FINANCIAL MECHANISMS FOR CLIMATE CHANGE PROGRAMS IN LATIN AMERICA

A CASE STUDY

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**INTRODUCTION**

The international climate change community’s focus has landed squarely on climate finance. There are over fifteen multilateral funds dedicated to a range of climate issues, from sustainable forestry to clean energy, along with a multitude of bilateral initiatives, and a number of compulsory and voluntary carbon markets. The magnitude of all of the concurrently operating climate-related financial flows was recently estimated at $USD 97 billion per annum.[[1]](#endnote-1) Furthermore, this already significant volume is projected to grow, with the capitalization of the Green Climate Fund, a United Nations Framework Convention on Climate Change (UNFCCC) fund that promises to supply USD $100 billion per year starting in 2020. Similarly, the 2011 Durban Accords lay the foundation for an international, legally binding carbon market.

While much of the world’s focus has centered on these types of international financing streams, until recently, very little literature has examined the receiving end of the funds. Given the nature of the climate challenges of the future, most of these funds will have to be channeled to developing country governments for mitigation and adaptation priorities. The World Bank’s *World Development Report 2010: Development and Climate Change* estimates that the global least-cost mitigation pathway would require 65% of those efforts to occur in developing countries*.*[[2]](#endnote-2) On the adaptation side, economists have estimated that by 2030 developing countries will require USD $28 – $67 billion in funds to enable sufficient adaptation to climate change.[[3]](#endnote-3)

This scale-up of climate finance merits a thorough study of what is the most efficient and effective way for countries to channel the growing amount climate aid. How should developing country governments organize their national climate change programs? How can they best use international climate flows to maximize their climate, energy, and environmental goals? Which financial tools will be the most useful for this process?

**OBJECTIVE**

This case study aims to advise policymakers and decision makers in Latin America on the different options for financing national climate change programs, both in mitigation and adaptation. The document discusses the mainstream mechanisms, highlighting country experiences implementing particular instruments, in order to provide insight as which mechanism works best in specific country contexts. It takes the position of advising a national government and government agencies about their choices in the climate finance landscape, rather than focusing on options for a project developer within the country context. Therefore, the paper has a narrower focus on the public sector’s role.

Within the public sector, international climate funds are normally channeled through the Ministry of Finance and/or Planning Ministry directly to the specific line ministries charged with executing the project or, at the minimum, with the technical guidance of these ministries. It is important to note that the relationship between these ministries, their relative strength and capacity, and the political economy of the particular administration will all have an impact on which particular mechanism will function best in that country setting.

Traditionally, it has been hard for Ministries of Finance to prioritize climate change spending, as it has traditionally taken a back seat to more pressing social sector priorities, especially during a time of recession. Ministries of Finance and Planning include climate change spending as various single line items in their budgets, normally under the sectors that they pertain to the most (i.e. energy, agriculture, transportation, infrastructure etc.). Recent evidence shows that Ministries are likely to continue this pattern into the future.[[4]](#endnote-4) Therefore, this type of domestic spending should not be ignored a financial vehicle for climate change.

As with any other public policy, the “best” mechanism is highly contingent upon the national circumstances of the particular country in question. The nature of the country’s climate challenges, its political circumstances, fiscal challenges associated with the budget, economic and bureaucratic structures, legal and regulatory capacity, and the specifics of its external debt are all factors that should be taken into consideration by the government when selecting a financial instrument to complement a national climate change program. In order to assess these details, a thorough examination of these factors should be conducted before any new mechanisms are finalized.

This case study first discusses the Latin American and Caribbean context and its implication for countries’ climate finance instruments; second, highlights seven different types of mechanisms—budget line items, traditional loans and grants, debt swaps, national climate funds, carbon markets, and insurance instruments—commonly employed by developing countries to implement national climate change programs. The discussion of these financial mechanisms examines their advantages and disadvantages as well as which context might be most appropriate for the mechanism. Finally, it presents a series of lesson learned and recommendations gleaned from the country experiences implementing these types of financial mechanisms.

**THE CONTEXT**

There are several characteristics of Latin America and the Caribbean that should have an impact on which financial mechanisms are most appropriate for the countries climate change programs.

First, most of the continent’s emissions are generated by land use change, which represents almost 50% of the region’s total emissions. Energy use and generation represents another quarter of the continent’s GHG emissions. Therefore, it is likely that the region’s climate finance instruments will have a focus on forestry, sustainable landscapes, and eco-systems management.

Second, the continent contributes relatively little to total global greenhouse gas (GHG) emissions (around 12%).[[5]](#endnote-5) Brazil and Mexico account for around 60% of the total emissions for the region with Argentina, Peru, Bolivia, and Venezuela making up another 25%.[[6]](#endnote-6) As a result, while the traditional focus on mitigation-oriented projects in energy and transport will continue, the continent has seen a recent increase in the number of projects and funds related to adaptation, mainly in the agriculture and infrastructure.

Third, Latin America is extremely vulnerable to the impacts of climate change as a result of its dependence on its natural resources and its high number of vulnerable populations. The region is already suffering some climate effects: temperatures in Latin America increased by about one degree Celsius during the 20th century, the sea level has risen two to three millimeters a year since the 1980s, unpredictable precipitation patterns have been observed recently throughout the region, and extreme weather events have become more common and more severe.[[7]](#endnote-7) Whether from international sources or domestically financed, it is inevitable that countries in the region will need funding to assess adaptation priority areas, create national adaptation plans, and execute those projects.

Finally, the 2009 recession in the United States and the more recent recession in Europe have had a profound impact in Latin America. Many countries in the region experienced contracted economic growth and increased levels of public debt as a result of higher borrowing through the recession. Due to higher levels of external debt, many Ministries of Finance have entered into a period of fiscal consolidation: limiting the amount of new loans and prioritizing immediate pressing public sector problems for the loans that were approved. In times of financial crisis and fiscal tightening, long-run environmental and climate concerns become lower priority. Accordingly, these programs are the target of budget cuts and normally not high enough priority to qualify for international loans in a competitive fiscal space.

*Figure 1: General gross government debt in Central American countries and the Dominican Republic from 2005 to 2012. Public debt, as a percentage of GDP, increases after the 2008 recession. Source: World Economic Outlook Database, IMF, last updated September 2011.*

Therefore, there is a need for innovative financing mechanisms with limited fiscal impacts to fund climate change activities in the region.

**THE MECHANISMS**

1. **Budget Line Items**

Designating line items in the budget for spending related to climate change goals is historically how countries have organized projects related to climate change. Typically, these line items come under the ministries that the programs are related to (forestry, transportation, agriculture, infrastructure, energy, etc.) and do not have a unifying climate change theme, but rather are the priority of the specific Ministry. This diversified spending arises primarily because climate change is a cross-cutting issue without a specific ministry in charge of executing related programs. This form of spending will likely continue into the future, even while innovative, extra-budgetary financial mechanisms for climate change are created.[[8]](#endnote-8) In fact, until the international climate finance mechanisms like the Adaptation Fund and Green Climate Fund are fully capitalized, line item budgetary spending for climate change will likely remain the main vehicle of funding in developing countries.

It would be helpful for governments, therefore, to understand more clearly what constitutes their current spending related to climate change and whether it falls on the mitigation or adaptation side of the issue. As no official, standardized definition for climate change spending exists, countries should define this category for their country as first step. Governments could then implement a methodology to categorize their climate spending. This allows Ministries of Finance and budget specialists to better understand where national climate spending currently stands. Knowing exactly where they are now can help both budget offices and climate change policy specialists better match spending to the actual climate priorities that the country faces in the future.

**Pros**

* **Tradition and historical patterns typically allow Ministries to continue to move spending through these channels.** Allocating funds to environmental programs in the annual budget planning process is a standard process throughout the region. Therefore, political inertia and tendency to continue with the status quo make it likely to continue to be a secure source for climate change related funding in the future. It is a process that politicians know how to manage well. If there is an established national climate change plan, it might be even easier to match spending along those established priorities.

**Cons**

* **Continues to centralize spending the Ministry of Finance.** The budget planning process is centralized in the Ministry of Finance, and does not invite competition and efficiency in allocating funds to programs. This can result in political pandering at the least and corruption at the worst. It is important that this funding is allocated programs that can either provide the largest amount of emissions reductions, greatest adaptation protections, or biggest co-benefits in terms of health or job growth. Without inviting competition in the process, these end results are not guaranteed.
1. **Concessional and non-concessional loans**

As developed countries began to disburse the USD $30 billion of climate change “fast-start financing” agreed upon at the UNFCCC 15th Conference of the Parties (COP), the number of bilateral programs dedicated to climate change has steadily increased, ranging from the U.S. Agency of International Development’s Global Climate Change program to Norway’s Reduction in Emissions from Deforestation and Degradation (REDD) program. Multilateral development agencies have also scaled up their financing dedicated specifically to climate change, exemplified by the Inter-American Development Bank’s (IDB) commitment in their 9th capital increase to dedicate 25% of their project funding specifically to climate change.

Indeed, studies have found that multilateral and bilateral institutions are the principal intermediaries of international climate finance. Bilateral institutions deliver around $24 billion annually and multilateral institutions around $15 billion; together, this represents around 40% of the world’s annual climate finance flows.[[9]](#endnote-9) For both multilateral and bilateral institutions, studies have shown that concessional loans remain the predominant means of channeling climate change finance for both mitigation and adaptation activities. Increasingly, however, non-concessional lending has been used mainly in support of mitigation activities, mainly in the energy and transport sector.[[10]](#endnote-10)

Most loan financing is delivered on a project basis making it an inherently a political process since the recipient government (through the various ministries involved in executing the loan) is the main actor that decides which projects are priorities. There is no formal process of competition between project developers on price or appropriateness. This leaves space for economic inefficiencies in project funding. It can also depress private sector innovation and crowd out domestic private investment.

This type of financing, however, is critical to many countries climate change and environment programs. It is not realistic to recommend a drastic change to the system as it functions. Concessional loans can, however, be adjusted in the way they are integrated into the budget. In this sense, it may make sense to move beyond the one to one ratio of loan to project funding toward either general budget support or a more programmatic approach.[[11]](#endnote-11) This allows the financed projects to have a coherent, unified, and domestically-driven focus. Donor institutions can then support the broader climate change goals of the recipient country rather than dispersed projects across various ministries. In this case, clear processes need to be created for how the aid will be allocated to ensure they are actually diverted to climate change objectives. Recipient countries can facilitate this by creating a national climate change plan with a portfolio of associated projects as well as clear, transparent budget mechanisms for allocating the international aid to those projects. This will help illustrate that the country is prepared to allocate the money properly.

**Pros**

* **Tried and true process that Ministries of Finance are accustomed to and have experience managing.**  Latin American country governments and Ministries of Finance have been implementing environmental and energy related loans for many years. The loan and project-funding process is well-documented and understood in Ministries of Finance throughout the region. While there will obviously still be obstacles, both technical and political, it is likely that the staff in the ministry have encountered them before and will be able to surmount them.
* **Loans will likely continue to be the bulk of international funding in the region.** Multilateral and bilateral financing will probably remain the largest flows into developing country budgets over the coming decades as other international mechanism start to grow. Therefore, it merits the effort to ensure these loans are channeled correctly and fit into the recipient country’s overarching national climate priorities.

**Cons**

* **Donor overcrowding and lack of strategic organization in the climate change portfolio**. There are a multitude of actors offering international aid financing to Latin American countries, from bilateral aid agencies, to multilateral banks, to UN agencies. Managing all of these different loans and grants, their various requirements, and their financial details can create a strain on the Ministry of Finance’s capacity. Furthermore, if the recipient country is not allowed to select strategically, the climate change projects coming from the loans and grants will have no unifying theme or country-driven approach. To this end, clearly communicating national objectives and climate change priorities to donors will help them better plan their regional and country strategy. A well-organized national climate change plan could be a valuable way to signal this information.
* **Unpredictability of donor flows disrupts budgetary planning capacity.** As developing country governments transition into multi-year budgetary frameworks and as aid compromises more of countries’ climate change budgets, the predictability of donor flows becomes even more important. It is difficult to create a stable multiyear budget plan when the amount of aid disbursed changes from year to year, whether it is due to internal ministry processes or donor delays. Donors and recipient countries need to agree to rules for disbursing aid at the outset of a loan to ensure the rules are adhered to by both groups. Streamlined processes on the receiving end and reduced conditionality on the donor end can help facilitate this goal.
* **Tightened fiscal environment makes new climate change focused loans unlikely.** Many Latin American and Caribbean countries have entered in a period of serious fiscal consolidation due to high levels of external debt, low growth forecasts, and uncertainty in global financial markets.[[12]](#endnote-12) As a result, new debt will not be used to finance new projects and investments, but rather to balance the books and stabilize the country’s economic situation.[[13]](#endnote-13) As climate change mitigation and adaptation tend to be long run priorities for Latin American and Caribbean country governments, climate change loans are likely to be sidelined in favor of health, education, and general budget support lending over the next several years.
1. **Traditional Multilateral and Bilateral Grants**

Grants also play an integral role in bilateral and multilateral financing. Traditionally, grants have been used to support adaptation, forestry, and environmental initiatives as opposed to mitigation activities, which have traditionally been supported by loans. Throughout the Latin American and Caribbean region, grants from multilateral and international institutions were used to stand up the ministries of environment. Given Latin America’s natural resource endowments and carbon sink potential, grants will likely continue to play a larger role in the region’s future.

Compared with concessional loan flows, which are estimated at USD $13 billion annually, grants are a much smaller portion of the climate finance flows at USD $4.5 billion annually. Overwhelmingly, the largest source for climate-related grants are bilateral institutions, with multilaterals coming in second, voluntary philanthropy coming in third, and, finally, a relatively small portion covered by international dedicated funds for adaptation, forestry etc. It is interesting that much of the international debate has centered very much on these international dedicated funds, such as the Adaptation Fund, while in reality the bulk of grant financing comes from bilateral agencies. [[14]](#endnote-14)

The appropriateness of grants or loans for financing climate change activities depends on both the macroeconomic and institutional strength of the recipient country as well as the financial variables of the recipient project. In the climate and environmental space, grants are normally provided for non-revenue generating activities in recipient countries, such knowledge management programs, capacity building programs, ongoing activities that do not generate financial return (forest preservation), and technical and costing plans, among other important activities.

**Pros**

* **Grants present no fiscal cost to the government.** In the tightened fiscal climate, with increased levels of public debt in many countries, grants present a viable option for continuing to finance climate programs that may not be a top priority in the competitive loan space. In particular, grants may be an option for more innovative catalyst projects (i.e. building climate change units in the Ministries of Finance) that will help facilitate a larger suite of climate change projects in the future.
* **Technical and cost studies associated with climate change are ideal candidates for grant assistance.** Climate impact studies, GHG abatement scenarios, cost assessments, public asset inventories can help increase a country’s understanding of the impact of climate change in its territories. These types of activities are perfect targets for grant assistance. This level of detail is integral to designing an effective and successful financial instrument, but many countries in the region do not have the luxury to commission them themselves, due to other more pressing social priorities.

**Cons**

* **There is a difficult political economy of grant giving in donor countries.** International financing available for grants may be constricted, especially given the recent financial crises, by the political economy of the legislatures in developed countries. Therefore, on the recipient country side becoming dependent on this source of financing will not create a sustainable climate programs. Grants, therefore, are better used as part of a broader financing package.
* **It is difficult to guarantee the funds will be spent on climate priorities.** The nature of grants makes it difficult to hold the implementing line ministries accountable for the funds after they have been disbursed. This could open the door to corruption and misallocation of funds.
1. **Debt Swaps**

Popularized in the 1980s, debt swaps have been used to finance a wide variety of international development projects, from debt for equity swaps to debt for nature swaps. A debt swap involves the sale of foreign currency-denominated debt by creditor nation to an investor (either a non-profit organization or a central bank) who buys the debt at a price that enables a profit margin. The investor can then swap this debt with the debtor nation, in local currency, for shares in a national company or for a wide variety of development projects.[[15]](#endnote-15) Debt for environment swaps cover swaps that typically focus on conservation and other “green” projects. Only very recently have they been expanded to include climate change programs.

Debt for environment swaps have become increasingly popular as financing mechanisms in the past ten years. A debt for environment swap can be financed either through a *one-time swap transaction*, in which the creditor writes off of the portion of the debt owed by the debtor and the present value of debt is converted into the local currency, or through a *swap as you pay transaction*, in which the creditor agrees on the percentage of the future debt service that will be converted to a domestic expenditure project over a set period of time.[[16]](#endnote-16) One time swap transactions can be difficult for developing countries, given the liquidity requirements of the debtor country. Furthermore, the *swap as you pay* transactions offer a steady stream of financing for a project—mitigating uncertainty and contributing to a stable investment climate for the private sector.

The history of debt for environment swaps in the region offers several important lessons learned for any potential debt for climate change swaps. First, a thorough analysis of the debt portfolio should be executed prior to official negotiations to ensure the debt is eligible and lends itself well to debt for environment swap agreement. LAC countries have had much more success swapping bilateral debt as opposed to multilateral debt, because the approval process is faster and the politics are easier to align. Furthermore, it is important to maximize the net present value of the debt selected so the monthly payments are large enough to solidify the climate change program.

Second, governments should be aware of the timeframe associated with executing debt swaps properly. The OECD estimates that a swap can take around two to four years to complete; chances that the swap will succeed are much higher if there is a consistent level of support and the same political party in the Ministry of Finance throughout that time. Given political turnover in some Latin American countries, it is important to keep this baseline and capacity in mind.

Finally, the technical details associated with the debt swap may not be as important as the design of the expenditure program that the swap will finance. It is important that these expenditure programs contain realistic, well-organized projects in line with both creditor and debtor priorities and housed within institutions with the necessary capacity to ensure their completion. Carefully prepared portfolios of potential climate change projects are prepared ahead of time can help facilitate this goal. The executing agencies need to illustrate this capacity, so donors are not operating under past apprehensions.

**Pros**

* **Debt swaps present no fiscal cost to the government.** Debt swaps redirect resources from debt service payments to project financing. This alleviates high external debt requirements that may be burdening some developing economies, while allowing them to start new projects with co-benefits for the economy and the environment. Furthermore, while some types of debt swaps have been associated with monetary problems in the past, debt for environment swaps avoid the adverse budgetary and inflationary risks associated with these other types of swaps in the past.
* **Debt for environment swaps can help kick start the development of long term project pipelines**. Debt swaps that are paid on regular intervals provide a stable long-term financing environment. This type of investment climate is ideal for large-scale, high capital cost projects that help kick-offs a national climate change program. Longer-term time horizons and fiscal certainty can help illustrate to the private sector that climate change projects are safe investment in the country. From these base projects, the country could build out its climate change program.

**Cons**

* **The viability of a debt swap is contingent upon the availability of appropriate bilateral debt.** Multilateral banks have moved away from debt swaps as an instrument for debt relief due to political implications and conditionality implications. As a result, bilateral debt has been the focus of most debt swap projects. Bilateral aid, however, is normally a smaller part of a country’s overall debt portfolio. Furthermore, only a small number of bilateral aid agencies have experience working with debt swaps. Given these constraints, debt swaps may not be an available option for all countries in the region.
* **Debt swaps employ a centralized decision making process on the nature of the expenditure program.** In the case of debt swaps, the Ministry of Finance takes the lead in deciding which climate change and/or environmental projects are financed with the debt swap installments. This type of centralized decision-making can lead to economic inefficiencies and can depress innovation due to lack of competition. To avoid this type of direct project financing, debt swaps could be converted into a national climate fund with competitive access to the funds.

**Guatemala & Climate Change Debt Swaps**

Recently, the government of Guatemala executed a €10 million debt swap with KfW, Germany’s national development bank, to support the implementation of activities listed in the Ministry of the Environment and Natural Resources’ (MARN) National Program on Climate Change.

Financially, both countries agreed to distribute the €10 million debt in equal annual amounts over the next six years. Therefore, from the Ministry of Finance’s perspective, there was no change in the current payment structure apart from the fact that the money would be paid to the MARN instead of KfW.

Initially, the debt swap aimed to fund adaptation-related activities within the National Program on Climate Change— specifically to increase the resilience of the country’s environmental goods and services and reduce its vulnerability to the impact of climate change on the country’s natural resource—through the creation of a national climate fund capitalized by the debt swap. Due to concerns about the viability of the portfolio of climate change projects that Guatemala had lined up for the fund, the debt swap has taken longer to finalize than initially expected.

While there have been a multitude of environmental debt swaps in the region since in their inception in the 80s, the vast majority of them have been related to forestry and biodiversity. Guatemala is the first country in the region to execute an environmental debt swap’s whose focus was explicitly climate change.

There are a number of unique circumstances that made this debt swap possible. First, the existence of the type of outstanding bilateral loan that Guatemala had with KfW made the swap politically palatable to both parties. That is, it was a fiscally neutral policy for Guatemala and a very low-loss transaction for Germany given it was an old loan earning interest of around 1%. Second, the Guatemalan Ministry of the Environment lobbied international donors and bilateral partners extensively to build a campaign for the debt swap as well as to illustrate Guatemala as a viable recipient. The environment ministry sent large delegations to UNFCCC and other international climate conferences to meet face to face with donors, prepared them to speak about debt swaps and Guatemala’s climate change programs in general.

In the end, it was not the financial structure of the debt swap that delayed its closure, but rather the programmatic elements. The suite of projects that Guatemala had prepared for the national climate fund was still in its nascent stages of development and did not include a sufficient level of cost, institutional, and impact details. Furthermore, the project auditing details had yet to be finalized. This lends support to the idea that climate change portfolios should be identified early and developed to large extent before country’s attempt to design financial mechanisms.

Source: ECLAC. La Economía de Cambio Climático en Centroamérica: Reporte técnico 2011. (Santiago, Chile: Naciones Unidas, 2011)

Alejos, Luis. Personal Interview. 19. March 2012.

1. **National Climate Funds**

This long-standing macroeconomic tool has recently been revived to serve climate change goals. A national climate fund is a financial mechanism that allows countries to collect, blend, and manage all the incoming revenue streams, both international and national, related to climate change into one, centralized fund. This, in turn, competitively allocates resources to a variety of “green” projects in the country. These increasingly popular national entities have been playing a crucial role as an interlocutor between the national policies for pursuing low carbon development and the international mechanisms that deliver this aid. There are at least 10 new national climate funds in Brazil, Indonesia, Bangladesh, China, Ecuador, Guyana, the Maldives and Thailand.[[17]](#endnote-17)

The exact design of a national climate fund will depend on its stated objectives, which areas of the climate change problem focuses on, its scope, how it is capitalized, how projects are funded, and its management structure. While there are certainly lessons learned from similar funds in the region, there is not a one size fits all approach to designing a national climate fund in general.

The United Nations Development Program (UNDP) published a handbook on national climate funds that provides useful direction on the basic design of the mechanism. The common structure for a national climate fund should include funding sources, governing bodies (both technical and administrative), a trustee, and implementing agents. The relationship between these four is defined by the Handbook as follows:

“The funding sources provide financing to the national climate fund while the governing bodies make decisions about the operations of the fund. The trustee manages the transfers of funds to and from the national climate fund’s bank account. Implementers receive funds and ensure activities are undertaken. Each of these agents supports the delivery of actions to achieve the strategic priorities of the national climate fund.”[[18]](#endnote-18)

Experience in the Latin American region with these funds indicates that the governance of the national climate fund should be connected to the government, but autonomous in its investment decisions, allowing it to be more agile and independent from political pressures.

The trustee of these funds varies from country to country. In order to build local and regional capacity, developing countries (i.e. Indonesia and Brazil) have tapped their own national development banks to steward the funds. Other countries have chosen the World Bank or the UNDP to act as the trustee until they build the national capacity to transition those responsibilities to a domestic agency.

At the outset of designing the fund, it is important to clearly define the functions of the fund and ensure that is objectives are realistic and achievable. Experience in the region with similar funds has shown that it is much easier for governments to scale up a national fund rather than to whittle it down. Next, the national climate fund needs to have a well-developed plan for capitalization, a clear governance structure, and a competitive and transparent process for financing projects. Regarding the latter, performance-based financing—that is, awarding work done in the previous year rather than providing funds for future projects—seems to achieve better results.[[19]](#endnote-19) The process for financing projects, however, will be very specific to the goals of the fund as well as to the instruments—loans or grants—used to fund the projects. In some cases, it may make more sense to implement a forward-looking competitive proposal structure. Finally, one of the most important components of the fund will be clear fiduciary standards along with a well-vetted auditing system, to gain both the trust of the public and of the international donor system.

**National Climate Funds: Two Experiments in Brazil**

Brazil has established two national funds that relate to its national climate change goals: the Amazon Fund and the Brazilian National Fund on Climate Change. The Amazon Fund was established in 2008 with the goal of raising non-reimbursable funds to prevent and combat deforestation primarily in the Amazon region. It has been largely capitalized by Norway, which contributed US $100 million between 2009 and 2011. Recently, the government of Norway announced they would pledge up to $1 billion for performance based activities between 2010 and 2015. The Fund is administered by the Brazilian national development bank (Economic and Social National Development Bank, BNDES) and governed by a committee of Brazilian government, civil society and private sector representatives. BNDES provides grant funding to projects that contribute to the prevention of deforestation, conservation, and sustainable use of the Amazon biome. The Technical Committee certifies the emissions reductions. Climate Funds Update data suggests that as of November 2011, the Amazon Fund had disbursed $33 million for 16 projects across Brazil.

The Amazon Fund has been praised by many for its ingenuity and flexible design. There are several unique aspects about the Fund that have made it successful. First, it employs performance based financing to allocate grants. Money is rewarded for cuts in deforestation levels and subsequent ton of carbon emission avoided achieved in the previous year, using credible monitoring data and a ten year baseline. Second, the governance of the Fund by a Steering Committee made up of federal and state officials as well as civil society representatives, allows government oversight but manages to avoid national political paralysis and bureaucracy. The steering committee does not act as the Board of the Fund. This has allowed devolution of power to the Fund’s actual operators, but maintained the government’s right to intervene. Third, the original managers’ decision to “start-fast and evolve” was integral to ensuring the Fund was a flexible institution able to rapidly disburse funds and to change processes and structures if they proved difficult.

The Brazilian National Fund on Climate Change was established in 2010 with the broader goal of financing mitigation and adaptation projects and supporting studies on climate change and its effects. The majority of the resources that will capitalize the Fund will come from a special tax on oil industry revenues, which was made possible through the passage of a special law (the Law of Petroleum), but it will also receive sources from other public, private, national and international donors. It had received $126.56 million as of November 2011. This fund will also sit with BNDES, but has a more active Steering Committee that will oversee the selection of projects and closely guide the strategic direction of the Fund. The Steering Committee consists of federal and state officials and is actively chaired by the Executive Secretary of the Ministry of the Environment. Projects, subject to Steering Committee approval, are derived from the national climate change programming portfolio and public calls for proposals. Given that the Fund finances future work, the monitoring and reporting requirements are not as stringent as the Amazon Fund, merely requiring annual implementation reports. As the Fund begins to execute projects, it will be important to ensure it maintains flexibility, efficiency, and transparency in its work.

Sources: UNDP. “Blending Climate Finance Through National Climate Funds”, September 2011.

Gomez-Echeverri, Luis. “National Funding Entities” European Capacity Building Initiative, October 2010.

<http://www.climatefundsupdate.org/>

**Capitalizing a National Climate Fund: How To??**

Capitalizing the national climate funds can come from a variety of resources, ranging from domestic levies to bilateral and multilateral grants. The source of the financing coming into a national climate fund will reflect, to some degree, the goals of the fund. If the national climate fund has a more general, broader set of objectives, it could blend together resources from both international and national entities. If the fund’s goals are more targeted, it will often collect financing from a single source. Depending on the scope of the fund, it may be easier to initially capitalize a fund with one source, such as a levy on coal or gasoline, and add more resources once the fund has shown it can manage its funds properly, operate independently, and implement projects efficiently. Furthermore, as there are different laws and processes for accessing the different types funds (private sector, domestic, international etc.), it will require more administrative capacity within the national climate fund to manage many of these sources concurrently. The human capacity associated with diversifying national climate fund’s financing may also make the case for building up slowly from one revenue source.

Costa Rica’s National Forestry Financing Fund (FONAFIFO) was initially capitalized by a flat tax on gasoline. As the fund’s reserves grew and the number of projects financed by the fund increased, FONAFIFO began to accept international grants from bilateral agencies and the World Bank. These additional sources of financing, however, were only added after external donors could see a robust monitoring and verification system and an efficient and transparent execution of funds.

The fund will also have to be operated by a banking entity. Ideally, it should sit with a national development bank, but the World Bank and UNDP have been used as trustees in the interim by countries that are still building the capacity to operate such a fund.

Sources: UNDP. “Blending Climate Finance Through National Climate Funds”, September 2011.

**Pros:**

* **Systematizes and centralizes a country’s climate change agenda**. Due to the crossing cutting nature of mitigation and adaptation objectives, a country’s climate change agenda is normally dispersed throughout several government ministries (i.e. the Department of the Environment, Energy, Agriculture, Transport, Commerce) without a centralizing agency or task force. Having a national climate fund allow the national government to view all its climate change projects in one place. This bird’s eye view will help ministries prioritize and budget climate change projects.
* **Fosters competition among project developers**. By forcing project developers to either compete for funds or by instituting performance-based funding, national climate funds can help ensure that cost-efficient, nationally appropriate projects are funded. As a market mechanism it is economically efficient, helping trim excess costs and streamline goals especially when compared to a government mandated project.
* **Allows a more transparent assessment of funding associated with climate change.** Housing the country’s portfolio of climate change projects as well as all the finance flows related to climate change under one national climate fund will help the Ministry of Finance and the Planning Ministry to better understand the portfolio. With a fund, they will be better able to view all the loans, grants, and other official development assistance that the country has received related to climate change. This, in turn, can facilitate more efficient budget planning and cost comparisons related to climate change projects.
* **Portrays an attractive portfolio of projects for international donors.** Having a centralized, coordinated portfolio of actionable climate change projects with coherent monitoring and evaluation schemes, fiduciary management plans, and estimated impacts makes it easier for international donors to select and support projects.
* **Allows for national ownership of a country’s climate change agenda.** A national climate fund allows recipient countries more ownership over international financial flows given the fund’s trustee has domestically driven rather than donor imposed goals. Normally, the trustee can blend donor flows, domestic expenditures, and leverage private investment so that projects accomplish the largest impact with a smaller input. Furthermore, by building national capacity to understand and direct these types of financing flows, national climate funds may also eventually qualify as a National Implementing Entity under the Adaptation Fund.
* **Serves as a seed for piloting new ideas.**National climate funds create the space for countries to pilot different types of projects to test what works and what does not in their specific country context. Since these funds are competitive, they allow for innovation within the countries. This can help lead to the growth of new industries and innovative co-benefits.

**Cons:**

* **Susceptible to clientilism and corruption**. Even with a rigorous selection process in place, there may be corruption and favoritism in the way that projects are selected, resulting in inefficiencies at best and misappropriated funds projects at worst.
* **National climate funds remain largely in their pilot stages.** A number of national climate funds have cropped up in the past five years in developing countries around the world, but many of them have yet to mobilize a large amount of capital or approve a significant amount of projects. It will be important to continue to monitor and learn from the national climate funds currently in operation. It will also be important to build the funds so that they can change as lessons are learned in the implementation and disbursement phases of the new funds.
* **National climate funds create another level of bureaucracy and require human capacity.** While there are concrete benefits to housing climate change projects and funds under one entity, creating a national fund adds another layer of bureaucracy and an additional set of processes to accessing funds. The government has to create, manage, administer, and oversee this fund, which may be taxing on countries in the region that have limited capacity and constant political turnover. Furthermore, given the breadth of international financing that national climate funds can channel, mastering all of the rules and processes could be time and resource intensive.
1. **Carbon Markets**

Carbon markets were the first international climate finance mechanism. With the signing of the UNFCCC’s Kyoto Protocol in 1998, two market-based mechanisms arose: (i.) the Clean Development Mechanism (CDM) and the (ii.) Joint Implementation (JI) Mechanism. The CDM allows developed countries with emissions reductions commitments to efficiently reach their targets by buying certified emissions reductions (CERs) in developing countries, where they are cheaper and easier to attain. Over the past decade, the CDM has evolved into the main source of public funding for climate change mitigation projects in emerging economies.[[20]](#footnote-1)

Other types of carbon markets have emerged in developed countries with Europe’s Emissions Trading System (ETS), Japan Emissions Trading System (JETS), and, more recently, Australia’s and New Zealand’s carbon trading schemes. Soon after, “local” carbon markets began to appear, such as the U.S.’s regional carbon markets, including the West Climate Initiative (WCI) and the Northeast Regional Greenhouse Gas Initiative (RGGI), and other city-based voluntary markets, such as the Chicago Climate Exchange

Latin American countries have followed suit, creating voluntary national markets like Chile’s Santiago Climate Exchange and the Brazilian Carbon Market. These markets rose out of a desire to stimulate national private industry as well as frustration with the backlog of actionable projects in the CDM pipeline. Due to a lack of regulation, high transaction costs, and diminished incentives for private sector involvement, however, very little trade has occurred in these local exchanges. For example, when the Brazilian Securities, Commodities and Futures Exchange (BM&FBOVESPA) offered for auction 180 MtCO2e of carbon credits in April 2010, it found no takers.[[21]](#endnote-20) The reality is that the majority of the carbon trading volume remains in the developed country markets. In 2010, ETS was valued at over USD $140 billion, up from USD $10 billion in 2005. As a whole, the global carbon markets saw transactions of 8.7 billion tonnes of CO2e in 2010 where the EU ETS accounted for 84% of the total trades.[[22]](#endnote-21)

The national and sub-national governments have little involvement in these mechanisms. While this means the carbon markets cannot be a significant source of revenue for the country, it also maximizes economic efficiency and minimizes corruption. By ensuring that a technical panel reviews projects, another impartial committee creates the certified emissions reduction, and that profits pass directly to the project developer, national governments tend to be outside the process.[[23]](#footnote-2)

**Pros:**

* **Stimulates the private sector and promotes economic growth.** Carbon markets were created to bring the private sector into the international and national carbon emission reduction strategies. Ideally, the extra revenue from the sale of the CER credits will help kick start nascent new clean technologies or make old processes (i.e. industrial processes and manufacturing) more efficient and cleaner, having a ripple growth effect on the economy.
* **Less government involvement, so projects are more economically efficient.** Removing the government from the process allows funds to be allocated in the most economically efficient manner—to the cheapest projects that result in the highest levels of emissions reductions. Also, within the carbon market process, there is less room for intentional corruption and unintentional misallocation of funding due to reputation and outside bias.

**Cons:**

* **Relatively little national capacity is built as a result of carbon markets.** The processes associated with most carbon markets require a complex expertise that is housed in a few specialized consultancies. These consulting companies are normally headquartered outside of the country in which the projects are taking place and hence do not generate in-country capacity to understand and undertake these types of projects in the future.
* **Carbon markets fail to reduce emissions at scale**. Both international and national carbon markets, especially those in Latin America, have fewer participants than originally anticipated and low trade volumes, barring them from making a substantive impact on national climate change goals. Furthermore, since the markets are designed to be project-based, there is little scalability for emissions reductions or revenue generation on a national level.
* **There are high transaction costs for participants**. A well-documented drawback to carbon markets are the high transaction costs associated with registering and implementing the project as well as monitoring and verifying its results. This has been a persistent problem with the CDM. Given the small emissions reductions that result from these projects, in some cases the transaction costs might outweigh its benefits.
1. **Insurance Instruments (Natural Disaster Insurance Facilities, Contingent Credit Facilities, and Catastrophe Bonds)**

The Inter-Governmental Panel on Climate Change (IPCC) in its landmark Fourth Annual Report (AR4) has forecasted that climate change will increase the weather variability as well as the intensity and frequency of adverse weather events in the Latin American and Caribbean region.[[24]](#endnote-22) Indeed, several countries throughout the region have seen the impact of sustained rainy seasons, increased frequency and strength of hurricanes, and the impact of melting glaciers. These events have not only had a serious impact the lives of citizens of those countries, but also on the government’s ability to operate efficiently and maintain fiscal solvency.

Due to a lack of individual insurance, diminished tax bases due to evasion, high levels external indebtedness, and highly correlated infrastructure risks, many highly exposed countries in the region cannot raise sufficient capital to repair damaged public assets and restore livelihoods—especially in the immediate short-term—following large weather-related disasters.[[25]](#endnote-23) For smaller countries with concentrated risks and strained tax bases, disasters can translate into serious economic and fiscal repercussions for the government, leading to both depressed economic growth and extended periods of higher than normal public debt. For larger countries with diversified risk, it may be easier to respond due to assistance from low-interest multilateral loans or, if the country has a larger population with a higher per capita income, from expanded tax revenues.[[26]](#endnote-24)

In most cases, the best approach to mitigating the risk from weather-related disasters is a combination of risk prevention and risk transfer mechanisms. It will depend on the country’s unique economic, fiscal, and geographic situation whether risk prevention programs or risk transfer mechanisms should be focus of a country’s risk prevention strategy. In general, however, risk prevention mechanisms should be used by the government for low to medium loss events that happen relatively frequently; lower probability hazards with high-costs and potentially devastating consequences are better covered by risk financing instruments. Low to medium loss events should be mitigated by budget expenditures that reduce vulnerability and create reserve funds.[[27]](#endnote-25) When it comes to lower probability events, country governments have historically financed their post-disaster expenses by reallocating budget resources and relying on both loan and grant assistance from the international community.[[28]](#endnote-26)

Economically, it is more efficient to create risk transfer mechanisms that can provide the resources for these types of climate-related disasters and shift loss responsibilities from the sovereign government to the capital market investors. Governments have not historically leveraged in these types of instruments, however, due to a wide array for market failures ranging from myopia to moral hazard. Recent developments in insurance analysis and modeling have resulted in instruments that compensate for some of these market failures. There are a wide array of these types of mechanisms, ranging in financial complexity, specificity, and management, used by country governments and private sector entities around the world. The following mechanisms present viable options for financing the type of risk that Latin American and Caribbean countries face in the future:

* *Insurance Linked Securities (i.e. Catastrophe Bonds)*: This form of a risk-linked security is tied to a specific trigger event ( i.e. the severity of a weather-related climate event) and transfers the risk associated with that trigger event from the sponsors to investors in the international financial markets. These types of bonds are inherently risky for investors, normally carrying a BB or B rating from the credit rating agencies, but have been issued by a wide variety of private insurance companies and continue to attract institutional investors. Defining the trigger is extremely important for these mechanisms, as badly designed triggers can lead to moral hazard and adverse selection behavior by the bond sponsor or a basis risk that causes the measurement basis of the trigger event to differ significantly from the actual losses. In either case, the government can fail to protect its citizens and economy against the actual impact of a climate-related disaster. However, if the trigger is effectively designed, the sponsor/holder of the bond can receive funds in the short-term, when its liquidity is normally restricted. There is less political risk with a risk-linked security than a reserve fund because the holder of the security is an independent authority, mitigating the chances for political corruption and handouts that have plagued reserve funds around the world. On the other hand, risk-linked securities cannot guarantee that the payments are allocated to those that need them most. Furthermore, the transaction costs associated with executing this type of insurance mechanism are higher than with other traditional types of insurance. This is mainly due to the administrative, risk modeling, and assessment costs associated with the transaction as well as the higher premium payments.
* *Contingent capital*: Contingent capital is based on a contractual commitment to provide capital to a company or sovereign entity after a specific trigger adverse event. The economic motivation of the sponsoring corporation is to have access to less expensive capital than it could obtain through capital markets or bank loans after the occurrence of the trigger event. After disasters, the cost of capital normally is higher and the entity’s liquidity is normally strained. This option helps alleviate both issues. The corporation or sovereign entity that purchases the contingent capital option has the right to sell its own securities at a pre-set price for a fixed period of time, after the specified event has occurred. Unlike other mechanisms, there is no insurance contract with the contingent capital option—it is strictly a banking facilities or securities transaction—removing it from the insurance markets and diversifying risk.
* *Contingent credit and loans*: Multilateral development banks have begun to offer this option both to individual countries as well to small groups of countries. The goal of these credit facilities is to act as a quick source of funds to cover the urgent financing needs required immediately after a natural disaster. The terms of the loan are similar to other investments loans that the banks execute with two important provisions: (i) the drawdown would be contingent upon the occurrence of a natural disaster event of unexpected, sudden, and unusual proportions of a type and intensity described in a related loan contract and (ii) certain multilateral bank procurement policies will be waived in order to allow fast disbursements immediately after the event occurs. The latter is an essential requirement of this new instrument as it circumvents bureaucratic processes that slow down the allocation of funds.

**Caribbean Catastrophe Risk Insurance Facility (CCRIF): An Emerging Model for the Region?**

This multi-country risk facility was created in 2007 in order to help Caribbean countries purchase insurance against weather related disasters from international financial markets with affordable premiums and sufficient coverage. The better diversified portfolio from the 16 member countries reduced premium payments by around 45-50% compared to if the countries had executed the insurance instruments separately. While international donor funds were used for the initial capitalization to and defray start up costs, the reserves from countries’ premium payments have allowed the fund to transfer risk onto the international markets through reinsurance and other financial risk instruments. The facility has been so successful that neighboring governments and multilateral banks have made significant financial pledges to its reserve fund.

CCRIF uses an index based trigger, with baselines for wind speed in the case of a hurricane and ground shaking in the case of an earthquake. If the trigger is met, the fund covers up to 20% of the estimated loss. In the case that the total insured losses exceed its claims-paying capacity, payouts are pro-rated on the total amount of expected claims compared to the remaining available funds.

CCRIF has employed an interesting mechanism for determining individual country premiums that helps avoid prisoner dilemma issues. Each country’s premium is determined separately according to the coverage a country decides to take, the exhaustion points of that coverage, and the risk profile of the country. As a result, each country pays in exact proportion to the amount of risk it is transferring to the insurance facility, so there is no cross-subsidization of other countries’ risks.

This model may work well for the Central American countries, as they face similar climate risks and would benefit from the lower premiums that come from a diversified risk portfolio, or even for a group of smaller states facing similar weather dilemmas.

Source: Ghesquiere, Francis et al. “Caribbean Catastrophe Risk Insurance Facility: A solution to the short-term

liquidity needs of small island states in the aftermath of natural disasters.” *International Aid & Trade*. (Washington D.C.: World Bank, 2010)

Caribbean Catastrophe Risk Insurance Facility. [www.ccrif.org](http://www.ccrif.org)

* *Multi-country Risk Facilities*: This is a larger version of the traditional insurance instrument available to smaller entities that face similar climate risks and would benefit from risk pooling arrangements that stretch beyond their individual borders. Due to the better diversified portfolio, the risk insurance facility can provide immediate liquidity in the short term at a significantly lower cost than if each entity were to purchase insurance separately on the international financial markets. The facility can then transfer the risk it cannot retain through its reserves onto the international financial market through other financial instruments. As the reserves accumulate, however, the facility will be less dependent on international markets. Once a trigger has been met, the facility would cover up a predetermined amount of losses in the country. Again, defining the proper trigger is extremely important in this case, as basis risk could undermine long term sustainability. In this type of arrangement, it is important to establish the fair rules of participation to avoid prisoner’s dilemma issues. Therefore, the cost of coverage should be a direct function of the amount of risk being transferred, ensuring a level and fair playing field for all participants.

**Climate Change Units: First Steps in the Region**

Developing countries around the world have recently begun to establish climate change units within their Ministries of Finance. Several countries within the region have recently begun to follow suit, establishing small units charged with monitoring and managing climate finance within either the Ministry of Finance or the Ministry of Planning. In their current form, the units tend to be small, with around two to five dedicated staff members. These units originated from the need to centralize the diverse streams of climate-related finance that were coming into the country through various avenues and targeted at different sectors. Because climate change is a cross-cutting issue, it is hard to monitor the multitude of loans, grants, and debt swaps that were executed with different line ministries (i.e. Ministry of Transport, Ministry of Environment, Ministry of Energy, Ministry of Agriculture, etc.) relevant to climate change goals.

While these units are new, their missions generally seem to touch on four dimensions: (1.) provide economic analysis on the costs of climate change to the country, (2.) monitor climate-related finance flows, (3.) take stock of the risk associated with climate change as well as create and manage the financial tools to mitigate that risk, and (4.) mainstream mitigation and adaptation into the national budget and public investment plans. These units can more appropriately execute on the country’s climate change goals if the officials executing the research and cost analyses are housed in the same unit as the officials executing the grants and loans. It helps ensure that the climate change demands within the country are more properly matched with the international supply of funds. This, in turn, will minimize economic inefficiencies. India has adopted this model in order to better mainstream a low carbon, sustainable growth plan for the country.

These economic studies also provide an excellent window to assess the fiscal risk posed by climate change. Ideally, the studies should determine the expected present value of the implicit contingent liabilities that climate changes creates for the country—broken down by specific risk sources, the size of their potential economic impact, and the probability of their occurrence. This will eventually inform the capitalization of a reserve fund with sufficient resources and a better, expanded balance sheet for the country.

Exactly where these units sit within the Ministry of Finance and/or Planning will necessarily vary according to the country as it will be driven by the political economy within the ministry itself. Its institutional position should also be driven by the main mission of the unit. That is, if the unit primarily aims to assess fiscal risk, it should be housed in the budget department; if the unit aims to manage the international loans and grants, it should be housed in the office of public credit.

 In the region, they have been place in the Ministry of Finance’s office of public credit (Guatemala, Honduras), the Ministry of Finance’s international office (Peru), or the Ministry of Finance’s risk analysis unit (Mexico, El Salvador, Panama). In Colombia, the climate change unit sits within the Ministry of Planning so that it can better tied into the budget planning and public investment process.

When these instruments are applied to climate change, however, there are several differences that will be important to keep in mind. One, many of the natural disasters that climate change will bring on are slow-onset (i.e. drought, salinization of fresh water, coastal erosion) as opposed to fast-onset, which is currently how many of these instruments are calibrated. The triggers, therefore, may have to be tweaked to compensate for the difference. Two, the statistical modeling used to predict the future pattern of natural disasters is normally based on the frequency of past events. This will have to also be changed because of the impact of climate change will have on the frequency and erratic nature of future adverse weather events.

Ministries of Finance in the region will need to be better equipped to understand, manage, and finance the type of fiscal risk posed by these low probability, high risk climate events. These types of implicit contingent liabilities, however, can be integrated into the budget planning process, which would help countries recover faster and mitigate the fiscal and economic impact of the disasters better. To do so, Ministries of Finance need to build the capacity to understand the risk facing its public assets, the probability associated that risk, the models and stress tests that analyze if reserve funds will cover the probable events, and the ways to pass along the extra, leftover risk. Given the level of specificity and technical expertise required, some countries like Chile have created units within the Ministry of Finance to manage the contingent liabilities associated with natural disasters.

**Pros:**

* **Provides short-term liquidity for government spending in the face of immediate needs.** When faced with natural disasters and severe adverse weather shocks in the past, Latin American and Caribbean governments have reallocated budget resources and previous loan payments toward disaster management needs. There can be liquidity issues, however, as the processes involved with reallocating these resources normally involves bureaucratic hurdles, administrative issues, and Congressional and Board approvals. Contingent credit lines, insurance-linked securities, and risk facilities help ameliorate this issue, as they are designed to provide fast, immediate resources.
* **Defends against long-term fiscal insolvency.**  Currently, Ministries of Finance have been able to service the additional debt brought on by an adverse weather events in a reasonable timeframe that does not jeopardize long-term fiscal solvency. As the incidence of adverse climate-related disasters becomes more frequent, the burden on the balance sheet could become more permanent if there are not other financial mechanisms in place for easing reliance on foreign aid. Certain insurance mechanisms, such as insurance-linked securities, pass that risk onto international financial markets and, in doing so, make governments less dependent on external debt.

**Cons:**

* **High premiums are hard to justify in times of fiscal austerity.** Most of these insurance instruments require premium payments, which can be hard for a government to justify during a time of fiscal consolidation and other pressing development priorities. The nature of financing ex-ante tools requires that resources are spent today to avoid future event. The opportunity cost of protecting against this unknown event is the cost of the premium itself as well as the benefits that could accrue from investing in other programs. Politically, it can be difficult for budget offices to justify these expenses. With more concrete information on the fiscal impact of these events, it might be easier for decisionmakers to defend smaller payments in the face of larger, potentially budget distorting costs.
* **Difficulty of incorporating cost uncertainties into national budgets and fiscal frameworks.** Incorporating contingent liabilities, such as the adverse impacts of climate change, into the budget planning process presents both an analytical and policy challenge.[[29]](#endnote-27) Analytically, the Ministries will need to undertake quantitative assessments of the risks associated with different outcomes. This will require dedication of staff within the Ministry of Finance and/or Ministry of Planning to analyzing risk, the costs associated with that risk, and the technicalities of incorporating that liability into the long term budget. Countries have had success including these contingent liabilities as an annex to the multi- year budgets, along with alternative assumptions about the political economy restraints on feasible tax burden adjustments and the impacts on net asset accumulation.[[30]](#endnote-28) This work is complex, however, and may require the creation of a whole unit dedicated to contingent liabilities and their fiscal impact. In regards to policy, a scaling back in terms of public commitments and a cautious approach to making future policy commitments could free resources for insurance-related financial mechanisms. Adjusting the budgeting process, however, will be difficult politically, especially if it involves the approval of the legislature. A proper justification of these budget changes, along with cost estimates of adverse scenarios, could help communicate the importance of including these contingent liabilities into the budget framework.
* **Insurance mechanisms are inherently reactive.** As with all insurance scenarios, there is the challenge of moral hazard. Line ministries and local governments tend to stop vulnerability reduction activities if they are aware that the federal government has planned for worst case scenarios and, even more so, if they are aware that funds have been allocated for those possibilities. To this end, national governments need to supplement insurance related financial mechanisms with national vulnerability reduction plans, emphasizing cost-effective adaptation measures. Countries cannot depend solely on insurance mechanisms as its only safeguard against climate-related shocks.
* **Disbursement of funds can invite corruption.** The disbursement of funds in post-disaster settings has been traditionally plagued with corruption, both in developed and developing countries. There tends to be absence of oversight in these settings, as there is normally just one agency involved in disbursing the funds and because the funds have to be disbursed quickly. In order to avoid this pitfall, some governments have created formulas that allocate funds in a systematic, pre-determined order through a neutral entity.

**LESSONS LEARNED**

It is unlikely that the amount of development aid will increase significantly in the short and medium term. The amount that developed countries allocate to international aid institutions has changed very little over time and the financial crises in Europe and the U.S. make it unlikely to increase significantly in the immediate future.

This has two implications for developing country governments in regards to their options for climate finance instruments. First, recipient country governments will most likely have to utilize instruments that have a limited fiscal impact and originate from existing loan and programs. To accomplish this, it will be helpful to reorganize, consolidate, and leverage existing climate change financing streams into national climate funds to allow private sector leverage and create debt swap outlets. Second, developing country governments should seek to tap new, innovative sources of climate aid outside of official development assistance—such as an aviation and maritime transportation tax or financial transaction tax—to bring in revenue from previously inaccessible sources.[[31]](#endnote-29)

Each of the financial instruments discussed in this document is only appropriate in specific economic and country contexts. There can be no one size fits all approach to creating these instruments. It merits to the time to think carefully about which instrument is most appropriate, why the instrument is the best fit, and how to design the mechanism to ensure incentives are aligned. New financial instruments can be promising, but if not understood fully and regulated properly, could potentially have an unforeseen negative impact on the economy. Therefore, investing time at the outset of creating the mechanism to fully understand its design and the implications of its impact is extremely important. Furthermore, staff consistency during the design and implementation of instruments is helpful to ensuring the policies can actually meet their original goals.

The following lessons learned should help guide countries operating within this framework to create the financial mechanisms that will help reach national climate change goals.

1. **The decision about which financial mechanism is most appropriate should proceed from a clear understanding of the exact nature of the climate challenges that a country will face, consequently there is a need for more information on mitigation and adaptation scenarios and their associated costs.** The exact financial mechanism that a government will employ is highly contingent on the specifics of that country’s economy and climate challenges. Unfortunately, Latin American and Caribbean countries do not have precise forecasts of the challenges climate change will bring to their countries nor do they have well calibrated estimates of the costs and political economy associated with mitigation and adaptation scenarios. In order to ensure the mechanism correctly matches the problem, risk assessments, cost valuations, vulnerability maps, satellite imaging, and adaptation scenarios should be carried out in the relevant sectors (energy, agriculture, forestry, water and sanitation, infrastructure, and transportation) as well as at the various levels of government (national, state, municipal). This will give the Ministry of Finance a clearer picture of the upfront costs, the time horizon over which those costs will be realized, and the implications that those costs will have on the national budget.
2. **Countries should move toward identifying climate change spending in their budgets.** There are several methodologies that have been used to identify climate change spending in developing country budgets. As this is not systematized or common in the region, it could be an easy next step for Ministries of Finance to understand what they are currently spending on climate change and how they can match that to national priorities. Since there is no standardized international standard budget classification for climate change spending, countries should define it for themselves, building on definitions other countries have used recently. This will be particularly useful if countries plan to continue building their climate change programs around line item spending.
3. **Countries that have created and successfully capitalized climate finance instruments normally have done so in tandem with a national policy plan for climate change. A complementary national climate change plan facilitates the execution of the financing mechanism.** With a national policy framework, the government explicitly outlines its climate change priorities and creates a foundation of viable projects that could potentially be funded by the financing mechanism. These plans can be even more successful when nested within national development plans or when more closely linked to funding sources. With this portfolio established, it will be easier to estimate costs, enumerate priorities, and assess the political implications of the projects. Involving the Ministry of Finance and the Ministry of Planning in the creation of this national climate change policy framework helps bolster these ministries’ capacity to understand the country’s climate priorities as well as helps build relationships between the financial ministries and the technical ministries.
4. **Create a portfolio of viable, well-vetted climate change projects will not only create a channel factor for international investors, but it will also help Ministries of Finance evaluate its country’s climate change portfolios as a whole.** Most of the mechanisms are more likely to receive funding if the implementing country has a well-developed and thoughtful portfolio of projects that are ready to be capitalized and implemented. These projects should have well-formulated goals, implementation schedules, and monitoring & evaluations plans. This can also help ministries prioritize projects by cost and urgency, and more efficiently mainstream climate change priorities into the budget. This portfolio would ideally sit within the national climate change plan.
5. **Coordination between the Ministry of Finance (especially the Office of Public Credit) and Ministry of the Environment is essential. Without a clear understanding and communication between the two ministries the process of creating the instrument can stagnate.** Strengthening the relationship between these two ministries cannot be avoided as access to international climate funding is inherently tied to the work of the environment ministry but normally facilitated through the Ministry of Finance. Coordination could be facilitated by assigning a liaison from the Ministry of the Environment to work directly with the Ministry of Finance on these instruments or by creating a climate change unit within the Ministry of Finance that has staff trained in both disciplines.
6. **Since some financial mechanisms redirect funding to the Ministries of Environment it needs to strengthen its ability to execute projects in an efficient and timely manner.** It is important to illustrate that the environmental and other technical agencies can execute projects efficiently, transparently, and within the given timeframe. Environment ministries are relatively new and small in most countries in the region. To build this capacity, environment ministries need to establish processes, set regulations and standards, create monitoring and evaluation criteria, and consolidate their environmental agenda for the country. The role that climate change plays in that agenda should be clearly delineated among other priorities. Multilateral institutions have a long history of providing funds and trainings to build this internal technical capacity. These types of activities would be the perfect candidates for grant financing.
7. **Financial instruments are more successful when they are set in a conducive regulatory and legal environment.** Financial instruments require a functioning legal and regulatory system to have their intended policy impact. Regulatory policies should stabilize prices, increase transparency, and mitigate legal uncertainty to illustrate that the country will be capable of executing climate financing packages.
8. **Government efforts to mitigate the risk/return ratio for the private sector will increase financing flows for the government by leveraging private investment.** In order to mobilize the amount of capital needed to both mitigate and adapt to climate change, countries will need private sector investment in their national climate change funds. Private industry, however, will not invest unless risk is low and return on par with other investments. Governments facilitate these investments through both concrete financial tools that guarantee the private sector will see a minimum return on investments as well as through soft assurances, such as regulatory and legal provisions that make doing business in the country easier and safer.
9. **The mechanisms that exist outside political bodies have demonstrated the greatest implementation capacity.** The political and administrative processes associated with government expenditure can be a serious impediment to efficient project execution. National climate funds are more flexible to amend their project portfolio if implementation problems arise because these funds exist outside the national political system. Instead, they have their own oversight panels and steering committees that are smaller and more manageable. Debt swaps and multilateral and bilateral loans must be approved by the legislature, however, before they are implemented. This can cause delays and political distortions to the economic and climate goals of the projects.
10. **It is critical to develop a strategy within the Ministry of Finance for contingent liabilities, including adverse weather events.** There needs to be a clear mandate of which ministry—and within that ministry which office—has the authority to deal with fiscal risk. A clear mandate should dictate the collection, synthesis, and modeling the government’s fiscal risks and broader contingent liabilities. This office should include both explicit and implicit liabilities, including climate-related risks. The longer-term contingent liabilities could be added as annex to the budget or, if the country has a multi-year budgeting framework, directly into the budget with matching reserve funds or risk transfer mechanisms to minimize the modeled probable impact. The officials in charge of this work would be charged with advising policymakers on the fiscal advantages and disadvantages of alternative policy choices and ways to manage the financial risk instruments.
11. **Given the level of specificity and technical expertise required, creating a climate change unit within the Ministry of Finance will better equip it to understand, manage, and finance climate change priorities.**  Several countries in the region have recently added climate change units within their Ministries of Finance or planning ministries to manage the country’s diverse climate finance portfolio. They are staffed internally with public finance experts that have experience on climate and the environment. Given the cross-cutting nature of climate change this allows a cohesive unit to monitor and manage the finance mechanisms in operation across line agencies and outside the government (i.e. national climate funds). It also empowers the work of the environment ministries, which have traditionally been weak in the region, by giving them a direct line to funding. Depending on the human capacity, these units could undertake a broad range of activities from commissioning studies on the economic impact of climate change to creating risk transfer mechanisms that manage the climate risk.
12. **Create a group or designate an individual within the executive branch that can oversee all of the climate change mechanisms supported by the government.** Countries that have been successful in creating national climate change programs and the complementary climate finance mechanisms tend to have leadership from within the executive branch. This leadership helps sets priorities within the country’s climate change agenda and works with the line ministries to ensure those priorities are implemented. To ensure sustainability with government changes, the position should be institutionalized as a permanent advisory position. Even with a climate change unit in the Ministry of Finance, an executive branch leader ensures the government leadership is cognizant of all of the country’s climate change policies and that it has done its political due diligence to ensure it is passed. It is important, however, to limit this executive leader’s power over the financing mechanisms, to avoid undue political influence and excess administrative and bureaucratic processes.
13. **Climate change capacity building should not only be focused on the government, but also on civil society organizations; the Ministries of Finance should work to build relationships with national civil society organizations.** Government ministries are not the only way in which governments can receive money for climate change programs. That is, national civil society organizations have begun to play a larger role in international climate finance with the advent of direct access to dedicated international funds. In order to achieve access to these funds, however, the organizations must quality as a National Implementing Entity (NIE) by indicating they have the necessary capacity, financial integrity, and transparency standards to use the funds properly. Latin America and the Caribbean have led the world in qualifying these organizations, with Jamaica and Uruguay qualifying two of the first three officially sanctioned NIEs. This channel both amplifies and diversifies the country’s access to climate change funding. In order to ensure the country is working toward the same climate priorities, climate change units from within the Ministries of Finance should work hand in hand with these organizations.

**CONCLUSION**

As the landscape of climate finance grows, the number of mechanisms used to channel those resources has grown as well, affording Latin American countries a multitude of options when it comes to financing their national climate change projects. Exactly which mechanism makes sense for the country, however, is contingent on the country’s specific political, environmental, geographic, macroeconomic, regulatory, and historical circumstances. The selection of the mechanism has to arise out of a solid and well-developed understanding of the climate goal the mechanism aims to achieve and the economic tools available to achieve it. Does the country face rapid deforestation threats or will adaptation be a central priority? Should the country tackle the rapidly increasing contribution of energy to total greenhouse gas emissions in the country? Are there carbon markets that could finance those specific mitigation activities?

In order to arrive at these decisions, the Ministry of Finance, the Planning Ministry, and the Ministry of the Environment need to be able to view the country’s climate change projects as a whole portfolio to understand the economic costs and benefits of each project. Many countries still do not have a good sense of the costs associated with their country’s mitigation and adaptation pathways, especially at the local level. Therefore, a valuable next step for all the countries in the region would be to commission climate change impact studies. This report should feed into a national climate change plan. Even more importantly, this climate change action plan should be incorporated into the national development plans and the annual budget process. The priorities and projects articulated in the national climate change action plan will help inform which financing mechanism is most appropriate for the country’s climate goals.

Having a well-organized national portfolio of ready to implement climate change projects will also help attract international financing. Donors want to invest in projects that are established, can be executed quickly, and have monitoring and evaluation plans in place. Especially in the climate change space, donor agencies seek projects with measurable results (i.e. tonnes of carbon emission abated or number of people protected from sea level rise) to report back to member countries. If these criteria are established at the beginning, it can signal to donors that the country will be able to implement the project well and efficiently.

The “best” climate finance mechanism has to fit within the country’s macroeconomic situation as well as its fiscal frameworks. For example, in countries with high levels of external debt, it makes more sense to utilize a tool with a smaller fiscal cost, like a debt swap. On the other hand, for countries with larger tax bases and higher government revenue, it may make more sense to implement a national climate fund capitalized by domestic revenues.

In order to bring the appropriate level of fiscal and budget expertise into creating a national climate finance mechanism, the planning process will need to be housed in the Ministry of Finance. Ministries of Finance, however, tend to lack the necessary climate and environment expertise to manage the programmatic elements of these instruments. To ameliorate this problem, governments across the region are creating small climate change units within their Ministries of Finance. These units should be expanded and given larger budgets to bolster their capacity. They will need to commission the cost and impact studies associated with these mechanisms, manage the diverse portfolio of loans and grants related to climate change, and mainstream climate change priorities into the national budget and public investments plans. Building climate change institutional capacity within the Ministry of Finance will be crucial to creating efficient, relevant climate finance mechanisms.

In many cases it will make the most sense to use a combination of financing mechanisms. Countries will have to strike a balance between forward looking mechanisms that help countries prepare for or mitigate climate change and backward looking mechanisms that help countries react to the unexpected consequences of a more variable climate. The proper combination of these mechanisms has to arise of out of a clear understanding of country climate risks, impacts, and probabilities.

**ACRONYMS**

BNDES Economic and Social National Development Bank (Brazil)

BM&FBOVESPA Brazilian Securities, Commodities and Futures Exchange (Brazil)

CCRIF Caribbean Catastrophe Risk Insurance Facility

CDM Clean Development Mechanism

COP Conference of the Parties

CER Certified Emissions Reduction credit

ETS Emissions Trading System (Europe)

FONAFIFO National Forestry Financing Fund

GHG Greenhouse gas

IPCC Intergovernmental Panel on Climate Change

IMF International Monetary Fund

JETS Japan Emissions Trading System

JI Joint Implementation Mechanism

MtCO2e Million tonnes of CO2 Equivalent

NIE National Implementing Entity

OECD Organization for Economic Cooperation and Development

REDD Reducing Emissions from Deforestation and Degradation

RGGI Northeast Regional Greenhouse Gas Initiative (U.S.)

UNFCCC United Nations Framework Convention on Climate Change

UNDP United Nations Development Programme

UNEP United Nations Environmental Programme

WCI West Climate Initiative (U.S.)

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