legal structure and funding sources

Country	Legal structure	Board	Funding
Argentina	Unit of Min of Environment and Sustainable Development	Executive- public Advisory- mixed	Public
Bolivia	Unit of Min of Natural Resources and Environment	NO	Public/UNEP/RISO/ Dutch gov
Brazil	Inter-ministerial Commission	Public	Public/GEF/
Chile	Ministry of Environment	NO	Public
Colombia	Unit of Min of Environment	NO	NSS of WB/ CAF/ Public
Costa Rica	Unit of maximum disconcentration in Ministry of Environment	Mixed	Public
Dominican Republic	Ministry of Natural Resources and Environment	NO	NSS of WB/ Japan/ Canada/ Public
Ecuador	Ministry of Environment, and one mixed institution	Mixed	CAF/UNEP/RISO
El Salvador	Unit of Min of Natural Resources and Environment	NO	Finland/ Public
Guatemala	Mixed	Mixed	None. Bilateral promised
Honduras	Min of Natural Resources and Energy	NO	Canada/ Public
Jamaica	Two Ministries One research Council	TBD	Japan/ Public
Mexico	Unit in Min of Environment	NO	Public
Nicaragua	Semi autonomous in Min of Natural Resources	Mixed	UNDP/ Public
Panama	Unit in Ministry of Environment	NO	UNDP/ GEF
Paraguay	Unit in Ministry of Environment	NO	GTZ/GEF/ Public
Peru	Unit in Ministry of Environment	NO	NSS of WB/ Public
St. Lucia	Ministry of Environment	NO	Public
Trinidad & Tobago	Ministry of Environment	NO	Public
Uruguay	Unit in Ministry of Environment	Mixed	Canada, NSS of WB/ Public

In most cases today, the DNA is a Unit created within the Ministry with authority over issues related to the environment and/or natural resources. In some cases (Chile, Dominican Republic, Ecuador, Honduras, Mexico, St. Lucia, and Trinidad & Tobago), the Ministry itself is the designated national authority. In Brazil, it is a commission created by and representing several ministries. (See Table 4 for a summary of the legal structure and funding sources of DNAs in

LAC.) While these public sector DNAs have the advantage of enjoying some financial stability, their location in the Ministries weakens their ability to interface effectively with economic development actors for several reasons: (1) the environmental agencies are typically one of the weakest in the array of governmental agencies; (2) they are perceived as enforcers of rules and regulations that the private sector typically resist; and (3) they do not have an entrepreneurial approach to their operations. Thus, they are not viewed as natural allies of the private sector or of other governmental agencies of economic development, and must overcome this perception barrier in order to work with these actors.

Some DNAs have sought to overcome this barrier by integrating a mixed supervisory board, often called an Executive Board or Advisory Board. In Brazil, this board combines various public agencies with potential interest in GHG mitigation activities. By contrast, in Argentina, Ecuador, Guatemala, Mexico, Nicaragua and Uruguay these boards extend beyond the public sector to include representatives from the productive private sector, NGOs, and academia. However in all these cases, the role of the boards is only to advise the DNA on the implementation of the CDM, including methodologies and project identification.

As discussed in the Introduction of this study, the relationship between the DNA and other agencies of economic development is a two-way street. The DNA can use other agencies/stakeholders for advice and consultation on its own operation, or the DNA could actually attempt to influence policy in some of the GHG intensive sectors in order to promote more climate friendly economic growth. The latter would constitute the mainstreaming of climate change concerns into the economic development model, but it is sadly not usually the case in LAC. In the best of cases, DNAs in the region use other agencies/stakeholders on a consultative basis for defining methodologies and identifying potential projects for the CDM. The DNAs do not attempt to integrate climate considerations into the development of more climate friendly sectoral policies that would serve as the basis for sectoral transformation.

Sources of funding

The DNA's sources of funding are closely related to the legal structure. As seen above, with few exceptions, public sector DNAs are supported through government appropriations or the operating budget of the respective Ministry. In some cases, initial support for institution building has been provided by multilateral programs such as UNDP/GEF or UNEP/Risø. Most of the DNAs have received bilateral technical assistance and donations from the government of an industrialized country (primarily Canada, Finland, Germany, Japan, and The Netherlands). Given the national interests of the donors, it is not surprising that this funding focuses on supporting the institutionalization of the DNA and building a portfolio of prospective CDM projects. Foreign funding is not directed toward influencing national policies since the donating countries are interested in specific projects that will produce emission reductions, and they wish to avoid the appearance of intruding on the sovereignty of the developing country by attempting to influence national policies. Thus DNAs have no funding to support their potential linkages to other agencies of economic development for purposes of influencing the carbon intensity of future national economic growth.

Mandate

According to the Marrakech Accords, the only mandatory function of a DNA is the evaluation/approval of CDM projects. The only international requisite for the DNA is that it have the authority to emit a formal letter of approval for a project, stating that the project assists the

country in "achieving sustainable development." Third-party validation and registration of a CDM project cannot occur without this national approval letter. The regulatory function can – as an option- include an assessment of the GHG aspect of projects, such as baseline and additionality. A favorable assessment might increase the probability of validation and certification, but such an assessment is not a required step of the DNA evaluation.

In addition to the regulatory function, the DNA may also choose to perform some promotional functions such as outreach to the various sectors of the economy, capacity building, and marketing. These functions are not internationally regulated, but they offer the DNAs the opportunity to reach out to other agencies of economic development.

This possibility of linkage is not being fully utilized in LAC. Some of the DNAs have made a conscious decision to limit themselves to the obligatory regulatory mandate, a function that fits well within the traditional, normative role of an environmental agency, but which falls short of the potential of a DNA. The government of Brazil has decided that it will do no promotion of the CDM as it argues that this responsibility lies in the sphere of the private sector. While the DNA will evaluate projects on a conditional basis, there is no institution with the responsibility of promotion. The governments of Peru and Ecuador have also determined that their DNAs will only evaluate and approve projects. However, the promotional responsibilities are assigned to other institutions. Ecuador has created a separate, mixed entity for the express purpose of promoting the CDM and supporting project developers in the preparation of documents. Peru has delegated CDM promotion to two existing public sector institutions: an environmental fund and the export promotion agency. (See Table 5 for a summary of the mandate, current outreach and influence on national policies.)

Outreach

Other than the three above-mentioned DNAs, all others state that they engage in both regulatory and promotional activities, although in most cases there is no established outreach and dissemination program. Outreach to other economic development agencies and stakeholders tend to occur in a limited way and on an ad-hoc basis, through workshops and informal meetings. This is not entirely surprising, since the role of raising awareness about the potential of the CDM as a financial mechanism for economic development is not only optional for the DNAs, but promotion in general is typically not in the purview of environmental agencies.

Colombia, Costa Rica, Argentina and Ecuador could be the exceptions to this general rule. Argentina's Sector Commissions, composed of public and private sector representatives, were formed to identify potential CDM projects in the respective

Table 5: Mandate, outreach and influence on national policies

Country	Regulatory or Promotional	Outreach	Influence on National Policies
Argentina	Both	Sector Commissions for CDM methodology and project identification	No indication
Bolivia	Both	none	CDM key instrument to assist national goals on sustainable dev
Brazil	Regulatory only	None- not government's role	No by decision
Chile	Both	Council of Ministries and private sector in advisory role	No
Colombia	Both	Sector planning entitites for CDM methodology and project identification	National Development Plan goal of mitigation and tax incentives
Costa Rica	Both	Ad hoc but effective	Economic valuation of CO2 offsets and environmental services being paid. National Development Plan 2002-2006 alludes to CDM as priority mechanism
Dominican Republic	Both intended	none	No
Ecuador	Both but separate institutions	Tools for project design being prepared	Carbon as issue in sectoral policies
El Salvador	Both	none	No indication
Guatemala	Both	none	None
Honduras	Both	Ad hoc to private sector	All new energy projects must be considered for CDM potential
Jamaica	Both intended	TBD	TBD
Mexico		TBD	TBD
Nicaragua	Both	Ongoing basis	Small scale RE included as development goal
Panama	Both	Sporadic workshops	No indication
Paraguay	Both	none	No indication
Peru	Both but separate institutions		No
St. Lucia	Both	Workshop	No
Trinidad & Tobago	Both	Being developed	No
Uruguay	Both	Workshop	Program for Mitigation and Adaptation of "ministerial interest"

sectors, and offer technical assistance on methodologies suitable for each sector. In Costa Rica, the JI/CDM office has worked for years with the private energy and forestry sectors to identify projects and develop baseline and monitoring methodologies. In the past two years the DNA in Colombia has developed work plans with the different planning entities of the various sectors exhibiting mitigation potential. In Ecuador, specific outreach strategies and tools are being developed by CORDELIM, the institution in charge of CDM promotion.

Influence on national policies

An ideal integration of economic development and GHG mitigation would see DNAs developing policies that would lead the relevant sectors (energy, industrial, forestry, etc,) to become less carbon intensive over time, thus mainstreaming climate considerations into the economic growth model. Examples of these measures might include financial schemes to encourage the diffusion of energy efficient technologies, tax reductions for renewable energy generation plants, incentives for reforestation, etc. There is little evidence of such processes in Latin America and the Caribbean.

Most DNAs are limiting themselves to project identification and evaluation, without the aspiration of changing economic development policy. However, in some countries there is at least a mention of climate considerations in sectoral policies. In Ecuador, carbon management is referred to in the policy agenda of key sectors, albeit on a descriptive level and not as the basis for specific measures. In Honduras, all new renewable energy projects are screened for their CDM potential. In Nicaragua, the DNA influenced the country's National Development Plan to include small-scale renewable generation as a developmental goal. Moreover, in Uruguay, the National Program for Mitigation and Adaptation has been declared of "ministerial interest."

The two countries where climate considerations are actually beginning to have a discernible impact on sectoral policies are Colombia and Costa Rica. In Colombia, the National Development Plan includes specific goals for the implementation of emissions reduction projects and a target of $30 million in certified emission reductions. As an incentive to CDM projects, and in order to widen the circle of beneficiaries from the CDM, an income tax exemption is offered to those CDM projects in Colombia investing 50% of the value of their CERs in activities with social benefits.

In Costa Rica all private sector energy generation must come from renewable sources, and the percentage of privately held generation plants was raised from 15 to 20% of the installed generation capacity. The irony of the Costa Rican case is that the Methodology Panel of the CDM is interpreting renewable energy projects built to comply with the quota of private generation as non-additional. Indeed, Costa Rica offers the clearest example in the LAC region of the disincentives created by the CDM that impede its becoming an instrument of effective sectoral decarbonization. Despite this setback, the current National Development Plan 2002-2006 insists on the importance of continuing to explore the CDM as a mechanism for development.

Staffing

DNAs are typically constrained in terms of both financial and human resources. Understandably, the tasks that are given priority are the obligatory ones of regulatory nature. The director or coordinator of the DNA must keep abreast of the increasingly intricate regulations governing CDM projects. In many cases, a DNA is staffed with only one or two people who may work only part-time. This limited staff will lack the capacity to reach out effectively to the private sector or other agencies in the public sector. Of the twenty DNAs surveyed, only five of them have staffs of more than one or two full-time employees. In those few exceptions (Argentina, Bolivia, Brazil, Colombia, and Uruguay), additional members of the DNA staff tend to be technical people whose primary function is the evaluation of projects in a particular sector. Only as a secondary priority do they engage in outreach to stakeholders in their specific sectors. Thus from a sheer staffing point of view, there is very limited possibility to effectively link with other agencies of economic development.

Table 6: Criteria for approval

Country	Technical criteria or SD evaluation	SD indicators
Argentina		
Bolivia	SD and participation of State in CERs	Congruence with current SD policies
Brazil	SD only	Congruence with current SD policies
Chile	SD only	TBD
Colombia	SD only	Congruence with current SD policies
Costa Rica	Both	EIA and congruence with current SD policies
Dominican Republic	TBD	TBD
Ecuador	SD only	Congruence with current SD policies and legal framework
El Salvador	SD only	EIA
Guatemala	SD only	Sector guidelines
Honduras	SD only	EIA
Jamaica	Both TBD	TBD
Mexico	TBD	TBD
Nicaragua	SD only	Congruence with current SD policies
Panama	Both	EIA
Paraguay	SD only	Congruence with current SD policies
Peru	ISO	
St. Lucia	TBD	TBD
Trinidad & Tobago	Both intended	no
Uruguay	Both: MATA criteria for CDM	Yes

Criteria for approval

All CDM projects are ultimately evaluated on two main criteria: GHG related technical criteria (baseline and additionality) and sustainable development contribution. As discussed above, DNAs have the option of evaluating potential projects on both levels, or only assessing sustainable development. Table 6 below shows that the vast majority of countries in LAC have shied away from the technical evaluation which will subsequently be performed by the Designated Operational Entities[12], and have limited themselves to the sustainable development criterion.

[12] Designated Operational Entities (DOE) are third parties with the responsibility validating, verifying and certifying emissions reductions in projects. In 2002 CSDA and Lawrence Berkeley National Laboratory (LBNL) provided sixteen LAC companies with the technical skills that would enable them to seek DOE status under the UNFCCC. However, the subsequent determination of prerequisites (financial and legal) seems to indicate that only large international companies will be able to attain designation. Smaller regional companies will probably be able to participate in the UNFCCC process only as "external experts" within the framework of strategic alliances with the international companies.

As discussed at the beginning of this paper, one of the main purposes of the CDM is to help developing countries "achieve sustainable development". *Achieving* sustainable development is a significantly higher goal than ensuring that projects are compatible with ***current*** environmental and development priorities and strategies. Achieving sustainable development requires reducing the carbon intensity of key sectors, a major shift away from current economic growth patterns. Unfortunately, as this lofty CDM goal has been applied to the local and national contexts, the criterion of achieving sustainable development has been recast as the ***project's*** congruency with the ***existing*** legal framework and sectoral guidelines, most of which are not carbon friendly. The contribution to sustainable development is thus not only minimized to the one specific project, but the criterion practically defeats its original purpose due to the need for congruency with existing policies which typically do not take climate impacts into account.

Overall

As a whole, the Latin American and Caribbean region has more experience with international emission reductions than any other region in the world. However, despite this historical advantage, the region's DNAs have a very limited capacity to successfully mainstream GHG mitigation into economic development patterns. This handicap stems from two different sources:

1. **Design elements of the CDM:** a CDM based on individual project activities which must be consistent with existing sectoral policies severely constrains the ability of any developing country to use the CDM to decarbonize the economy. In the conclusions section of this paper an alternative approach is suggested for the CDM in second commitment period: a sectoral CDM, which encourages sectoral transformation through carbon friendly policies and measures.

2. **Institutional weaknesses:** as has been shown, DNAs in LAC typically have a public sector outlook, low level funding, scarce staffing, and a regulatory mandate, all of which act as clear limitations to the DNAs' capacity to pursue both GHG mitigation and economic development goals. It remains to be seen whether a potential future evolution of the CDM as a global instrument would also lead to an enhancement of the potential of DNAs worldwide.

3. CASE STUDIES

The second part of this study presents five case studies focusing on successful and/or unsuccessful linkages between climate change programs and other public institutions in charge of economic development. As the spectrum of such institutions is ample (ministries, development banks, multilateral organizations, private sector, civil society, etc), each case study identifies the institutions which are relevant in the particular country. The purpose of the case studies is to provide a comparison of experiences, and to allow for an identification of best practices and likely factors that have contributed to effectively linking economic development efforts with climate change initiatives in LAC.

The five countries chosen for the case studies are: Brazil, Colombia, Costa Rica, Ecuador and Mexico. As a group, these countries represent a broad array of realities in the region, both in terms of CDM institutionalization as well as in regard to the integration of climate concerns in sectoral policies. Brazil was chosen as an example of a country in which the government is not actively promoting the CDM, but is strongly supporting climate change research that could lead to important mitigation programs at home and abroad. Colombia was chosen for its current decisive leadership in integrating climate concerns into diverse sectoral policies. Costa Rica was selected as a country whose early climate friendly sectoral policies are now a barrier to participation in the CDM. Ecuador and Mexico were chosen as two countries committed to climate change actions but at very different stages of institutional preparation. Mexico has only just recently established the entity that will be responsible for mitigation projects, while Ecuador is the epitome of CDM institutionalization.

The case studies are presented in alphabetical order. Each of them provides a background of JI-, AIJ- and CDM-related activities in the country, an overview of current institutional arrangements, a summary of other sectoral initiatives with implications for national GHG emissions (e.g. energy, transportation, agricultural, waste management, etc), an analysis of the country's experience to date with CDM (projects presented to the Methodology Panel for review, results of that process), and an assessment of opportunities/ need for future support.

BRAZIL

1. Background – History of JI-, AIJ- and CDM-related activities in Brazil

Brazil has a firm commitment to the UNFCCC. Starting in the year 1996, the Ministry of Science and Technology (MCT),[13] through UNDP and sponsored by GEF, US Country Studies Program and the National Energy Agency, has worked on the National GHG Inventory. UNDP also sponsored a capacity building project for MCT from 2001 to 2003 to support the country's commitments under the UNFCCC, as well as to develop projects that raise public awareness on climate change issues.

[13] Portuguese acronym.

The creation of the CDM, as one of the flexibility mechanisms in the Kyoto Protocol, is the consequence of the work of Brazilian negotiators. As has been discussed in the Introduction to this paper, during COP3 the Brazilian delegation proposed a clean development fund in which the principles of common but differentiated responsibilities, and polluter pays, were taken into account. The clean development fund was intended to fund adaptation activities in developing countries by having industrialized countries pay a penalty for not meeting their assumed reduction commitments. The concept was subsequently changed to become the CDM.

In Brazil, CDM activities are coordinated by the General Global Climate Change Coordination (GCCC), as is the more general Climate Change Program started in 1996. The GCCCC advises the MCT on the implementation of the Convention, follows the scientific work of the IPCC, and participates in the international negotiations of UNFCCC. However, there are many projects related to CDM activities that are implemented by other institutions and or ministries, as described in section 4 of this document.

2. **Overview of current institutional arrangements**

The Brazil Inter-Ministerial Commission on Global Climate Change (CIMGC[14]) established by Presidential Decree on July 7, 1999 delegates the daily operation to the Executive Secretariat (ES) of the Commission. The ES is in fact the GCCC and is responsible for the following functions:

- Advise the MCT on the implementation of the Convention;
- Follow the IPCC scientific works and the international negotiations of UNFCCC, as well as manage the dissemination of IPCC reports and documents to the national experts;
- Advise the country's representatives on the UNFCCC negotiations;
- Coordinate the implementation of the UNFCCC and the National Inventory;
- Coordinate the Climate Change Program, which involves the initiatives described in the next section of this document.

The CIMGC is the Designated National Authority (DNA) and therefore responsible for:

- Advising on proposals for sectoral policies, legal instruments and regulations that contain relevant components for mitigation of climate change and adaptation;
- Supporting the government in negotiation of the UNFCCC and/or instruments thereof;
- Defining the national eligibility criteria according to the national strategy for sustainable development, and in consonance with the international criteria established by the CDM Executive Board;
- Evaluating and approving potential CDM projects;
- Promoting actions of the governmental bodies and private sector toward complying with the Brazil commitments under the UNFCCC and its instruments.

[14] Portuguese acronym.

The procedure for evaluating and approving CDM projects is established in the CIMGC resolution published September 11, 2003. Project documents must be submitted prior to the bimonthly meeting and the CIMGC has 60 days to perform the evaluation, which is assessed only in terms of the sustainable development component. Projects must present a full Project Design Document (PDD) as well as the validation from an independent Operational Entity. Approval requires a 2/3 vote from the total of nine Ministries that conform the CIMGC. If issued a Letter of Approval, that approval is contingent on the Kyoto Protocol going into effect. While the decision to not fully endorse CDM projects until the KP has entered into force is based on a legitimate legal analysis of the KP, the Brazilian government's position hindered the development of projects in Brazil, and kept prices low.

3. Other sectoral initiatives with implications for national GHG emissions

In contrast to its passive role in the promotion of the CDM, the Brazilian government is strongly supporting climate change research that could lead to important mitigation activities both domestically and internationally. Faced with a balance of trade crisis, in the 1970's Brazil began an ethanol production program, which sought to produce vehicular fuel from national sugar cane production in order to reduce fossil fuel imports. The rise and fall of both fossil fuels and sugar cane have affected this program over the years, which in times of low fossil fuel prices survived due to a federal subsidy. However, the subsidy was cut in 1992 when the competitiveness of national alcohol production was strengthened. Over the past ten years approximately 50 % of all vehicles have been ethanol fueled. Responding to a growing market, the Brazilian automotive industry has recently developed bi-fuel vehicles, which can use either alcohol or gasoline. The industry projects that ten percent of new vehicles sold this year will be bi-fuel.

With the support of the GEF and of the US Country Studies Program, the government of Brazil is currently developing two projects that investigate possibilities to reduce methane emissions. One project focuses on agricultural practices that might reduce methane emissions from flooded rice fields, the other is concemed with biogas recovery from anaerobic sewage treatment plants. (For a full description of the projects see Annex E of this study). Both efforts have the potential to not only lead to national policies and practices which would reduce GHG emissions, but also have important implications for rice production and anaerobic sewage plants worldwide.

4. Experience to date with CDM

Brazilian climate change institutional arrangements are designed to support research and/or to provide the legal procedures for the private sector to access the carbon market through the CDM, as described above.

Although the government of Brazil does not promote the use of the CDM and has been slow in establishing the procedures for approval of projects, the Brazilian private sector has been very active for years. Many projects have been under preparation, feeding a pipeline of projects that have not been able to access the international market due to the absence of any approval procedures in Brazil. The recent decision to begin to evaluate and approve, even if on a contingency basis, finally opens the door to CDM projects. Four of the nine projects currently approved by the Methodology Panel and CDM Executive Board are in Brazil (landfill gas in Salvador da Bahia, bagasse cogeneration in Vale do Rosario, and Nova Gerar and Tremembe landfill gas to energy projects). Considering that Brazil is a member of the CDM Executive Board, it is not unreasonable to think that the country's institutional arrangements may in the future be more supportive of a prompt start of CDM activities.

5. Assessment of degree of integration of CDM issues into process

The DNA is composed of nine representatives of different ministries. However, there still is a lack of knowledge in most of the institutions represented in the DNA, as well as la ack of human resources to attend the CIMGC meetings, which is where the CDM projects will be analyzed under the prism of sustainable development and considered for approval. The past lack of definition of an approval process, and the current complexity of the approval process has lead to frustration on the part of the private sector. Some private sector representatives have resorted to political pressure to get their projects considered. Ironically, while the government seeks to exert a tight control over potential CDM projects, it is possible that the independent role of the DNA could be weakened by political pressure. Conversely, as discussed above, Brazil does appear to be making progress integrating GHG mitigation into other government lead development activities.

COLOMBIA

1. Background – History of JI-, AIJ- and CDM-related activities in Colombia

Colombia has been very active both in climate change negotiations and in its national efforts to implement the Convention and the Kyoto Protocol. This is demonstrated by the wealth of specific projects and by the advanced processes and institutions.

Colombia approved the Climate Change Convention through Law Nº 164 of 1994, and has been a Party since June 20, 1995. The Kyoto Protocol was approved by the Congress of the Republic through Law Nº 629 in December, 2001. The country has shown an interest in cooperating with the government and companies of Annex I Parties in the fulfillment of their greenhouse gases emission reduction commitments through the CDM. Colombia acknowledges the opportunity given by the Climate Change Convention and the Kyoto Protocol to strengthen the cooperation and integration bonds with the international community and to contribute to its sustainable development. For that purpose, it has assigned the necessary resources and has carried out the relevant actions in order to become an active and useful actor in the fulfillment of the Convention's objective.

Some of the actions taken by the country are:

a. Studies, inventory and national potential: The first priority action has been the inventory of greenhouse gas emissions and mitigation opportunities in Colombia. Working together, the different sectors and institutions identified and quantified the sources and the sectors where GHG capture and reduction projects investments are more attractive. As foreseen both in the Convention and in the Protocol, the participation of international technical cooperation sources has been essential for the development of these activities:

   - National Strategic Study for CDM Implementation in Colombia. With the support of the Government of Switzerland and of the World Bank's National Strategic Studies (NSS) Program[15], the Colombian NSS was carried out during 1999-2000, with the purpose of

[15] NSS Program is discussed below under the Current Capacity Building Programs section.

analyzing the emission reduction potential in the country, and the strategies to maximize the potential benefits of the CDM in Colombia. The study determined that there is a reduction potential of 22.9 million of tons of CO2 per year in the electric power, cement, sugar cane, and agro-forestry sectors. The study established an Action Plan for the implementation of CDM in the country, defining activities to strengthen project development capacity, support the marketing and financing of the project portfolio, and develop the institutional capacity to manage the CDM.

- First National Communication (1998-2001). The Hydrology, Meteorology and Environmental Research Institute *(Instituto de Hidrología, Meteorología y Estudios Ambientales – IDEAM)* developed the necessary studies to comply with Article 4 of the Climate Change Convention, concerning the commitment of all the Parties to elaborate and submit a greenhouse gases anthropogenic emissions inventory. The Global Environmental Facility (GEF) provided the financial resources to carry out this study.

b. Project Portfolio and Training: One of the main barriers for the implementation of the CDM is the lack of knowledge on the part of the sectors with project formulation potential. Due to the fact that the state has privileged access to the information, one of the most important tasks has been the dissemination of the acquired knowledge. Promotional and training activities include:

- CERI-COLOMBIA-CIDA Project (2001). Within the framework of this cooperation Project between the Colombian Ministries of the Environment, Mining and Energy, and the Canadian Energy Research Institute, a component was developed aimed at developing the CDM project preparation capacity and implementing a CDM marketing tool between Colombian and Canadian institutions and companies.
- Identification of capacity development needs (2003-2004). With resources of the Global Environment Facility, the Ministry of the Environment, Housing and Territorial Development is developing a project to identify the national capacity development needs to implement the Climate Change, Biological Diversity and Desertification Conventions in the country. Actions were directed towards strengthening Colombian institutions with the potential to facilitate the preparation of CDM projects. Special attention was paid to base line methodologies in the energy and forestry sectors.

c. International Cooperation Agreements: International cooperation agreements are an essential component for the successful implementation of the CDM in Colombia. They facilitate the interaction between project proponents and international investors, reducing transaction costs and increasing the competitiveness of the Colombian CDM projects. The marketing strategy of the Colombian portfolio is based mainly on these agreements.

- Prototype Carbon Fund – PCF (2001). Colombia is part of the World Bank's PCF Host Country Committee, being thus able to submit CDM projects to the Fund. Currently, two renewable energy (one wind and one hydro) projects have been submitted to the Fund, one of which has been approved by the PCF and the other being evaluated.
- Bilateral Agreements. Colombia is interested in signing and developing cooperation bilateral agreements for the CDM. Through these agreements, efforts could be coordinated to identify, evaluate, approve and implement CDM projects. To date, three Memoranda of Understanding have been signed with Canada (2001), the Netherlands (2002) and France (2003).

2. Overview of current institutional arrangements

As a result of the NSS conclusions and recommendations, institutionalization for the CDM began in the middle of the year 2002. The CDM requires that projects be approved by the Designated National Authority (DNA) and so it was necessary to have an efficient, clear and transparent institutional structure that would facilitate the submission of top quality projects without unduly increasing transaction costs. Under this premise, three efforts were undertaken:

- Definition of the methodology and approval criteria for the selection of CDM projects in Colombia;
- Capacity building program for the participants of potential projects; and
- Marketing strategy for Colombian projects.

Currently, and as the result of the reorganization process of the Ministry of the Environment, Housing and Territorial Development, a Climate Change Mitigation Group operates in the Office of the Vice Minister of the Environment. It is in charge of the institutional support for the identification, formulation and marketing of Colombian CDM projects. Furthermore, activities to link the different private, public and non-governmental sectors are being developed in order to incorporate them into the Colombian strategy for the implementation of the CDM in the country.

Additionally, with the purpose of consolidating the commitment of all involved sectors and allowing synergies among them, the following instruments have been developed and officially adopted:

- National Development Plan 2002-2006. (Law Nº 812 of 2003). The National Development Plan sets a specific goal for the sale of climate change mitigation environmental services in the energy, transportation, waste management and forestry sectors over the four year term of this administration. The goal is to reach emission reduction sale agreements for a total of US $30,000,000 from an estimated eight projects. Officials estimate that CER income from those projects could reach $8 million over the next four years.
- Climate Change Policy Guidelines. The National Environment Council approved the guidelines on July 16, 2002. They aim at identifying the necessary strategies to face climate change threats, complying with UNFCCC commitments and leveraging opportunities arising from the climate change international agreements of which Colombia is a Party. The guidelines identify seven strategies and among them, the promotion of GHG emission capture and reduction projects under the CDM.
- Strategy approved by the Social and Economic Policy Council– (Consejo de Política Económica y Social –CONPES) in 2003. CONPES is a high level national agency directed by the President of the Republic through which instructions and priorities are given and defined for the whole nation. In view of this, and with the purpose of promoting the development of projects generating greenhouse gas emission reductions, the Ministry of the environment developed document Nº 3242: "Strategy and Actions for the Sale of Climate Change Mitigation Environmental Services", which was approved by CONPES. The following immediate activities are defined:

a. To request from the Ministry of the Environment, Housing and Territorial Development (MEHTD) the definition of the national approval criteria and procedure of CDM projects.
b. To request from the National Environment Council the creation of the Climate Change Mitigation Inter-sectoral Committee, to direct the mitigation policy and act as a consultative body in project approval activities.
c. To commend to the MEHTD the development of a promotion and training program, with special emphasis on Ministries, territorial entities, regional environmental authorities, strategic production sectors, education and research centers.
d. To request the Ministries of the Environment, Housing and Territorial Development, Mining and Energy, Transportation, Agriculture and Rural Development, and Commerce, Industry and Tourism the identification of potential synergies, with the purpose of including the sale of climate change mitigation environmental services concept in their policies, plans and programs.
e. To request the Ministries of the Environment, Housing and Territorial Development, Mining and Energy, Transportation, Agriculture and Rural Development, and Commerce, Industry and Tourism to identify any regulation which would conflict with the additionality requirement of the CDM. Considering that sectoral policies could cause projects that implement said policy to be deemed non-additional, the government wants to identify potential additionality conflicts early on.
f. To request from the Ministry of Commerce, Industry and Tourism, with the participation of the MEHTD, the development of recommendations for the promotion of the climate change mitigation environmental services and their inclusion in their export promotion policies and programs.
g. To request the Ministry of Foreign Affairs to strengthen diplomatic efforts to negotiate and reach memoranda of understanding on GHG reduction trade, according to the priorities set forth by the MEHTD.
h. To request from the MEHTD the identification of inter-institutional management options to formulate projects without generating conflicts between the jurisdictions of the DNA and the MEHTD.

3. Other sectoral initiatives with implications for national GHG emissions

With the purpose of strengthening capacity in the area, inter-sectoral work programs have been developed with the participation of public and private key actors in each of the sectors. These work plans seek, among other objectives, to identify potential projects. To date, the following joint work plans have been signed with the sectors:

- Mining-Energy Sector, with the Ministry of Mining and Energy and the Mining-Energy Planning Unit (Unidad de Planeación Minero-energética –UPME). The purpose of this work plan is to identify, characterize, give priority to, and disseminate the emission reduction opportunities in the sector, aiming at promoting and facilitating the prepartion and execution of CDM eligible projects. There are four interrelated phases, each of them contributing to a specific objective, and seven additional independent components:

a. Phases: i) diagnosis and determination of greenhouse gas emission levels; ii) identification of CDM projects opportunities; iii) definition of strategies to carry out the mitigation potential; iv) dissemination of results.
b. Specific Components: i) development of tools for the formulation of energy supply projects to the grid; ii) development of tools for the formulation of efficient energy use projects; iii) development of criteria for the approval of CDM emission reduction projects; iv) characterization of fuels and determination of emission factors; v) preparation of an increased refrigerator efficiency project profile; vi) determination of fossil fuel commercialization with emission compensation schedules; vii) enactment of the Law on Rational Energy Use.

- Non-Interconnected Areas Sector, with the Energy Solutions Institute, in charge of energy generation in non-interconnected areas. The work plan seeks to implement an off-grid electric power generation with renewable energy as a CDM pilot project. This work plan has three stages: i) diagnosis and preparation of a strategy to implement the CDM project; ii) preparation of the energy supply pilot project and, iii) execution of the pilot project. To date, phase II has been concluded.
- Agro-Forestry Sector, with the Ministry of Agriculture, the Hydrology, Meteorology and Environmental Research Institute –IDEAM, the Tropical Agriculture Research Center (Centro de Investigaciones de Agricultura Tropical – CIAT), PLANTE, the National Planning Department (Departamento Nacional de Planeación – DNP), CIPAV and CORPOICA. The objective of this work plan is to strengthen the national capacity to prepare, negotiate and execute climate change mitigation forestry projects. These are some of its specific goals:
    a. Establish an initial approach to the CDM forestry projects potential in the country (concluded).
    b. Support the negotiation process concerning the modalities and procedures for the forestry projects participation in the CDM, with the participation of the sector's actors (concluded).
    c. Develop tools in order to reduce costs, terms and uncertainties related to the project preparation, financing and execution. The tools to be developed are mainly: formats, guidelines and spreadsheets, as well as CO2 capture models for the species and regions with identified forestry potential.
    d. Prepare and execute a national CO2 capture forestry project with the participation of the sector's actors and according to the national forestry policies.
- Transportation Sector, with the Ministry of Transportation. The aim is to promote, through a pilot project, the formulation and execution of CDM projects in the transportation sector. There are three phases: i) diagnosis and preparation of a strategy to implement the CDM in the transportation sector, ii) articulation of the CDM to a transportation project, iii) execution of the pilot project. It is worthwhile noticing that the progress of this plan has been limited due to the existing methodology uncertainties concerning this type of projects in the Executive Board (EB) of the CDM.

4. Experience to date with CDM

Two Colombian projects (Jepirachi wind farm, and La Vuelta y La Herradura Hydroelectric Project) have been submitted to the Methodology Panel of the CDM. Both are still under consideration. (For a full list of LAC projects under consideration of the Methodology Panel and

Executive Board see Annex C). The experience with the Jepirachi Project, which in addition to reducing emissions, involves indigenous communities, has been essential for the consolidation of the CDM in the country. That project was approved by the PCF and four more are under review.

There are projects in preparation in all sectors. Mass transportation continues to be a key sector for the CDM, given the potential volume of reductions. The two most advanced projects in that sector are Transmilenio, a mass transit and urban infrastructure project in Bogotá that substitutes the old urban public transportation system with high-capacity buses on exclusive lanes, and Metro Cali which provides an extension to the urban underground transportation system in the city of Cali. However, the current methodological uncertainties continue to be a barrier to successfully completing the presentation of the carbon component of these projects.

One of Colombia's main concerns with the CDM has traditionally been the high transaction costs caused by the complicated CDM approval procedure. In an effort to reduce transaction costs for Colombian projects, the Instituto Colombiano de Normas Técnicas y Certificación (ICONTEC) is submitting an application to the EB to be designated as an Operational Entity. Should ICONTEC be designated, it will be the first OE in Latin America.

5. **Assessment of degree of integration of CDM issues into process**

As mentioned above, Climate Change concerns and particularly CDM opportunities are being successfully integrated into the policies of various key sectors. This was possible thanks to the inter-sectoral work plans, which provide broad input on the subject in addition to identifying the opportunities of each sector in the CDM. The challenge for Colombia now is to take these project opportunities forward into implementation and execution.

COSTA RICA

1. Background - History of JI-, AIJ- and CDM-related activities in Costa Rica

Costa Rica ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1994 through Law No. 7414. As of that same year the country initiated a number of actions aimed at achieving the institutional and legal requirements to promote the development of climate change mitigation projects under the Activities Implemented Jointly (AIJ) framework.

Joint Implementation Activities were implemented for the first time in Costa Rica by the Figueres Administration (1994-1998). During that period, the governments of Costa Rica and the US signed the first agreement of its kind in the whole Western Hemisphere entitled "Letter of Intent for Sustainable Development, Cooperation and the Joint Implementation of measures for the prevention and reduction of greenhouse gas emissions".

As a result of this agreement, in the year 1995 the Costa Rican Office for Joint Implementation (Oficina Costarricense de Implementación Conjunta - OCIC) was created through a cooperation agreement among governmental agencies, non- governmental organizations and the private sector. As of then, OCIC became the national authority that facilitates investments, provides general guidelines, evaluates joint implementation draft projects, monitors projects, submits reports to the UNFCCC Secretariat, and represents the Costa Rican Government in negotiations

of the Convention and other multilateral and bilateral entities. In view of its success, in 1996 OCIC was promoted to a higher legal level, guaranteeing that its policies would be binding to governmental and private entities at the national level.

During this period, the country defined the three priority sectors that would be developed through the joint implementation concept: the forestry sector through the territorial and financial consolidation of protected areas and the promotion of productive forestry activities in private lands, the energy sector through the production of energy through renewable sources and the transportation sector.

The country has entered into a number of bilateral agreements with the purpose of enhancing the project investment environment. In 1996, the first agreement was signed with the Norwegian government, which allowed for the first ever transaction of greenhouse gas mitigation certificates from the forestry sector in the amount of US$2.0 million. Agreements have subsequently been signed with Switzerland, Finland, Mexico, the Netherlands and Canada.

Between 1995 and 1998, the country developed ten AIJ projects overall: four JI projects in the forestry sector, five in the energy sector and one in the agriculture sector, with a joint emission reduction potential estimated in 23.0 million tons of carbon. All projects were submitted to the consideration of their Norway and US partners (USIJI). The only ones that reached some kind of carbon transaction were the ECOLAND conservation project (concluded), the ICAFE/BTG residual waters treatment project (concluded), and the Klinki Reforestation project (under development). The PAP conservation project was suspended. In the case of the five energy projects, they are all being executed without carbon sales and hence under challenging financial conditions. The Tejona wind farm project was the only energy project to achieve emission reductions transactions, being at the time the largest greenhouse gas emission transaction worldwide for an amount of US$4.5 million from the government of the Netherlands.

During this period, the bases for participation in the CDM were established within both the private and the governmental sector. With the ratification of the Kyoto Protocol, and the signing of agreements with the Netherlands and Canada, the country initiated a new stage of projects that leveraged new multilateral and bilateral initiatives, such as the PCF and CERUPT. Six energy projects were submitted to the PCF, of which two have entered into emission reductions purchase and sale agreements for 269,000 tons of CO2, for an approximate value of US$940,000. There is an additional portfolio of three projects with a 10-year emissions reduction potential with the Netherlands and its CERUPT international bidding process. The total reduction potential is 3,847,570 tons CO2.

During the CDM phase, the development of forestry projects has been limited in view of the uncertainties that have arisen around these activities within the negotiations. However, the country has been very active in the negotiations regarding modalities and procedures for the consideration of forestry activities in the CDM for the first commitment period.

2. Overview of current institutional arrangements

As part of the process of adjustment to new participation requirements and rules, OCIC has entered a process of reformulating its objectives and functions. Recently, the President of the Republic has signed a new Executive Decree for the OCIC, by virtue of which new functions have been assigned and the office has been made the CDM Designated National Authority.

Likewise, the Climate Change Consultative Committee has been reestablished, composed of representatives of the government sector (Environment, Foreign Relations, National Emergencies and National Meteorology), academia (Academy of Sciences, National Committee of University Rectors) and civil society (FUNDECOR, the forestry sector NGO). The Committee's purpose is to serve as the instrument of dialogue, consensus and coordination among the relevant sectors of Costa Rican society regarding policies and measures aimed at ensuring the preservation of the climate, mitigation of the adverse effects of climate change and introduction of adaptation measures.

The government's promotion and support of mitigation projects enjoys significant national prestige. In 2002 representatives of the private forestry and energy sector formed the Costa Rican Association for Joint Implementation with the purpose of cooperating with the efforts undertaken by the Ministry of the Environment via OCIC, for the promotion of new environmental protection alternatives with economic benefits through the UNFCCC and the CDM. Working within the public and private sectors, the Association promotes the development of projects that use clean technologies to reduce greenhouse gas emissions, that offer carbon sinks, produce electric power generation through renewable sources or reduce energy consumption.

3. Other sectoral initiatives with implications for national GHGs emissions

Outside the realm of the CDM, Costa Rica has launched several initiatives with national GHG emission implications in various sectors. The most successful carbon management program is the Payment of Environmental Services program, which has helped to reverse the deforestation trend, has contributed to increasing forest cover, and has reduced one of the main sources of national GHG emissions. In the electricity sector, a project is underway to provide 178 communities not connected to the grid with renewable energy, and in the transportation sector, the government is experimenting with electric and hybrid vehicles in an effort to eventually reduce fossil fuel imports. (For a full description of the projects see Annex E of this study).

4. Experience to date with CDM

Costa Rica submitted seven projects to the Dutch bidding process through Senter International, and qualified three of them. One of them was the Peñas Blancas Hydroelectric Project, whose base-line methodology was submitted by DNV for the consideration of the CDM Methodology Panel in May, 2003. This methodology was not approved by the Panel. It was considered non-additional, since the project is part of the expansion plan. This decision demonstrated how important it is for those countries with central energy planning and renewable energy sources, for national circumstances to be considered in both the methodological analysis of the base line as well as in the development of additionality tools The fact is that Costa Rica's energy and forestry situation would be very different today were it not for the country's efforts to contribute to global emission reductions, efforts which have been in effect since the country signed the UNFCCC. Those efforts should be recognized positively, instead of being penalized by methodologies that deem such efforts "non-additional".

During the fourth methodology submittal round, KPMG from the Netherlands submitted the Cartago de Holcim Costa Rica Cement Plant Expansion Project, which is currently being evaluated by the Meth Panel. (For a full listing of the LAC projects submitted to the Methodology Panel and Executive Board see Annex C).

With respect to forestry projects, there is no CDM experience at all. Currently, with technical assistance of the South American Forestry and Climate Change Project (PBCC), coordinated by FAO and financially assisted by the Government of the Netherlands, a CDM project proposal is being developed with small owners grouped under a partnership scheme in a rural area, with the FONAFIFO as the project's supervisor. Interesting insights may emerge from this proposal, which could lead to the development of small-scale LULUCF methodologies for the future. Costa Rica sees great social and economic potential in small land use projects. However, this type of projects should not be questioned on their additionality on any other grounds than their compliance with the already approved definitions of forestry in the climate negotiations.

5. Assessment of degree of integration of CDM issues into process.

Costa Rican law provides many examples of how mitigation efforts have guided national development over the past ten years. Since 1994, Costa Rica has taken concrete actions in the UNFCCC framework to create and execute projects in the energy and forestry sectors that contribute to GHG emission mitigation.

In fact, climate change is not new to Costa Rican legislation. The 1973 General Health Law contains a whole chapter concerning emission discharges to the atmosphere including GHGs. The 1995 Environment Organic Law integrates the need for citizenship participation, environmental impact analysis, and environmental pollution regulation. Finally, the 1996 Forestry Law conceives of a forest not only as a valuable asset, but also as an environmental service provider. This law recognizes the economic value of such services and emphasizes the necessity to pay for them.

While it is a fact that the country has made important efforts regarding mitigation projects, there is a long way to go as far as the forestry and transportation sectors are concerned. According to the first National Communication (1996), the country's main emission source is the energy sector, due to hydrocarbon use in transportation and the generation of electric power by thermal plants. The main causes of emissions in the transportation sector are the inadequate planning and control of the public transport, the growing amount of vehicles and population, the massive importation of used and inefficient cars, growth and increasing population density in urban areas, the poor and badly maintained road network, traffic jams and the elimination of railway transportation. No serious effort has been made to reduce emissions in this sector, on which Costa Rica would be eager to receive support from multilateral institutions.

ECUADOR

1. Background – History of JI-, AIJ- and CDM-related activities in Ecuador

A broad array of climate change vulnerability, adaptation and mitigation assessments for different key sectors were carried out in Ecuador during the period 1997-2002 by relevant sector agencies, under the coordination of the National Meteorological Institute, first, and subsequently the Climate Change Unit of the Ministry for the Environment. These studies received funding from the USAID Country Studies Program, the GEF/UNFCCC National Communication and Climate Change Enabling Activities Programs and bilateral ODA. The core product of this assessment process is the identification of key policies and measures on mitigation options and adaptation

priorities. However, the underlying inter-institutional collaboration led to increased awareness on global warming and to coordination on the basic institutional arrangements for dealing with issues related to climate change policies and specifically with the country's commitments under the UNFCCC[16]. A milestone in this regard was the establishment in 1999 of the *National Committee on Climate Change* (NCCC). The NCCC, chaired by the Ministry for the Environment, is an intersectoral committee[17] under the *National Council for Sustainable Development* (NCSD). The main role of the NCCC is to harmonize climate change policies and measures with national development objectives. Though not updated since 2002, the *'NCCC Action Plan/2001'* synthesizes the initial outcomes of the national policy-making process related to global warming, addresses strategic institutional and capacity development issues, and complements the underlying technical studies contained in the '*1st National Communication on Climate Change/2000'*.

Notwithstanding, national efforts on knowledge acquisition and policy definition have not been backed by implementation of concrete measures. This is particularly evident in the development and implementation of national GHG mitigation projects. In fact, although international carbon offset trading has raised major expectations among different national stakeholders, concrete experiences in carbon management project implementation are very limited in Ecuador.

Two national JI projects were approved during the AIJ pilot phase up to 1999. Both were private forestry initiatives without any involvement of policy-makers and technical officials of the forest sector agency (other than the official endorsement for the purposes of UNFCCC). Evidence of early action at project level in the energy sector cannot be reported at all. The PROFAFOR reforestation project, with Dutch FACE support, aimed at reforesting 20,000 ha of degraded land along the Ecuadorian highlands during a 10-year period. The CO_2 capture accumulated in the project's reforested lands during the period 1994-2000 were certified in 2001 by SGS according to their carbon offset verification system. The project continues to this day, although further inclusion of new land is not planned. On the other hand, the Bilsa Forest Reserve project, promoted by Jatun Sacha with USIJI as a counterpart, included deforestation prevention and reforestation activities but did not proceed to implementation. Notwithstanding, Jatun Sacha and partner institutions have 'reengineered' its carbon offset initiative in Bilsa: a small-scale land restoration project is currently registered with the Oregon Climate Trust.

As international UNFCCC negotiations entered into more specific discussions on the rules and modalities of the Kyoto mechanisms (Buenos Aires Action Plan, 1999 onwards), national policy-makers, mainly from the environmental sector, began to take a more proactive stance regarding the opportunities of the CDM. Key national and sector strategies, plans and even proposed legislation incorporated references to CDM and emissions trading as an instrument for raising investment and technology transfers in sustainable energy and forestry development, although without defining concrete procurement mechanisms and thus they are limited to being a political statement of goodwill. The higest ranking of those political statements is the presidential decree (2002) of the NCSD declaring carbon offset trading as a priority instrument to pursue national sustainable development.

[16] Ecuador has signed and ratified both, the UNFCCC (November, 1994) and the Kyoto Protocol (December, 1999).

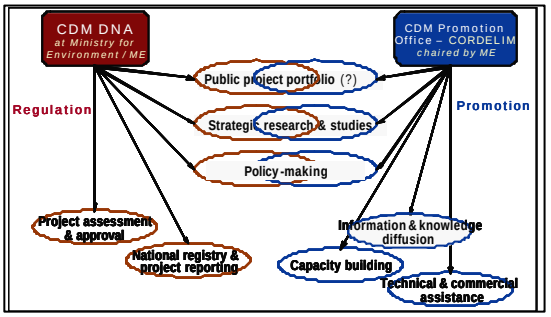
[17] The NCCC comprises representatives from the national government (the Ministries for Foreign Affairs, for Energy & Mines and for Environment), the private sector (Entrepreneurial Associations of both the coastal and the highlands region), the academic sector and national environmental NGOs (each acting as a sector umbrella group).

Under the leadership of the Ministry for the Environment, the NCCC shepherded a consensus process to provide the institutional framework required for the CDM and the global carbon market (as outlined below). There are ongoing efforts to integrate carbon finance to different local development projects, particularly in the electricity and forestry sectors (see numeral 6).

2. Overview of current institutional arrangements

The NCCC has established the CDM National Authority (CDM-NA) under the Ministry for Environment, as well as a public-private National CDM Promotion Office, CORDELIM. The CDM-NA and CORDELIM are in the process of consolidating themselves as the technical and administrative units for enabling national stakeholders' access to the international carbon market. Both entities have a minimal structure focused on a manageable set of specific objectives.

The main objective of the CDM-DNA is to implement and manage an efficient regulatory framework in line with both the rules and procedures governing the CDM, as well as national sustainable objectives and priorities. Complementarily, the main objective of CORDELIM is to promote opportunities linked to international carbon trading and to assist project sponsors in the different stages of the CDM project cycle.



The CDM-NA has recently adopted its procedure and basic tools for project evaluation and national approval. The CDM-NA strategy points into two directions: first, making the NA operational with the adoption of the referred project approval system, and second, integrating, in light of evolving CDM rules and modalities, an operative framework for sustainable development assessment of CDM projects (consistent with national and sector development priorities), as well as developing a CDM project register/reporting system.

Despite being created in 2001, CORDELIM started effective operations by the end of 2002 with initial support of CAF's Latin American Carbon Program (PLAC).[18] Priority activities included i) establishment of an information system on CDM, including a resources site on the Internet; ii) organization of capacity-building events (courses, workshops) and elaboration/dissemination of CDM project development tools; iii) assistance to CDM project sponsors/developers by arranging a call for project profiles and facilitating direct tutorials on CDM project development, among other types of support. Besides managing these 'permanent' standard activities, CORDELIM aims at addressing other strategic issues – such as marketing and investment procurement strategy, local/regional carbon management services, the legal framework for CDM investments and CER transactions – by facilitating involvement of relevant institutions in respective policy-making and capacity-building processes. Those activities are part of an ongoing technical cooperation with UNEP/Risø's Programme 'Capacity Development for the CDM (CD4CDM). [19]

[18] CAF and PLAC are discussed below under the Current Capacity Building Programs section.
[19] Riso and CD4CDM are discussed below under the Current Capacity Building Programs section.

3. Other sectoral initiatives with implications for national GHG emissions

In addition to the detailed institutionalization that has occurred for the CDM, there are several energy sector initiatives in the country that have been initiated outside the realm of the CDM. Renewable energy and energy efficiency have been promoted since the 1980s. Recently, the new PROMEC project targets renewable energy-based grid expansion and decentralized off-grid rural electrification with renewable sources, as well as a far-reaching energy conservation program. Launched in 2002 and financed by an IBRD loan and a small GEF grant, the project is still in the preparation stages, and no evaluation can be made yet on its effectiveness. While reducing GHG emissions is one of the aims, the project has not yet defined tools to monitor and register emission reductions. (For a full description of both components of the project see Annex E of this study).

4. Experience to date with CDM

There is an important number of project activities (at quite different design level) in Ecuador, predominantly renewable energy-based grid-connected and reforestation/land restoration projects, that have assessed their potential for generating carbon offsets and that are still in early stages of the CDM project cycle. As outlined in the country datasheet, many of these projects are assisted by CORDELIM and are part of an Indicative Project Portfolio. Some of these projects have been reviewed and officially endorsed (though still not approved) by the DNA. Interest of relevant stakeholders in other eligible CDM project activities, such as transport, landfill-to-energy and bio-energy emission reductions projects, has recently arisen.

So far, Ecuador has not been a party to a project submission to the CDM Methodology Panel or Executive Board for project registration. There are projects in preparation, but the submission process has not been concluded. It is not possible to cite a specific project experience as demonstrating that Ecuador has been successful or unsuccessful in gaining access to carbon financing through the CDM. However, given experience to date, it seems likely that when the time comes for a project to be reviewed by the Methodology Panel, familiar questions about additionality could arise. Grid-connected hydroelectric projects seem the most prone to facing challenge in this process, given the long history of activity in this area, including the common belief that these projects are economically attractive "no-regrets" options for Ecuador.

5. Assessment of degree of integration of CDM issues into process

Despite having developed a consistent institutional framework and carried on participative policy-making processes aiming at introducing GHG emissions considerations into sector development plans, Ecuador still lacks a strategic approach to national sustainable development goals that would take into account climate change issues. Notwithstanding, it also seems that there is increasing consideration of the CDM (and other emerging carbon trading instruments) in the context of specific sector initiatives. That a significant number of officials from public institutions (in charge of sector planning and project identification tasks) as well of private project developers are seeking initial assistance from the local CDM entities is evidence of this.

MEXICO

1. Background – History of JI-, AIJ- and CDM-related activities in Mexico

In the earliest stages of Mexico's implementation of its commitments under the UNFCCC, starting in 1995 during the first year of the Zedillo administration, policymakers at the Instituto Nacional de Ecología (INE) began exploring the potential for development of JI projects in the country. Because of concerns among officials in the energy sector that JI implied foregoing a future opportunity to emit higher levels of carbon, INE's emphasis during this early phase was on pursuing forestry projects. Indeed, officials at INE saw JI as a way of channeling external resources to land-use activities that were otherwise starved for resources in the context of Mexico's steep recession. Five JI projects were approved in the period from 1996-1998: forestry initiatives in Chiapas (U.S./U.K. counterparts), Oaxaca (U.S. counterpart), Querétaro and the Federal District, as well as an experimental sustainable agriculture demonstration in Sonora (U.S.).[20] The Oaxaca project did not proceed to implementation, but the Chiapas and Sonora initiatives did; it is not clear what happened with the other two. The Chiapas project continues to this day, though apparently without a continuation of the carbon payments initially made by the Fédération Internationale de l'Automobile (FIA), which organizes Formula-1 races.[21]

During this period, discussions with energy sector officials (at SENER, FIDE, CFE, and PEMEX) produced expressions of interest in the subject but no firm commitments to conduct the review required by the counterpart-country agency (USIJI at DOE in the case of the U.S.) and ensure completion of a letter of host-country approval. Although there were several programs already in place (see the discussions of CONAE and FIDE in Annex E), the view of energy sector officials at the time was that these activities were pursued based on their merits in other respects than GHG mitigation.

After the conclusion of the Kyoto Protocol in December, 1997, the transition to AIJ and then subsequently to CDM created uncertainty that made it difficult to secure approvals. At this stage, officials in the energy sector began to take a more active interest in the potential of CDM as a vehicle for leveraging investment in renewable energy and energy efficiency. Several reports related to assessing the impact of activities in this area were conducted and studied with interest. However, there was no clear institutional mandate or consensus within INE, SEMARNAP or SENER as to what the project review process should include, who should conduct it, and who had final authority to issue the host-country letter. For example, the presentation of an ESCO-implemented energy efficiency project for host-country approval languished for over a year starting in late 1998 before finally being declared moot because implementation of the three-year project had concluded.[22]

In that same period, in April, 1997, an inter-secretarial committee on climate change was formed, composed of the Secretariats of Energy (then SE, now SENER), Commerce and Industrial Development (SECOFI, now SE, for Economy), Agriculture and Rural Development (SAGAR, now SAGARPA with the addition of Fisheries and Food), Communications and Transport (SCT),

[20] See Comité Intersecretarial de Cambio Climático, Estrategia Nacional Climática, México DF, 2000: pages 185-190. Econergy participated in the Chiapas, Oaxaca and Sonora projects in different capacities, and is registered as the U.S. partner of record for the Chiapas and Oaxaca projects.
[21] See the Edinburgh Centre for Carbon Management (ECCM) website, at www.eccm.uk.com.
[22] ESM project prepared by Econergy.

Foreign Relations (SRE), Social Development (SEDESOL) and SEMARNAP(now SEMARNAT). Among other objectives, the purpose of forming the committee was to develop a national climate proposal based on consensus and public consultation, as well as to coordinate the country's reporting activities in the context of the UNFCCC.

By 1999, the committee had completed a draft of the National Climate Strategy, and this was finally published in 2000, the final year of the Zedillo administration. Despite the administrative and institutional changes that followed the transition to the administration of Vicente Fox following his victory in the mid-2000 presidential elections – indeed, perhaps because of them to some extent – the National Climate Strategy document remains a coherent presentation of the government's policy on climate change and the various relevant sectoral initiatives. The recently created Mexican Committee on GHG Reduction and Sequestration Projects (henceforth, "Mexican CDM Committee")[23] stresses the element of inter-secretarial cooperation and incorporates five of the seven agencies included in the inter-secretarial committee launched in 1997, leaving open the possibility of participation by other agencies.

2. Overview of current institutional arrangements

As noted in the country datasheet, the Presidential Decree establishing the Mexican CDM Committee was issued in January, 2004, and the office is still in the process of initiating its operations. Canada and the World Bank will be working with SEMARNAT and the Mexican CDM Committee to support this process. The Presidential decree creating the Committee[24] identifies the following activities:

- Operate as the DNA in the context of the UNFCCC and KP;
- Issuance of letters of approval for emissions reduction and carbon sequestration projects, with the signature of the Secretary of Environment, for publication in the *Diario Oficial*;
- Exchange communications with the Secretariat of the UNFCCC, via Foreign Affairs;
- Follow the activities of the EB/CDM, decisions of the COPs of the UNFCCC and the KP, and the international carbon market;
- Disseminate information on the activities of the Committee and the CDM;
- Promote and facilitate the development of projects;
- Develop the project registry, as well as registry for carbon emissions reductions and/or carbon capture;
- Enter into MOUs and cooperative agreements on issues related to projects;
- Issue a Work Plan and revise periodically;
- Issue rules of operation.

Since the creation of the Committee is so recent, there is relatively little that can be said about its actual operation, other than to note that it has already issued two letters of approval.[25]

[23] Formally, the Comité Mexicano para Proyectos de Reducción y Captura de Emisiones de Gases de Efecto de Invernadero. See SEMARNAT press release 172/04, January 2, 2004, at www.semarnat.gob.mx.
[24] *Diario Oficial*, January 23, 2004: 84-86.
[25] Walter Vergara, World Bank, personal communication.

3. Other sectoral initiatives with implications for national GHG emissions

Mexico has various non-CDM mitigation initiatives in several sectors. The Mexican government has promoted renewable energy and energy efficiency through the Ministry of Energy and several specialized institutions since 1990. The current Fox administration has been particularly concerned with adding more renewables to the energy mix, as policymakers have recognized that the economic costs of fossil fuel externalities may counterbalance the higher generation cost of RE resources. The Social Development Secretariat is engaged in an effort to promote the application of landfill-gas-to-energy technologies in landfill projects throughout the country and is considering including CERs as one of the income flows of the projects. In the transportation sector, the government of Mexico City is engaged in a series of projects including construction of numerous highway extensions, overpasses and related infrastructure, together with the preparation of a program that would include a bus rapid transit system. Design work on two major arteries is now underway, Insurgentes and Eje 8. This work is being supported with grants from the World Bank, the GEF, the Japanese government and the Shell Foundation, and the Bank's project manager is actively pursuing carbon finance for this project. (For a full description of the projects see Annex E of this study). Were this project to succeed in reaching approval from the CDM Methodological Panel and Executive Board, it would constitute the first transportation project in the CDM and would lead the way for other mega-cities considering a modernization of the urban transport system.

4. Experience to date with CDM

Only recently, with the El Gallo hydroelectric project,[26] has Mexico been a party to a project submission to the CDM Methodology Panel or Executive Board for project registration. The country datasheet, which was prepared in 2003, reports that while there are projects in preparation, the submission process has not been concluded. This is clearly no longer the case, as at least two LoAs have been issued since January, 2004. At the same time, it seems likely that as projects are reviewed by the Methodology Panel, familiar questions about additionality will arise. Energy efficiency projects seem the most prone to facing challenge in this process, given the long history of activity in this area, including the promulgation of efficiency standards, but the more recent initiatives to support renewable energy could also face challenges as well.

5. Assessment of degree of integration of CDM issues into process

Mexico has a well-established policy of introducing GHG emissions considerations into a variety of programmatic contexts. The formation of the inter-secretarial committee in the 1990s and the development of a national strategy provide evidence of this. Based on this, it is also apparent that there is increasing consideration of the CDM in the context of specific initiatives (such as the SEDESOL program and the green fund for RE). Indeed, it might even be said that these activities have anticipated the creation of the DNA in Mexico, rather than the other way around.

[26] PDD submitted to the MethPanel for review on September 7, 2003. Listed as NM0023 at http://cdm.unfccc.int/methodologies.

LESSONS LEARNED and FACTORS OF SUCCESS

The above case studies were written with the purpose of highlighting the variations that exist in the region in terms of linkages between the climate change institutions and other public institutions in charge of economic development. Three main lessons can be learned from the comparison of the various experiences:

1. *Institutionalization of the CDM does not necessarily lead to CDM projects.*

In some cases – but not in all- institutionalization for the CDM has been central to the development of CDM projects. Costa Rica and Colombia are the two countries with the most advanced CDM projects. In Costa Rica the CDM entity has existed in some form (under the JI and AIJ regimes) since 1994, and has been actively promoting projects for the past ten years. In Colombia the DNA was formed in 2002, and it already has two projects under consideration of the CDM Methodology Panel, in addition to an important project portfolio that is being pushed forward. By contrast, Mexico and Brazil have only recently established their DNA (in the case of Mexico) or their approval procedures (in the case of Brazil), and yet despite this tardy action on the part of the government, the private sector has been identifying and preparing projects for years. In both cases, private sector project proponents have grown frustrated with the lack of definition on the part of the public sector and have resorted to political pressure to spur decisions. Finally, Ecuador is the epitome of CDM institutionalization. Since 2001 there have been two entities involved in the CDM- one for evaluation and approval of projects, the other for dissemination and training. The government has made a major investment in defining sophisticated procedures, criteria, and policies, and yet projects have only been approved at the level of Letter of Endorsement, the lowest level in the approval process. No project has advanced to final national approval or presentation to the CDM Executive Board. It would seem that CDM institutionalization is a necessary but not a sufficient condition for the identification of CDM projects.

2. *A country's involvement in climate mitigation activities cannot be measured by the presence/absence of a CDM entity nor by its participation in the carbon market.*

While it is evident that in Costa Rica and Colombia the presence of an active DNA is consistent with the country's commitment to climate change activities, the opposite cannot be said of Mexico and Brazil. The DNA in these countries has only recently taken on its responsibilities, and yet it is clear that the government has been involved in mitigation efforts for a long time. The Mexican energy sector has promoted renewable energy and quite successfully implemented energy efficiency programs since 1990, without any link to the international carbon market. In Brazil an ethanol production program, which started in the 1970's, has now induced the automotive industry to produce bi-fuel (can use either alcohol or gasoline) vehicles, a technological transformation that will reduce GHG emissions in the transportation sector. Governmental institutions are currently vested in developing standards for methane reduction in flooded rice fields and technologies for biogas recovery from liquid sewage. Both efforts have the potential to significantly transform the carbon intensity of the respective sector, and yet they have no access to the carbon market due to their GEF funding. Both Mexico and Brazil are considered "key" developing countries due to their relatively high contribution of GHG emissions. Both countries have already undertaken measures to decrease the growth of their emissions, and hence to grow sustainably. And yet neither of them has made use of CDM income for any national GHG reduction effort.

3. Integration of climate considerations into national policies can disqualify potential projects from being eligible for the CDM

The current interpretation of the additionality criterion is a crippling disincentive for developing countries to develop decarbonizing policies. If climate-friendly sectoral policies are put in place, projects that implement those policies will most probably be considered non-additional and excluded from the CDM. Costa Rica offers the clearest example of the perverse incentive of the additionality clause of the CDM. The requirement that privately generated power stem from renewable energy sources was put in place in 1995, two years after the country signed onto the UNFCCC, as a 'policy and measure' that would contribute to protecting the global climate system and decarbonizing the national economy, according to Article 3.4 of the UNFCCC.[27] Now, the CDM Methodology Panel questions the additionality of private hydroelectric plants in Costa Rica. By the same token, the most successful carbon management program in the forestry sector is the Payment of Environmental Services program, originally funded with carbon certificates (pre CDM) but now fully government funded and not accessing the carbon market.

The constraint is felt not only by Costa Rica. The Ecuadorian national plan for renewable grid expansion and decentralized off-grid rural electrification has caused the Ministry of the Environment to worry about the possibility of losing additionality on the individual projects. In Mexico, two new initiatives, SEDESOL's effort to promote municipal landfill-to-gas projects and SENER's work on a renewable energy "green fund", both of which intend to access the carbon market, will provide useful test cases on how to avoid the penalties of additionality as they will both present a climate-friendly sectoral policy/measure with the expectation that it be considered additional. Colombia has a similar challenge. The consultation process with the various sectors aims at not only identifying potential CDM projects, but also and more importantly, designing an enabling policy environment for GHG reduction efforts. In order to avoid losing additionality, climate friendly policies are being purposely kept in the plans-and-programs realm, without moving them into a regulatory framework. The fear is that a regulation on renewable energy and energy efficiency would cause projects implementing that regulation to be considered non-additional. In effect, Colombia's decarbonization potential is being held back by the perverse incentive of the additionality criterion in the CDM.

Beyond the lessons learned from the experiences of all five countries, it is clear that two of these countries, Costa Rica and Colombia, are leading the way in mainstreaming climate considerations into their policies. Costa Rica took the initiative in the mid 90's (pre- CDM) and can in fact show concrete results- an effort made all the more impressive by the fact that most of the funding is local. Having started in 2002, Colombia is currently in the midst of the complex process of defining mainstreaming strategies. That effort is made particularly challenging by the now known additionality restrictions. A comparison of the process in both countries points to four key factors of success:

1. In depth sectoral work

Integration of climate change considerations cannot be achieved across the board with generalized approaches. If there is to be an assimilation of climate change considerations, it needs to occur sector by sector through targeted work with a broad array of sector participants. One of

[27] "Policies and measures to protect the climate system against human-induced change should be appropriate to the specific condition of each Party and ***should be integrated with national development programmes,*** taking into account that economic development is essential for adopting measures to address climate change." UNFCCC 1992, Article 3.4 (emphasis added).

the most successful GHG reducing efforts in Costa Rica is the Payment for Environmental Services in the forestry sector. Costa Rica experienced one of the highest rates of deforestation worldwide during the 1970s and 1980s. Having ratified the UNFCCC in 1994, in 1995 Costa Rica selected the land use sector as one of the sectors that would be key to national mitigation efforts. After intense consultation with public and private representatives of the sector, in 1996 Costa Rica adopted Forestry Law No. 7575, which explicitly recognizes four environmental services provided by forest ecosystems: (i) mitigation of GHG emissions; (ii) hydrological services, including provision of water for human consumption, irrigation, and energy production; (iii) biodiversity conservation; and (iv) provision of scenic beauty for recreation and ecotourism. The law provides the legal and regulatory basis to contract with landowners for the environmental services provided by their lands and establishes a financing mechanism for this purpose: the Environmental Services Payment (ESP) program. Through site-specific contracts with individual small- and medium-sized farmers, the ESP program protects primary forests, allows secondary forest to flourish, and encourages forest plantations to meet industrial demands for lumber and paper products. The original funding strategy was for landowners to cede their GHG emission reduction rights to the National Forestry Financing Fund (FONAFIFO) for sale on the international market. The lack of definitions on LULUCF issues in the CDM made this impracticable, and the program sought alternative funding. Funding is now coming from a 15% national tax on fossil fuels (a further effort to reduce emissions), environmental service payments from hydroelectric plants, a loan from the World Bank, and a grant from the GEF. Other than this small grant, all funding is ultimately nationally generated. Currently, there are 270,000 hectares[28] of private land under ESP contracts, and the trend of deforestation rates in Costa Rica has been reversed. This success could not have been attained if the government had not closely coordinated the work of so many institutions that are active in the forestry sector: the Ministry of Environment and Energy (MINAE), the National Forestry Financing Fund (FONAFIFO), the National System of Conservation Areas (SINAC), the National Chamber of Foresters, and several forestry NGOs who work with small landowners. All stakeholders were involved in the process, which made it a complex and not always harmonious enterprise, but clearly one that in the end has been mainstreamed. Today it is not unusual to drive through the country and see signs that announce, "This property is under an Environmental Services Payment contract."

Operating from its seat in the office of the Vice Minister of the Environment, the Colombian Climate Change Mitigation Group (CCMG) has embarked on intensive sector-specific work. Choosing energy (grid connected and non grid), forestry and transportation as the three sectors in which mitigation is most effective in Colombia, over the past six months the CCMG has labored diligently to bring a broad array of public- and private-sector representatives from each sector into a joint strategy- defining process. An intensive consultation process is being performed with each of the sectors individually, in order to define and execute sector-specific work plans that will lead not only to the identification of specific CDM projects, but also to the internalization of climate change considerations in the future planning of those sectors. Each work plan has concrete goals, a list of the sector-wide participants involved in achieving the goals, the definition of the institution responsible for taking the lead on the goal to which it adheres. The participation of both the public agencies in charge of the sector, as well as private sector companies and academic institutions active in the sector, ensures not only that the work plan is balanced and realistic, but more importantly, that understanding of climate issues is disseminated beyond the narrow confines of the Ministry of the Environment, paving the way for mainstreaming.

[28] www.estadonacion.or.cr, www.fonafifo.com

2. Economic viability

Environmental considerations will not be incorporated into economic growth policies of developing countries for love of the planet. The measures need to make economic sense or they won't happen. In Costa Rica, the ESP program is successful because the economic valuation of the environmental services of the forest is a viable alternative to cattle ranching and indiscriminate logging. The program was originally conceived to receive funding from international GHG reduction sales. When it became clear that the CDM would have difficulty incorporating LULUCF projects, alternative sources of funding had to be identified and negotiated. The program would not have functioned without being able to make payments to the landowners. Colombia is facing the economic viability issue in a slightly different manner. Having learned from Costa Rica's early moves that eliminated additionality, Colombia is being more careful in how it establishes cost. The work plans with the various sectors are attempting to discriminate between what can be financed internally, and what needs external funding. Those efforts that need external funding are being slotted for the CDM market, and they will not occur unless appropriate financing can be mobilized.

3. Accountability of national decision makers

In the Colombian experience one of the key factors that has given credibility to the consultation process has been the fact that the CCMG has been able to keep the process on track. The CCMG has been accountable to the broad array of stakeholders in each sector, demonstrating the effective and timely completion of specific milestones and aptly negotiating differences until consensus has been reached. In a field as new as the introduction of climate change considerations into economic growth policy, it is critical to be able to point to specific achievements that benchmark progress and ground the process in national reality. Costa Rica's experience was similar. At the outset, OCIC was accountable to the Minister of the Environment and to the President of the Republic, both of whom expected very concrete steps to be taken and demonstrated. As the understanding of the concept permeated broader spheres, accountability migrated first to the general public and then directly to the landowners who signed ESP contracts. The ESP program is highly scrutinized in the press, and repeatedly analyzed by local and international organizations. The program has overall public support because it is transparent and effective and can show concrete results.

4. Continuing high-level political commitment and coordination

Costa Rica started to mainstream climate considerations in 1994 under the personal leadership of the President of the Republic, who ensured sound legal bases for the cross sectoral integration of climate concerns. Since then, two subsequent administrations of a different political party have not only respected the initiative, but have contributed to strengthening the country's commitment. The continued high-level political involvement has been repeatedly recognized as the main determining factor of success in Costa Rica. Colombia seems to be living up to this challenge as well. Colombia launched its initiative in 2002. In 2003 there was a change of administration and of political party that caused a major restructuring of the Ministry of the Environment. And yet, the Climate Change program continues. The fact that the climate strategy was approved by the Social and Economic Policy Council– *(Consejo de Política Económica y Social –CONPES)* ensures that the mandate for integration of climate considerations stems from the highest political level. The mandate is clear: in its role as the highest level coordinating government agency, CONPES "requests the Ministries of the Environment, Housing and Territorial Development, Mining and Energy, Transportation, Agriculture and Rural Development, and Commerce, Industry and Tourism to identify potential synergies, with the purpose of including the sale of

climate change mitigation environmental services concept in their policies, plans and programs." As has been described in the Colombian case study, much impressive work has already been accomplished on this mandate, and the work continues undisturbed by political changes.

The above itemization of characteristics of success does not pretend to be an exhaustive list; neither does it intend to be prescriptive. Factors of success in Costa Rica and Colombia may not necessarily be the means to mainstreaming climate change issues in other countries. Different circumstances in other countries may demand different tactics. On the other hand, sector-specific work, economic feasibility, accountability, and high-level political commitment are approaches that are not unique to climate change, but rather common to any policy effort that seeks to change the status quo. At minimum, such characteristics will be helpful to any other country seeking to integrate environmental considerations into economic growth polices.

4. CAPACITY BUILDING

The third part of this study focuses on capacity building efforts in the region. In general, "capacity" refers to the ability of individuals, institutions, governments and other entities to perform specific tasks on an on-going basis in order to attain a given development objective.[29] Within the specific context of the UN Climate Convention, capacity refers to the ability of countries to "protect the climate system" (UNFCCCC, Art. 3.1). Thus "capacity building" is here understood as the various efforts to strengthen countries' ability to effectively participate in the UNFCCC and the Kyoto Protocol, by building, developing and enhancing their ability to continually implement concrete actions under the climate regime.

Despite the fact that capacity building is key to the effective implementation of the UNFCCC, there is no general provision on capacity building in either the Convention or the Protocol. All commitments for capacity building stem from a package of decisions taken by the Parties over the last decade, culminating in two main decisions adopted at COP7, one for Parties with economies in transition, and one for developing countries.[30] The decision that refers to developing countries[31] is considered the internationally agreed framework to guide the work of donors and international agencies (such as the IDB) involved in providing capacity building. The decision recognizes that the capacity needs of developing countries must be met within the context of sustainable development and stresses that capacity development should:

- Be country driven;
- Be considered an on-going iterative process;
- Maximize the synergies between the climate regime and other multilateral environmental agreements;
- Be led by existing national bodies;
- Involve "learning by doing" and utilize "demonstration projects";
- Promote South-South cooperation.

Capacity building within the UNFCCC process targets different aspects of the Convention: national inventories, national communications, vulnerability, adaptation and so forth. As this study focuses on incorporating mitigation opportunities into economic policy, and as the main interest in mitigation in LAC has centered on the CDM, this part of the study examines the CDM-related capacity building activities in the region. Four main activities were carried out to perform the examination:

1. Identification of the main providers of CDM-related capacity building activities in the region.
2. Completion of individual provider datasheets for gathering of information on past capacity building efforts in the region, future planned activities, and perceived gaps in capacity building. The datasheets are presented in alphabetical order in Annex F.

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[29] Global Environment Facility. 1997. *GEF Operational Guidelines for Expedited Financing of Initial Communications from NAIPs,* Annex F: Glossary of Terms.

[30] Yamin, Farhana. *Finance, Technology and Capacity Building*, Chapter 9 in The International Climate Change Regime: A Guide to Rules, Institutions and Procedures.

[31] Decision 2/CP7, Capacity building in developing countries (non-Annex I Parties).

3. Interview with the director/coordinator of each provider to complete and clarify the elements necessary for the assessment.
4. Identification of strategic opportunities for IDB.

Current capacity building programs

Most of the CDM-related capacity building in the LAC region has been provided by the following five institutions: the Andean Development Corporation (CAF), the government of Canada (through CIDA), the UN Development Programme (UNDP), the UN Environment Program (UNEP) through Risø, and the World Bank through the Prototype Carbon Fund (PCF) and the National Strategy Studies program (NSS).

CAF

The Corporación Andina de Fomento (CAF) is a multilateral financial institution whose specific mission is to support sustainable development and economic integration in the Andean and Latin American regions. CAF serves the public and private sectors, providing multiple financial services to a broad customer base composed of the governments of shareholder countries[32], public and private companies and financial institutions. Having commenced its operations in 1970, the Andean Development Corporation is the leading source of multilateral financing of the countries of the Andean Community. During the last ten years CAF approved over 40% of the total resources approved for that region by multilateral agencies. CAF is headquartered in Caracas, Venezuela, and it has regional offices in the capital cities of each of the other four Andean Community countries.

In 1999, CSDA and Econergy International provided CAF with the technical support needed to establish the Latin American Carbon Program (PLAC). PLAC became the first-ever greenhouse gas mitigation program in Latin America, helping CAF shareholder countries participate in the development of the emerging carbon market. The specific objectives of PLAC are:

- To involve the private sector in the identification, preparation and implementation of CDM projects
- To expand the financing base through strategic alliances and co-financing mechanisms
- To identify investment projects in the region as part of the emerging carbon market

In 2002 CSDA and Econergy originated and designed a €40 million carbon facility for PLAC, the "CAF-Netherlands CDM Facility," which supports the development of carbon emission mitigation projects in CAF member countries. Signed in June 2002 by the Royal Government of the Netherlands and CAF, the agreement made CAF the first-ever regional development bank to act as a GHG reduction intermediary. All CERs purchased thought the Facility become the property of the government of the Netherlands.

Since 2000, CAF has invested $634,000 in capacity building in the region. CAF has organized six CDM-related training workshops in the region, with the purpose of introducing representatives of

[32] CAF principal shareholders are the five countries of the Andean Community of Nations: Bolivia, Colombia, Ecuador, Peru and Venezuela. In addition, there are eleven extra-regional members: Argentina, Brazil, Chile, Costa Rica, Jamaica, Mexico, Panama, Paraguay, Trinidad & Tobago, Uruguay and most recently Spain.

the private sector in the electricity, industrial and forestry sectors to the CDM, and promoting the preparation of projects. CAF is also on its way to being the successful intermediary of sales of 10 million tons of CO2 to the Dutch government, and is initiating similar intermediation contracts with other industrialized nation governments. CAF has also provided financial support to the operation of the DNAs in Colombia, Ecuador and Bolivia. CAF will continue to strengthen the interaction between the DNAs (who need to understand the role of carbon finance in the CDM) and the private sector project developers (who need to be made aware of the potential of the CDM as an added income stream in their projects). For the time being, CAF will be focusing on energy and industrial projects, since the Dutch facility is not accepting forestry projects due to the uncertainties surrounding LULUCF projects in the CDM.

Canada

The government of Canada does CDM-related capacity building through two avenues: CIDA and the CDM/JI Office. The Canadian International Development Agency (CIDA) is dedicated to supporting sustainable development in developing countries by promoting technology transfer and capacity building in developing countries. In its climate change program, CIDA funds a series of broad regional projects including remote sensing in South America, energy sector management in LAC through the World Bank's ESMAP project, and adaptation in the Caribbean Region. In addition, in July 2000 CIDA established the Canada Climate Change Development Fund (CCCDF), a five-year, Canadian $100 million (US$75 million) initiative. CCCDF is designed to assist developing countries in addressing the causes and effects of climate change while at the same time contributing to sustainable development and poverty reduction. Capacity building for developing country participation in the CDM has been identified as a key area for the CCCDF. The CCCDF is currently funding nine CDM capacity building and two adaptation projects in the LAC region, for a total of $17 million Canadian (US$12.7 million). (For a full list of projects see Canada datasheet in Appendix D). Projects cover a broad range of sectors and industries, including: waste management and landfill gas emissions; industrial energy efficiency and demand side management; renewable energy; transportation; and forestry. Capacity building is performed on a broad spectrum of intervention levels, from general awareness raising and institutional strengthening to specific methodologies and demonstration projects.

Canada's Clean Development Mechanism and Joint Implementation Office was established within the Climate Change and Energy Division of the Department of Foreign Affairs and International Trade (DFAIT) in 1998. The Office is the federal government's focal point for CDM and JI activities. It was created to enhance Canada's capacity to take advantage of the opportunities offered by the CDM and JI. Canada's CDM and JI Office is guided by an Interdepartmental Steering Committee comprised of representatives from industry, natural resources, agriculture, environment, CIDA, and Canada's Climate Change Secretariat. Under Action Plan 2000, the CDM and JI Office received funds for the period 2001-2005 to strengthen Canada's capacity to take advantage of the Kyoto mechanisms. The ability of Canada to benefit from CDM rests in large part on the capacity of developing countries to develop and screen CDM projects. Therefore, while the primary concern of the Office is to reduce project transaction costs for Canadian companies, the Office also assists developing countries with the technical aspects of CDM and supports DNA start-ups. Compared to the CCCDF however, the CDM/JI office has not had such a major role in capacity building in LAC. It tends rather to contribute to the work of other capacity-building providers: NSS in Uruguay, CF-Assist in Mexico, and the UNDP project in Brazil. By far, most of the Canadian efforts in capacity building have come from the CCCDF.

UNDP

The United Nations Development Programme is committed to supporting developing countries in responding to climate change concerns as part of their overall sustainable development efforts and activities to fulfill the Millenium Development Goals (MDGs). UNDP's commitment to climate change is reflected in two of the four UNDP energy priorities: promoting clean energy technology, and increasing access to financing for energy. Climate change activities being cross cutting, adaptation activities are covered in conjunction with biodiversity, dry lands development center, water governance, and other initiatives within the framework of poverty eradication and meeting the MDGs.

UNDP has launched a learning-by-doing CDM capacity development initiative. With two-year funding from the United Nations Foundation, UNDP coordinated the project entitled "Engaging the Private Sector in Clean Development Mechanism (CDM) Project Activities under the UNFCCC/Kyoto Protocol". This inter-agency project involved a partnership between UNDP and the World Business Council for Sustainable Development (WBCSD), as well as activities undertaken by UNIDO and UNCTAD. The project aims at engaging the private sector and facilitating private sector investment in the CDM through catalytic 'learning-by-doing' CDM projects that meet the objectives of the UNFCCC and are also viable on a commercial basis. The specific goals are:

- To engage and build capacity within the private sector, and between private sector and government, to formulate, shape and implement CDM projects; and
- To inform various stakeholders about the rules and operational procedures of the CDM, in order to assist host countries in attracting private sector investment.

In LAC, the pilot project was undertaken in Brazil. The UNDP country Office in Brazil partnered with WBCSD, British Petroleum and Bioenergia Cogeradora, a Brazilian multi-purpose company producing sugar, alcohol and cane based products and among the world's leaders in organic sugar cane products. Bioenergia's Biomass Co-Generation Project was selected as the hands-on capacity building activity. UNDP covered all CDM-related transaction costs in order to produce a bankable project. UNDP will now work with the entrepreneur to identify appropriate sources of finance for the actual implementation of the project. With a second grant from the United Nations Foundation, UNDP will focus a second phase of the project on creating an efficient enabling environment beyond the realm of governments. UNDP will engage Natsource to provide capacity development on understanding carbon markets. In addition, UNDP will continue to work with the Brazilian Government with assistance from Canada to strengthen the enabling environment for making small size CDM projects CDM viable, including developing participatory and transparent sustainable development criteria. Over the past two years UNDP has invested gave $350,000 to $450,000 in capacity building in LAC, and investment is increasing.

Beyond the country-specific work, UNDP has produced a CDM User's Guide, designed as a reference tool primarily for UNDP Country Offices to learn more about the opportunities and challenges of the CDM and implement projects efficiently and equitably in a variety of national and sectoral contexts. The document addresses issues of climate change and sustainable development including UNDP's CDM strategy, the CDM project cycle, development of the project design document, procedures for small-scale projects, governance and transaction costs, CDM transactions, and the carbon market. With the technical support of EcoSecurities Ltd., the User's guide is being currently field-tested in Nicaragua (on two projects), Peru and Trinidad and Tobago.

Finally, in cooperation with UNDP, WBCSD has developed CDM-Connect. CDM-Connect is a knowledge management system to share the dispersed knowledge existing on the CDM all over the world. This system allows people interested in various aspects of the CDM to discuss issues online.

UNEP

The United Nations Environment Program (UNEP) has worked on capacity building and awareness related to the CDM since it was originally defined in the Kyoto Protocol. Activities have included regional awareness and information programs mostly in Africa and Asia. In addition, UNEP has worked extensively on analytical issues related to implementation of CDM projects such as baseline definitions, cost analysis, project screening and possible sustainable development indicators.

UNEP's current work on the CDM is being done by UNEP Risø Centre on Energy, Climate and Sustainable Development (URC). Risø aims to incorporate environmental aspects into energy planning and policy worldwide, with a special emphasis on developing countries. Risø is headquatered in Denmark, and is sponsored by UNEP, the Danish International Development Assistance (Danida) and Risø National Laboratory.

Risø is in the midst of implementing Capacity Development for the CDM (CD4CDM), a 4-year (2002-2005) project in twelve developing countries around the world. The government of the Netherlands has funded the project with US$10 million. The project is intended to help identify and prepare GHG emission reduction projects that are consistent with national sustainable development goals, particularly projects in the energy sector. It will develop national capabilities so that at the project's conclusion, local stakeholders are capable of analyzing the technical and financial merits of projects and negotiating possible finance agreements with Annex 1 countries or investors. The concrete goals of the project are to build government support for the CDM, develop the institutional framework, strengthen technical capabilities, and develop a project pipeline.

In LAC, the participating countries are Bolivia, Ecuador and Guatemala, under the coordination of the Fundación Bariloche in Argentina. During 2002, the countries were consulted on their needs and priorities and a work plan was established. During 2003 some DNAs were established and some country specific workshops were held. However, many of the workshops planned for that year were postponed or cancelled due to the political upheavals in the region and frequent changes of Ministers of the Environment. Current expenditure has been $540,000, although the total budget is $1 million per country. It is hoped that 2004 will be more conducive to implementing the intended work plan. Emphasis will be given to strengthening the understanding of the CDM in the private sector.

USAID

During the early years of 1995-2000 the US Agency for International Development was perhaps the most active bilateral agency in providing capacity building for AIJ/JI/CDM in developing countries. However, the US government's March 2001 withdrawal from the Kyoto Protocol severely curtailed that leadership position. USAID is now seen as a "critical vehicle for transferring American technologies to developing countries to promote sustainable development

and minimize their GHG emissions growth."[33] USAID's climate change activities are now therefore centered on promoting the transfer of clean energy technologies from the U.S.; measuring reductions in GHG emissions; promoting carbon management through improved land use; assessing vulnerability and increasing adaptive capacity. This position will be maintained as long as the US stays out of the Kyoto Protocol. Over the past three years USAID has invested approximately $1 million in technology-related capacity building in Latin American and the Caribbean.[34]

World Bank

Having launched the Prototype Carbon Fund in 1999, the World Bank had two main capacity building programs operating alongside each other: NSS and PCF*plus*. The National Strategy Studies Program (NSS) was a collaborative effort initiated by the Government of Switzerland and the World Bank, with the objective of providing capacity building on JI and CDM, and promoting the integration of global climate change issues into the sustainable development of host countries. With Germany, Australia, Finland, Austria and Canada joining the major Swiss donor support, the NSS Program targeted nearly 30 of the Bank's client countries. Every country study addresses the national potential for GHG emission reductions and the institutional arrangements for participation in the international carbon market, in addition to identifying a potential pipeline of projects. In LAC, six countries have completed their NSS: Argentina, Bolivia, Chile, Colombia, Peru and Uruguay. NSS studies are currently ongoing in Guatemala, Honduras, El Salvador, and Mexico. Between 1999 and 2003 the NSS program invested approximately $1.5 million in LAC. The NSS program was closed at the end of 2003.

The PCF*plus* program that also supplemented the work of the PCF in the areas of outreach, capacity building, research and training, was initiated in November 2000. The objectives of the program were to build capacity of host countries and PCF participants, to enhance the operations and activities of the PCF and its partners, and to promote the market for greenhouse gas projects by reducing risks and transaction costs. The program evolved from its initial focus on outreach and research, to more of an on-hands training program, during which concrete CDM and JI project ideas were developed. Between 2000 and 2003 the PCF*plus* program invested $900,000 in capacity building in LAC. The program worked in Argentina, Chile, Brazil, Peru, Colombia, Honduras, El Salvador and Mexico, and provided general introduction to CDM to public and private sector, institutional building for the DNAs (development of approval criteria, legal framework, and so forth), and technical training such as definition of baselines, feasibility studies, and preparation of Project Identification Notes (PINs), the first step in project preparation.

The Carbon Finance Unit of the World Bank now has five carbon funds[35] totaling $400 million under management. At the end of 2003, all capacity building activities related to Carbon Finance were folded into the new Carbon Finance Assist Program. The CF Assist Program builds on the earlier NSS and PCF*plus* programs, and will represent the World Bank's integrated capacity building and technical assistance effort in carbon finance. The capacity building component will be a country or regional activity within which specific sectors will be selected for project preparation with donor support. The technical assistance component will operate with Bank funding and provide targeted support for specific need-based activities. Most importantly, the CF Assist program aims at helping to place CDM in national sector policies (such as energy, waste, transport, industry and other sectors). It will provide institutional support to DNAs, help prepare project documents, and provide legal framework advice (including ownership, role of government

[33] US Government Policy on Climate change, February 2002
[34] Not an official figure. Estimate made by consultants.

versus private sector) and training to DNA, other Ministries and development-finance institutions in country.

Overall

Each of the above institutions has invested at least $500,000 in CDM-related capacity building in LAC. As a group, they have invested US$18 million over the past three years, with the overwhelming component ($12.7 million) coming from the Canadian government, and the second largest sum coming from the World Bank ($3.5 million). All capacity building activities have clearly concentrated on institutional building (DNA operational procedures, approval criteria, legal framework, among others), technical training (project cycle, baselines, additionality and others) and on the identification and preparation of specific projects. Little or no attention has been paid to the development of national economic growth patterns that are less carbon intense, or to the promotion of sectoral policies that are more climate-friendly.

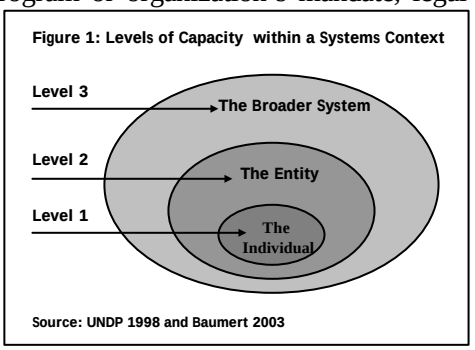
The first major capacity building needs assessment in the LAC region was performed by a GEF-UNDP partnership in 2000. The resulting Capacity Development Initiative (CDI) covered all developing countries and several environmental issues. The climate change section of the Regional Report for Latin America and the Caribbean states:

> *"The first challenge for capacity development is to succeed in having the objectives of the Convention accepted by the policy decision-makers and incorporated as a legitimate objective within the global and sectoral development objectives".* [36]

To this day that challenge continues to be unmet in LAC.

Next steps

It is well known that capacity building is usually considered at three distinct levels. (See Figure 1). At the individual level, capacity means the training, skills and competencies of individual staff members. The organizational level involves the program or organization's mandate, legal structure, procedures, resources (including financial, human and technical), connectivity and physical infrastructure. System-level capacity encompasses public awareness, enactment of rules and regulations, functioning of government programs and markets- the broad context that ideally constitutes an enabling environment for a particular goal.[37] All three levels are integrated with one another, and the effectiveness of any program rests in large part on having sufficient capacity at each of the levels. However, capacity is not usually built at all levels of the system at the same

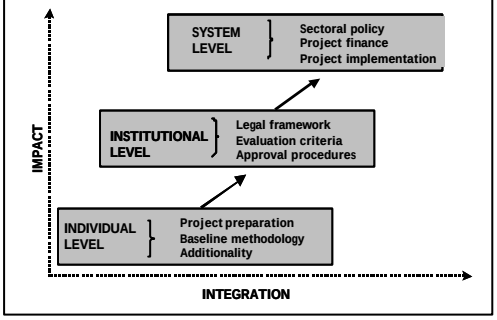


[35] The Prototype Carbon Fund, the Netherlands CDM Facility, the Italian Carbon Fund, the Bio Carbon Fund , and the Community Development Carbon Fund .
[36] Capacity Development Initiative, GEF - UNDP Partnership
[37] United Nations Development Programme. 1998. *Capacity Assessment and Development in a Systems and Strategic Management Context.*

time, but rather progressively, level by level.

This conceptual framework is helpful in understanding the progressive nature of CDM-related capacity building efforts in LAC, and the corresponding increasing impact that these efforts could have on the economic growth patterns of the region. The examination of current capacity building initiatives in LAC reveals that almost all efforts to date have focused on the first two levels, a natural consequence of the international stipulations for the CDM. As discussed in the first part of this study, the only mandatory function of a DNA is the evaluation/approval of CDM projects.

Figure 2: Increasing Impact of Capacity Building Efforts



The only international requisite for the DNA is that it have the authority to emit a formal letter of approval of projects. A DNA must therefore have a clear mandate rooted in a solid legal framework, as well as transparent evaluation criteria and predictable approval procedures. These essential capabilities for basic operation are anchored at the institutional capacity level (see Figure 2). Starting in 1999/2000 most of the capacity building efforts in LAC have focused on these institutional level capabilities, as countries struggled to establish their DNAs and define their modalities of operation. As the institutional framework began to take root, practitioners realized that both DNA staff and project proponents needed a better understanding of the technical aspects of project preparation. Over the past two years, institution building has been supplemented with technical training in baseline methodologies, additionality determination, and monitoring/verification protocol design. These technical capabilities are embedded in the individual level shown in Figure 2. If capacities at these two levels are sufficiently developed, it can be reasonably expected that countries would be able to identify, prepare, approve and present individual CDM projects. However, as long as CDM-related activities are kept at these two levels only, mitigation efforts will be isolated, circumstantial, and relatively modest. At these levels the potential impact of mitigation activities on the carbon intensity of future economic growth of developing countries is minimal.

In order for mitigation efforts to have a noticeable effect on the future of developing countries - in order for climate change considerations to be integrated into policy frameworks - they must move to the third level of the system. CDM-related capacity building in LAC has not reached the system level, and that is where both the need and the opportunity lie. At the system level, activities reach beyond the boundaries of the DNA. At this level the DNA would effectively work with sectoral representatives to identify concrete projects and encourage sectoral policy transformation (such as in Colombia), and could facilitate CDM project finance to bring project ideas to full implementation. It is here, in the realm of government programs and market functioning, that mitigation efforts and climate considerations can have maximum impact on economic development, if the perversity surrounding additionality is handled.

Interestingly enough, those institutions which have been active in the field for a long time and which have invested a total of $18 million in capacity building, are beginning to realize that what has now become "traditional" CDM capacity building in LAC (levels 1 and 2) is no longer needed and that a major shift is due. This of course does not mean that every country has an established and efficiently running DNA, or that every country is presenting viable CDM projects. Clearly there is enormous variation in CDM capacity among the countries in LAC, as has been verified by Part One of this study. What this means is that more than any other region in the world, some LAC countries (Costa Rica and Colombia) are pioneering the convergence of climate and economic policies, that much can be learned from these experiences, and that there

are other countries in the region that may be ready to follow similar footsteps. It is this challenge that needs to be at the center of future capacity building efforts in LAC.

5. CONCLUSIONS and RECOMMENDATIONS

It is well known that the choice of development path in developing countries is far more important for the total magnitude of future world GHG emissions than the impact of isolated mitigation programs. It is also broadly recognized that less carbon- intensive growth patterns can in the long term be more sustainable for developing countries.[38] And yet currently there is only limited evidence of integration of economic development strategies and climate change considerations in developing countries. Perceived as the sole responsibility of industrialized nations, there is little appreciation for the win-win opportunities that are created by such a convergence.

There is no doubt that the LAC region has more CDM expertise than any other region in the world. However, the region's participation in the CDM tends to be more of an opportunistic enterprise than a strategic effort. With somewhat inflated expectations of the additional income that could come through the international carbon market, DNAs have been established in almost every country, and projects in many different sectors have been identified or have been prepared and presented. Yet these projects tend to be isolated attempts at accessing the international GHG reduction market, and fall short of being an effort to decarbonize the national economy. Unless the region's benefit from mitigation activities can be taken beyond individual projects, LAC countries may soon lose their enthusiasm even for individual CDM projects due to high transaction costs and the lack of impact of the CDM beyond the boundaries of single projects.

Efforts to promote the convergence of economic development and climate considerations in developing countries would be pursued on two distinct levels: the international negotiation level, and the operative regional level.

At the international negotiation level, Part One of this study has shown that there are specific design elements of the CDM (single project basis, current additionality interpretation) that hinder the ability of developing countries to use the CDM as an instrument to integrate climate considerations into economic growth patterns. As we consider the future of the climate regime, developing countries could have the opportunity to consider recasting the CDM in such a way as to achieve a stronger integration of national economic development and greenhouse gas (GHG) mitigation goals. In a recent publication[39] the author and her colleagues have proposed evolving the CDM into a Sectoral CDM (S-CDM), under which developing countries would be encouraged to develop regional, sectoral, sub-sectoral, or cross-sectoral projects resulting from targeted sustainable development policies, measuring the attained reductions and selling those on the international emission reduction market. As examples, a sectoral S-CDM project could be the modernization of the entire cement industry or all the waste treatment plants in a country as a result of a specific government policy, and a cross-sectoral S-CDM project could be achieving a certain efficiency standard in all industrial motors in a country as a result of new standard setting.

Compared to the current provisos of the CDM, an S-CDM would be predicated on a broader concept of project boundary and a different interpretation of additionality. An S-CDM project would have multiple components, not necessitating boundary definition around each component

[38] For a full discussion read Development and Climate Project, www.developmentfirst.org

[39] Samaniego, José luis and Christiana Figueres, *Evolving to a Sector-Based CDM*, chapter 4 in Building on the Kyoto Protocol: Options for Protecting the Climate, Kevin Baumert editor. 2002

but only around the entire project. The boundary of a sectoral project (e.g., cement industry) would be easy to determine, as it would include all cement production plants in the country or region. The boundary of a geographically based S-CDM project would in principle be the city or region to which the policies are directed, although it is entirely possible that not all sectors in a city would be subject to emission reduction policies.

The current interpretation of additionality would have to evolve in an S-CDM. Just as in the CDM, reduction activities under the S-CDM could be performed by private or public sector representatives, but the impetus to implement the reduction or sequestration project would typically stem from a public-sector policy or measure that pursues both economic development and environmental protection. In order for the S-CDM to be effective, sustainable development policies and measures would lead to, and in fact be the very basis of, a project's additionality. Under the S-CDM, one would expect to see projects which reflect sectoral transformation. The incentives provided by the S-CDM could help trigger a process of decarbonizing the economy in developing countries sooner rather than later.

A re-design of the CDM as a way of integrating climate protection and economic development would have to occur within the realm of the international negotiations, and is not the purview of the IDB. However, the IDB can consider becoming active at the operative regional level. In fact, the IDB has already made public its interest in helping the LAC region mainstream climate. In its desire to promote the integration of economic development and climate change considerations in LAC, the IDB must take several factors into account:

- The Bank has not committed significant resources to climate change capacity building in the region, and faces limits in its ability to do so.
- The Bank has not built an in-depth carbon expertise within its operation analogous to the NSS/PCF at the World Bank, and probably does not wish to do so, though it might still consider carbon finance on a limited scale.
- The Bank is a latecomer to the issue, as many other multilaterals have been active on the issue in the region for several years.
- In its development activities, the Bank, like other multilaterals, is limited to the priorities established by each member country.

Thus, the IDB must focus on how to maximize its leverage as a financing agent, and should work in partnership with the institutions that have acquired climate experience over the years. The IDB could contemplate a three-pronged approach to mainstreaming carbon factors into the development patterns of LAC countries:

1) Selectivity. The survey in this study shows that most, if not all the DNAs in the region, are interested in receiving support from the IDB. However, at the outset the Bank may not be able to work on mitigation issues in all its member countries, but rather needs to initiate efforts in a few counties where concrete results can be clearly demonstrated for accountability purposes. It has been shown that high-level national political commitment is crucial to success. The Bank could elect to work initially in a small number of countries that have demonstrated high political commitment to the issue, and that have relevant sectoral work as their priority areas with the IDB. From the small group of countries selected for case studies, it is clear that the governments of Colombia, Costa Rica, Ecuador and recently Mexico have made a decision to make the CDM a priority. In addition to political commitment, there may well be other selection criteria that the Bank may use to choose a subset of countries with which to start its climate change activities.

After the first round, the Bank will be in a better position to work with a larger group of countries.

2) Sectoral focus. Given the importance of in-depth sectoral work, the Bank should work with the selected countries to identify a few sectors upon which to concentrate efforts. For example, within the framework of the survey Costa Rican officials expressed their interest in IDB support for the transportation sector, Ecuadorian officials expressed interest in an IDB initiative focusing on distributed generation and energy efficiency, and Mexico would support a focus on renewable energy, landfill-to-energy, and transportation. Once the IDB has selected two or three target sectors, it could work with a broad array of national sector stakeholders, and in collaboration with carbon-fluent institutions (such as the World Bank), support in-depth training courses in the application of approved methodologies where those exist, and/or develop voluntary state-of-the-art sectoral standards with respect to GHG emissions. Individual plant upgrades to those standards would then be prepared and presented as CDM projects. This sectoral approach would have several advantages:

- Project preparation processes would be expedited, as one project would inform the next.
- Transaction costs would be minimized, as methodologies for baseline, monitoring, verification, etc. would be applicable to several projects.
- By choosing countries where there is a potential for several projects in the same sector, the effort would decidedly increase the carbon efficiency of that sector in those countries, helping to decarbonize key sectors of the economy.

3) Project finance. The many CDM capacity building efforts in LAC have built a portfolio of projects in the region, and have seeded an even larger pipeline of potential projects. But most of the institutions involved in capacity building cannot finance the execution of the projects. CIDA, UNDP, and UNEP can help absorb the transaction costs of project preparation, but they depend on financial institutions to do the actual financing. CAF is perhaps the only institution financing the projects it presents. The family of World Bank carbon funds has developed a carbon purchase portfolio totaling $332 million[40]. These projects require underlying project finance of approximately $2.6 billion. Only 8-16% of these projects have or are likely to have Bank Group financing. The majority of projects have carbon purchasers but no underlying finance, and without project finance these projects will not occur.

The IDB could play a key role in facilitating CDM project finance on two levels:

A. *Providing or structuring the underlying finance for the project.* The Bank could support feasibility studies of GHG reduction projects in the selected sectors. There may be opportunities of bilateral funding for a sectoral CDM feasibility facility that the Bank would launch. The Bank could then work with local financial institutions to structure the financing of the projects, or could consider the incorporation of the projects into its own lending portfolio.
B. *Acting as a lender for the carbon component of projects.* Project developers often need the total income of their carbon sales up front. However, carbon buyers pay only annually for the reductions achieved during that year. Once the project has been certified, IDB could lend the project developer the total value of the contracted carbon sales at the outset, receiving yearly payment from the carbon purchaser.

[40] Powerpoint Carbon Finance Unit of the World Bank, May 6, 2004.

Playing a role in the financing of the underlying projects or as a lender of the carbon component would have several advantages for the IDB:

- IDB could avoid having to develop an in-depth GHG knowledge. By contracting with other more carbon-fluent institutions (WB, UNEP, UNDP) to do the mitigation component of each project (baseline, additionality, monitoring, etc), the Bank can concentrate on its own strength: project finance.
- IDB would not have to pursue bilateral carbon purchase agreements though it might still wish to do so in some cases. Other financial institutions, such as the World Bank, IFC, and CAF already have GHG-reduction purchasing contracts and are pursuing more of them. The IDB could let those institutions acquire the reductions, and concentrate rather on the financing of projects with a carbon-improved IRR.
- Every CDM project has an enhanced project profile and a higher "bankability" due to the revenue stream from the CERs.
- Every CDM project financed by the IDB would have a greening effect on its overall lending portfolio.

None of this can be done without a substantial investment on the part of the Bank. IDB efforts would include:

- The creation of a facility for feasibility studies, perhaps with bilateral funding.
- The regional offices of the initially targeted countries would have to understand the opportunities of carbon finance.
- The environmental divisions of the targeted regions would have to understand how projects in the elected sectors can be submitted to a carbon upgrade.
- Effective working relationships with other institutions need to be developed.

It should be noted that there is an important timeliness factor affecting the IDB's involvement in the CDM. There is currently no guarantee that the Kyoto Protocol will go into effect, providing the underpinnings for the international emission reduction market as it was conceived in Kyoto. However, the fact that Europe, Canada and Japan have ratified the Protocol, and particularly the recent linking directive of the European Union, give some liquidity to the market, independent of the Protocol going into force. Should Russia not ratify, the Parties to the Protocol will have to solve the dilemma of a market that is legally contingent on the Protocol, but this should not be an insurmountable task. Under this scenario, and in the absence of rules for a post 2012 market, demand for CERs would exist only until 2012. Given that the preparation/construction time for a CDM project is typically five years, in practical terms the LAC region has a window of opportunity spanning 2004-2007 to identify and implement CDM projects which could sell some CERs during the first commitment period.

In order to promote the integration of climate change considerations in the economic development of LAC, the IDB would have to quickly mainstream carbon finance into its own operations and into the region- and yet this is probably the only way to responsibly finance the long-term sustainable growth of LAC. With or without the Kyoto Protocol, the region faces a future that is carbon constrained. An early adaptation and implementation of policies preparing for that future can only benefit the region. LAC is privileged by its current experiences in mitigation. It is better prepared than any other region to begin to meet the challenge of low carbon intensity growth. The IDB has a golden opportunity to catalyze the transformation of economic growth patterns in LAC.

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