Using Multilateral Funding to Achieve International Treaty Goals: Negotiated Funding Formulas for Predictability, Transparency, and Coordination

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Introduction

When the governing board of a philanthropic foundation receives applications for funding, it allocates resources to achieve the organization's vision of a better world (Whitman 2008). As independent, non-membership-based entities with their own governing boards and their own sources of income, foundations have full control over how they use funding to achieve their self-defined purposes. In contrast, the governing board of a multilateral funding institution established by an international treaty is accountable to all of the countries that are party to that treaty. Furthermore, the treaty may have multiple goals. Vague "strategic priorities" or long lists of opaque "criteria" may be used to allocate limited funding to a large number of applicants. It is thus inevitable that signatory countries will question the wisdom and credibility of these criteria and the choices that result.

There is often a power imbalance between donor and recipient countries that have conflicting ideas about funding priorities (Isenman and Shakow 2010). Even when funding priorities are nearly unanimous, it is very difficult to determine what distribution of funding will best achieve collective goals. The temptation to fund innovative, one-off projects competes with the need to build country-level commitment and capacity (Isenman and Shakow 2010). The existence of short-term, fragmented funding sources also hinders countries' ability to use resources for sustainable progress (Isenman and Shakow 2010). Finally, evaluating the impact of funding poses an additional challenge because there is a time lag between disbursement and measurable outcomes, other factors influence conditions in countries, and acceptable "currencies" for measuring achievement rarely exist (Mee et al. 2008).

The Challenge of Allocation and the UNFCCC Funding Institutions

The financial mechanism established under the UN Framework Convention on Climate Change (UNFCCC) includes three funds managed by the Global Environment Facility (GEF) and governed by the GEF Council: the Least Developed Country Fund, the Special Climate Change Fund, and the GEF Trust Fund–Climate Change Focal Area. It also includes the Adaptation Fund, which became operational in 2009 and is governed by a separate board with the World Bank as interim trustee. As has been the case with other treaty-based multilateral funds, the fairness of these funds' allocation systems has been challenged on multiple grounds. There has been serious concern about the fairness of allocation across goals, across countries, and within goals.

As of December 2010, 89 percent of pledged global climate change funding had been allocated to mitigation (Climate Fund Update 2010), to the great alarm of vulnerable countries. Mace (2005) and Paavola and Adger (2006) discuss the social justice and equity problems that accompany this historically low level of assistance for adaptation. In addition, the GEF's use of the Resource Allocation Framework to prioritize individual countries for the Trust's Climate Change Focal Area has provoked serious consternation. Using the Resource Allocation Framework described in Box 1, high-ranked countries can access reserved funding from "allocation envelopes" while other countries face intense competition for a very limited amount of money (Clemencon 2006). Mohner and Klein (2007) also comment on the flow of funding from the Special Climate Change Fund to countries with economies in transition, despite the decision of the UNFCCC Conference of the Parties that this fund should be used for developing countries.

Within the Adaptation Fund, eligibility, funding priorities, and factors remain vaguely defined. The board's guidelines identify eligible parties as developing countries "that are particularly vulnerable to the adverse effects of climate change" (Adaptation Fund Board 2009). However, the definition of "particular vulnerability" remains incomplete, since agreed-upon metrics of vulnerability do not yet exist (Klein 2009). The guidelines also require that decisions account for adaptive capacity, balanced and equitable access, level of urgency, level of vulnerability, and three other factors (Adaptation Fund Board 2009). Finally, in a separate section, the guidelines require that decisions account for: consistency with national sustainable development strategies; economic, social, and environmental benefits; cost-effectiveness; arrangements for management, monitoring, and evaluation; and three other factors (Adaptation Fund Board 2009). However, the relative importance of these factors, and the criteria used to judge them remain entirely unclear.

Additional Challenges of the UNFCCC Funding Institutions

The UNFCCC financing system is plagued by additional problems common to multilateral treaty-based funds. These include: inefficiency, unresponsiveness, unequal participation in governance, and the inability to address longer-term systems.

First, UNFCCC funds are complex, bureaucratic, and therefore inefficient. Multiple funds support the same activities, and all funds feature very complex priorities, eligibility requirements, and disbursement systems (Mohner and Klein 2007). The Global Environment Facility Evaluation Office (2007) concluded that the GEF Activity Cycle is not efficient, cost-effective, or transparent and is becoming increasingly complex over time, with burdensome procedures, duplications within the cycle, "gatekeepers," and lack of trust within the institution. As of 2008, the average span of time from acceptance of a project to the flow of funds to the field was 5.5-6 years across all GEF focal areas (Mee, Dublin, and Eberhard 2008). This virtually guarantees that on-the-ground conditions will have changed since project design (Mee, Dublin, and Eberhard 2008). Mohner and Klein (2007) also found

serious deficiencies in the responsiveness of adaptation funding to the needs of developing countries. The fact that the UNFCCC funds are only four of 19 total multilateral funds for climate change activities makes the situation even more complex (Climate Fund Update 2010).

Second, the governance of these funding sources has raised serious concerns among developing countries. By necessity, many decisions about GEF programs have been made within the GEF itself (Mace 2006, 67). However, the composition of the GEF Council and the nature of voting procedures have meant that members from developed countries making large contributions carry the most weight (Mace 2006, 67). The GEF Council comprises 32 members: 16 from developing countries, 14 from developed countries, and two from economies in transition. If no council consensus appears attainable, decisions require an affirmative vote of 60 percent of members, but also 60 percent of total contributions. This scheme loads the scales in favor of wealthy, developed countries. According to Clemencon (2006), the GEF decision to adopt the controversial Resource Allocation Framework (Box 1) was largely the result of pressure from the United States. Paavola and Adger (2006) also criticize the low level of developing country participation in planning and decision-making on adaptation.

Third, as is the case with many global funds, UNFCCC financial mechanisms emphasize short-term measurable results instead of addressing longer-term systems and capacity (Isenman and Shakow 2010, Mee et al. 2008). This is in part because funders prefer to finance one-off projects of short duration and excessively ambitious design than to commit to supporting ongoing policies (Mee et al. 2008, Le Goulven 2008). According to the High Level Advisory Group on Finance (2010), "developing countries need predictability in resource commitments before they can commit to systemic transformation in key sectors of their economy."

Finally, progress toward UNFCCC goals is limited by the lack of forums for coordination and policy learning. Numerous sources of bilateral and multilateral funding will be required to support national actions in the future, and coordination between funders will be crucial to scaling up appropriate climate actions. The High Level Advisory Group on Climate Finance (2010) emphasizes that climate finance will make "a fundamental difference only if linked to a wider program of measures agreed among nations." Moving toward a wider program of agreed-upon measures can only be made feasible and desirable by building a shared understanding of how different projects, policies, and programs work in different contexts. The Cancun Agreements seek to address this need for more systematic policy learning, calling on the GEF to provide a "critical assessment of its experience with implementation of projects," and to "strengthen its knowledge management approach to share best practices."

A Better System for Allocating Funding Toward Common Goals

No system can guarantee the "perfect" allocation of funding to maximize progress

toward common goals. This stems in part from the human inability to predict interactions within the complex adaptive systems that make up our institutions and societies. However, it also stems from the reality that people with different values and perspectives will always have different ideas of what constitutes "maximum progress toward common goals." Despite these facts, international institutions can increase collective confidence that multilateral funding is being used well.

In Section 1 of this paper, I outline a generic system to increase the effectiveness, transparency, and legitimacy of allocating multilateral funding toward internationally established goals. This system requires the collaborative development of concrete formulas based on agreed-upon principles and metrics. I describe a five-step process by which these principles and metrics can be established: 1) Formalize goals and create a working group; 2) Establish principles to guide the use of funding; 3) Explore metrics and indicators; 4) Select metrics and indicators; and 5) Negotiate the final funding formula. This transparent and inclusive process will also increase the credibility, accountability, and trust in the international negotiation arena.

A Better System for Using Funding to Achieve UNFCCC Goals

The challenges surrounding climate change are pushing us to the limits of our ability to take collective action. The traditional international environmental governance system has been overwhelmed by the need to mitigate greenhouse gas emissions, adapt to unavoidable impacts of climate change, and simultaneously enable economic development to proceed. Addressing climate change requires rethinking core components of our economies, societies, and international systems. Moving forward, I suggest that effective action on climate change will depend on two things. First, it will depend on our ability to identify the paths that enable countries in different circumstances to transition to sustainable, climate-resilient development. Second, it will depend on our ability to use international funding to enable countries to choose these paths.

In Section 2 of this paper, I suggest a transparent system of metrics and formulas to allocate multilateral climate change funding to developing countries for five-year periods. This system could increase the effectiveness of the funding system by improving predictability for recipients, by enabling monitoring and accountability, and by reducing fragmentation and transaction costs. I suggest the development of a Country-Level Funding Formula (CLFF) for the new Green Climate Fund, following the five steps outlined in Section 1.

However, the effective allocation of funding to individual countries will not enable the rapid progress required for climate change mitigation and adaptation. In Section 3, I present the case for a network of regional institutions to address the current gaps in coordination, learning, and facilitation of long-term, systemic change. I describe five types of responsibilities that regional institutions could adopt to improve the use of multilateral funding: 1) Provide technical assistance; 2) Support

monitoring and evaluation; 3) Enhance coordination; 4) Report on progress and learning; and 5) Take strategic action to catalyze change. I suggest connections between regional institutions, the Intergovernmental Panel on Climate Change (IPCC), and the Green Climate Fund.

Section 1: Developing a Funding Formula Based on Principles and Metrics

In this section, I outline a five-step process for developing a formula to allocate multilateral funding based on negotiated principles and metrics. This process draws on ideas about representation, mutual-gains negotiation and joint fact-finding discussed in Susskind et al. (1999). It is designed to be inclusive and transparent, to enable shared learning, and to consider the best available knowledge in order to yield a fair, wise, and internationally acceptable method for allocating multilateral funding.

Step 1: Formalize Goals and Create a Working Group

The development of a funding formula must begin from a broad collective goal or set of goals that the international treaty is designed to achieve. All countries that are parties to the treaty must agree on these goals. If these goals are not clearly stated within the treaty, the broader group of countries should formalize them before creating a working group. These goals can be included in the working group's Terms of Reference.

All relevant stakeholders must have a voice in developing funding formulas and the associated principles, indicators, and metrics. In the case of funding associated with an international treaty, all countries that are party to the treaty must feel that their interests are represented. However, it would be infeasible for all countries to work together directly. Instead, a working group must be established, with participants carefully selected to represent groups of countries with similar interests. These representatives will be responsible for communicating with their constituents about the status of negotiations and seeking input on decisions at different stages. At the end of the process, the approval of the resultant formula by the larger group of countries should be a formality, as all countries will have had a hand in the decisions along the way. A neutral facilitation team should also be selected to guide the working group through the steps below.

Step 2: Establish Principles for the Use of Funding

The working group will establish a set of fundamental principles associated with the treaty's goal. The funding formula will be based on these agreed-upon principles. The purpose of this step is not to decide which principle is most important, but to select a set of relevant principles and to increase collective awareness of the many different ways of prioritizing funding. For example, principles may include: fairness and equity; short-term efficiency; long-term efficacy; and lack of alternative funding sources. Elaboration on these principles is important, since they may be interpreted

in different ways. For example, some might argue that it is "fair" to support programs that provide the greatest good for the greatest numbers, while others might argue that it is "fair" to promote policies that assist those who are in greatest need (Adger, Paavola and Huq 2006, 13). If a treaty includes multiple goals, then different sets of principles may be needed for each goal. It will be important for the broader group of countries to approve the list of principles and their explanations before moving forward.

Step 3: Explore Metrics that Represent Terms and Concepts

Each principle will raise further questions, as the terms and concepts used in their explanation will be subject to interpretation. For example, what measurements would be used to determine which countries are "particularly vulnerable"? The working group will begin by making these choices explicit by listing all of the terms and concepts that require interpretation. They will then explore possible options for interpreting these terms. Terms will generally be broken down into simpler components, which will then be broken down further into relevant indicators and metrics that can represent these indicators. For example, the concept of "vulnerability" may include indicators for socioeconomic vulnerability, biophysical vulnerability, and adaptive capacity. Socioeconomic vulnerability may in turn include numerous metrics related to livelihoods, health, education, social networks etc..

There are no objectively correct indicators and metrics for these concepts and terms. As discussed by Klein (2009) in the context of adaptation, the creation of these types of definitions is based on normative decisions that require political negotiation. However, they are also technical. In order to establish appropriate indicators and metrics, the working group will need to harness the expertise of academics and practitioners in relevant fields. Economists, sociologists, and international development experts may all be required. The selection of these experts should be inclusive and transparent. After the working group has taken preliminary steps to identify appropriate people, all countries should have the opportunity to provide input on the composition of the expert panels.

Finally, it is important to specify that, at this stage, the working group should not try to select indicators or systems of aggregation. Rather, it should focus on putting all of the possible types of indicators and metrics on the table for consideration. The group may then present these diverse options to the broader group of countries for feedback.

Step 4: Select Metrics and Indicators

Most terms and concepts will probably not be adequately represented by a single metric. Thus, the working group will need to aggregate multiple metrics in order to create useful indicators for the key concepts contained within the principles from Step 2. Unlike the brainstorming approach used in Step 3, this stage of the process

will require negotiation. However, with the help of the expert panel and a neutral facilitator, the working group should be able to select indicators, metrics, and aggregation systems without damaging relationships or losing the trust of the broader group of countries. Clearly, some metrics will be more feasible, more relevant, and more appropriate than others, and the group should work together to explore the implications of different metrics.

The expert panel and facilitator may help the working group to establish a set of criteria specifically for this process. For example, Jacob and Blake (2010) suggest selecting climate change–related indicators based on three criteria: policy relevance (i.e. simplicity and ability to show trends over time), analytical soundness (i.e. theoretically well founded), and measurability (i.e. based on readily available data). The expert panel and facilitator can also help to ensure that technically sound arguments form the bases of decision-making. Group members will be encouraged to consult with the countries that they represent over the course of deliberations. The final combination of metrics and indicators that represent concepts and principles will be presented to the broader group of countries for approval. Again, it will be critical to remember that there is no single, objectively correct combination of indicators and metrics that define these concepts.

Step 5: Negotiate the Final Funding Formula

In this last stage of the process, the working group will face the challenging task of deciding the relative importance of the different principles established in Step 2. They will do this by assigning different weights to the terms and concepts that define the different principles. Again this will require negotiation, consultation with constituent countries, and the assistance of a neutral facilitator. The final product of these negotiations will be a funding formula that allocates resources to achieve the common goal of an international treaty. It is important to specify that some elements of this formula may still require subjective judgments by governing boards. For example, board members may give applications an "innovation score" as part of the formula. Box 2 provides an example of the weighting of principles and the aggregation of indicators needed to create a formula for the goal of adaptation to climate change. Box 3 describes the metrics, indicators, and targets for the Millennium Development Goals that has enabled the United Nations to track progress over time.

Finally, if multiple goals are to be addressed within one funding stream governed by a single funding formula, then the working group will also have to negotiate the weighting of different goals within the funding stream. In general, it may be less controversial to establish separate funding streams for different goals. However, if countries want to encourage applicants to design programs that make progress toward multiple goals, then it may worthwhile to create one formula that balances multiple goals. The countries should also establish a system for updating the formula periodically based on new knowledge.

Section 2: Country-Level Funding for the Green Climate Fund

In this section, I describe how a working group of the UNFCCC's Conference of the Parties (COP) could apply the five-step process described above to allocate monies from the Green Climate Fund across countries. This prescription is consistent with Mace's (2005) statement that "criteria for accessing future funds for adaptation must be carefully planned and articulated by the COP within the UNFCCC process, rather than delegated to the GEF." I argue that creating an internationally agreed-upon Country-Level Funding Formula will address many of the issues within the current system related to efficiency, fairness, and responsiveness of funding. I further present the case for allocating funding to countries in five-year blocks so that countries can make long-term plans.

The Green Climate Fund

The Copenhagen Accord contained a commitment to provide developing countries with "scaled up, new, and additional, predictable and adequate funding, as well as improved access." The new Green Climate Fund was unofficially established to provide multilateral support to "projects, programs, policies, and other activities in developing countries" through "effective and efficient fund arrangements." At Cancun, the new Green Climate Fund was made official, and a Transitional Committee was created to propose its design. The Cancun Agreements also drew on the Copenhagen goal of mobilizing 100 billion USD per year by 2020 and "achieving balanced allocation between adaptation and mitigation." The Green Climate Fund will become operational in 2020.

The Five-Step Process within the UNFCCC

At the global level, there is an urgent need to think more carefully about how best to use this unprecedented quantity of multilateral funding. The first step in this process will be to *formalize* the goals that the funding is intended to achieve. Different versions of the same fundamental global goals have been restated in different forms since the convention. The original UNFCC objective is "the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system [...] within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner." The Cancun Agreements build on this objective with a "shared vision for long-term cooperative action" that "addresses mitigation, adaptation, technology development and transfer, and capacity-building in a balanced, integrated, and comprehensive manner." In the Terms of Reference for the design of the Green Climate Fund, this same document presents "the objective of achieving balanced allocation between adaptation and mitigation."

The Green Climate Fund may work toward the two primary goals of "adaptation" and "mitigation," with all that these goals entail. It may also establish stand-alone goals referenced within the Cancun Agreements related to technology, capacity, and a "paradigm shift toward building a low-carbon society." A working group or committee may create drafts of these goals, but the final decision must include the broader COP.

After formalizing goals, the COP will create a working group to lead the development of the formula. This working group must represent each country that is party to the treaty. Although the ideal system of representation for the UNFCCC is beyond the scope of this paper, it is safe to say that the working group must represent developed countries and developing countries, including representatives from relevant UN regional groupings, from small island developing states, and from least developed countries. Either the 40-member Transitional Committee or the 24-member governing board of the Green Climate Fund described by the Cancun Agreements may be able to take the lead on this effort. Once established, the working group will work with jointly selected experts and neutral facilitators to establish principles, to explore metrics, and to negotiate the Country Level Funding Formula.

At each stage of the process, individual countries will provide input to the working group through members who represent their interests. The COP will also approve the results of each step. The COP will seek to achieve consensus on these results and on the final funding formula. If consensus proves impossible, "near-consensus" will be accepted. This decision rule should be defined by the COP and included within the Terms of Reference for the working group. I suggest defining "near-consensus" based on the proportion of countries within each participant segment that support a work product (e.g. 90 percent of least developed countries *and* developed countries must approve). Finally, in the early stages of the process, the COP will decide how frequently the CLFF will be revisited and updated as new knowledge about UNFCCC goals emerges.

In establishing principles for the use of Green Climate Fund resources, the working group may look to the text of UNFCCC agreements, to current principles of the GEF and Adaptation Fund, and to academia. For example, cost-effectiveness, urgency of need, and achievement of regional co-benefits are principles that emerge from the (2009) Adaptation Fund Guidelines. Dow, Kasperson, and Bohn (2006, p.95) suggest three alternative adaptation priorities: avoiding harm and risk; reducing vulnerability; and supporting human rights and well-being.

Exploring metrics will be of particular value for the UNFCCC. We now monitor progress on mitigation using total annual tons of CO2-equivalent emissions. However, we lack agreed-upon metrics of vulnerability, clean development, and low-carbon societies. This is a major problem as it prevents effective planning, measurement of progress, and evaluation of our efforts. How will we know what policies and programs reduce vulnerability to climate change without metrics that

represent vulnerability? Verbruggen (2009) and Moomaw and Papa (2010) further suggest that even current metrics of progress on mitigation (using CO2 emissions) are not well suited to our goals.

Many academics recognize the need for new metrics related to adaptation, mitigation, and clean development. Many also suggest that they already have the "right" indicators and metrics (see Schneider and Lane 2006, Verbruggen 2009, and Moomaw and Papa 2010). It will be important to consider these experts' ideas when assessing the options. However, these metrics will only have the credibility and legitimacy they need if they are developed in an inclusive and deliberative way. It is therefore appropriate that representatives of developing and developed countries be at the forefront of the effort to establish targets and metrics, supported by international experts from diverse fields. The working group may look to the IPCC to create a number of expert panels for each concept that requires metrics. International governmental institutions, nongovernmental groups, and development banks may be relevant in assessing feasibility because of their past experience with metrics.; they may ultimately also lead data collection efforts.

It may not be possible to adequately measure some aspects of goals, principles, and indicators by any quantitative metric. In these cases, the working group can specify the immeasurable factors that should inform decision-making and create other types of systems for assessing them. For example, innovation may be judged on a subjective scale of "low," "medium," or "high," or it may be assessed based on the presence of specific elements. Regardless of how these factors are assessed, they can be weighted and aggregated into the CLFF like other metrics and indicators.

The final steps of aggregating metrics into indicators and negotiating a final formula may prove tricky. Given adequate resources, all countries will be able to secure the funding that they merit, independent of other countries' merits. In the more likely case of limited resources, countries will receive funding based on their relative scores. Although final decisions based on weighted principles may prove controversial, all countries will be well aware that there are only two alternatives to making tough decisions together. They could leave these types of decisions to contested governance boards with closed processes, as was done in creating the GEF Resource Allocation Framework (Box 1). Or, they could avoid these types of decisions entirely and allow board members to use their discretion to make decisions on individual allocations based on multiple vaguely defined factors, as is the case for the Adaptation Fund. Given these alternatives, countries and their representatives will undoubtedly feel that it is in their best interest to tackle these decisions together in an open and inclusive process based on technical information and political negotiation.

Applying the Formula to National Climate Change Strategies

Every five years, all countries will submit climate change strategies and progress reports that cover five-year periods. They will outline their adaptation and/or

mitigation strategies, programs and projects and describe the overall direction of their efforts in the context of their broader social and economic development plans. Each five-year progress report will describe the activities of the previous five-year period and highlight the policies and programs that were perceived as most and least effective. At the same time, countries will collect the data that contribute to the CLFF and submit this data as a report on the current status of those indicators in their country. They will calculate the changes in metrics since the previous reporting year and thus demonstrate progress.

After receiving all countries' applications, the governing board of the Green Climate Fund will apply the Country Level Funding Formula to allocate funding across countries for the upcoming five-year period. The quantity of funding that countries receive should come as no surprise. The CLFF will be well known, and countries will have collected and submitted the relevant data. Thus, countries will be able to predict within a fairly narrow range the actual amount of funding they will receive.

This system addresses the need for predictable, reliable, long-term funding identified by Smyth (2009) and the COP in Cancun. Countries will be able to plan for the long-term systemic transformation of their economies without the risk of problematic short-term costs. Countries will also be better able to "mainstream" climate change into their development plans and consider cross-sectoral actions (as suggested by UNFCCC 2009). This framework will also harmonize with the National Adaptation Programs of Action and National Mitigation Programs of Action currently being encouraged within the UNFCCC. Finally, countries will be able to coordinate the use of their five-year climate change funding with other sources of multilateral and bilateral aid.

This system supports current efforts to increase "country ownership" of climate change funding (see Isenman and Shakow 2010 on the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action). It will also increase accountability and learning, both within countries and in the international community. The five-year data collection and reporting requirement will help countries understand the effects of their activities. It will also enable the Green Climate Fund to demonstrate global progress. The rewards within the funding formula will ensure that countries have an incentive to demonstrate improvement over time. Furthermore, because the formula is not tied to particular program outcomes, it will reward countries that consider mitigation and adaptation when using other multilateral, bilateral, and national funds. Finally, this framework will enable countries to maximize the benefits from the network of regional institutions described in Section 3.

Section 3. Regional Institutions to Support, Coordinate, and Catalyze Change

In this section, I present the case for a network of regional institutions to improve the currently weak connections between country-level activities and the international community. This argument is consistent with the Cancun request for "long-term, scaled-up, predictable, new and additional finance, technology, and

capacity-building, consistent with relevant provisions, to implement urgent, short-, medium- and long-term adaptation actions, plans, programs, and projects at local, national, subregional, and regional levels, in and across different economic and social sectors and ecosystems."

I suggest that the UN Regional Commissions could form the basis of this network of regional institutions. I further outline the responsibilities that regional institutions could adopt regarding technical assistance, monitoring, evaluation, coordination, learning, and support for systemic change. I describe the possible relationship of these activities to the IPCC and the potential for using multilateral funding to support catalytic action at the regional level.

A Network of Regional Institutions and Their Responsibilities

The UN Regional Commissions are well positioned to form the basis of a network of regional institutions because of their past experience with the Millennium Development Goals, and because of their current activities related to climate change. Overall, regional commissions aim to foster economic integration at the subregional and regional levels, to promote the regional implementation of internationally agreed-upon development goals, and to support regional sustainable development by contributing to bridging economic, social, and environmental gaps among member countries and subregions.

Over the past 10 years, regional commissions have played a central role in the Millennium Development campaign (Box 3). First, they have monitored indicators and reported progress on targets. In addition, they have developed roadmaps for achieving goals by 2015, focusing on "adding value to national-level strategies and processes [...] by harnessing the knowledge, resources, and expertise available within the UN system, the regional development bank, the regional organizations, and other partners" (UNESCAP 2008). For UNFCC purposes, I suggest increasing the number of regional commissions by dividing each of the five current regions into sub-regions based on development status and needs. Sub-groups used in association with Millennium Development Goals may be useful. Regional institutions may play slightly different roles in response to the needs of the countries that they serve.

Regional commissions are already very active in the climate change arena: their current climate change activities include assessing socioeconomic and biophysical impacts of climate change, holding regional consultations and training programs, evaluating the costs of mitigation and adaptation, exploring options for climate change financing, and leading the creation of low-carbon green growth roadmaps (United Nations 2009). Countries, regional institutions, and the international community all stand to gain from formalizing these existing activities, delegating new responsibilities to regional institutions, and enabling strategic action.

Responsibility 1: Provide Technical Assistance

Regional institutions can function as clearinghouses for relevant scientific, technical, and political information. They can collect, process, and disseminate the most up-to-date information from academia, international institutions, the private sector, and other regions. This will enable important efficiency gains. For example, regional institutions can generate or assemble locally relevant climate change data. Individual countries will not be required to set up new institutions or pay consultants for these highly technical products, though they will still be required to develop the capacity to make use of this information. Regional institutions can also help countries create climate change strategies to qualify for resources from the Green Climate Fund and develop strategies that maximize their scores in the Country-Level Funding Formula.

Responsibility 2: Support Monitoring and Evaluation

Once the international community has developed metrics, countries will have to establish systems for applying and tracking these metrics over time. Regional institutions can play a leadership role in assessing the country-level capacity needed for these data gathering systems, and in supporting the development of this capacity. They can assist with monitoring and evaluation, and they can lead any verification of country-level data. They can also help individual countries evaluate their efforts to improve their climate change and development plans for the next five-year funding period (see Box 4 on Regional Institutions and the IPCC).

Responsibility 3: Enhance Intra- and Inter-regional Coordination

Regional institutions will undoubtedly include countries with different political, economic, social, and environmental conditions. But, countries within regions will also share many of the same challenges and opportunities. They may thus seek to implement similar policies, programs, and projects. Regional institutions can play a key role in enabling countries with similar needs and goals to design coordinated programs. Such coordinated programs are likely to be more efficient and effective in both the planning and the implementation stages than if any one country had acted alone. For example, relative costs of administration, consultants, contractors, and physical materials can decrease, and more energy can be invested in careful analysis of the steps and elements required for success. Coordination between regional institutions will enable countries in different regions that face similar challenges to share knowledge and coordinate action as desired.

Responsibility 4: Report on Progress to Promote Policy Learning

In the Cancun Agreements, the Global Environment Facility is asked to provide a "critical assessment of its experience with implementation of projects" and to strengthen "its knowledge management approach to share best practices." However, it may be difficult for the GEF (and the Adaptation Board) to pinpoint and explain apparent "best practices" and successes in implementation. Since they fund a large number of projects in countries with drastically different starting points, they are

unlikely to possess a comprehensive understanding of the complex social, economic, political, and biophysical factors that surround a given funded project.

In contrast, regional institutions will have a thorough understanding of country-level conditions, climate change activities, and external drivers of change over the five-year funding period. Thus, they can lead the aggregation of country-level metrics to assess progress in groups of countries and in the region as a whole. Using both quantitative and qualitative information, they can analyze trends and seek to explain the progress, or lack thereof. Under what conditions were different policies effective? What barriers hindered effective country-level responses? How can successful programs be replicated elsewhere?

Regional institutions can tackle these questions and report their findings to the international community. I also suggest that progress reports and policy lessons be connected to the publications of the IPCC (see Box 4 for details).

Responsibility 5: Develop and Implement Regional Strategies to Catalyze Systemic Change

The Cancun Report of the Working Group on Long-Term Cooperative Action states that "addressing climate change requires a paradigm shift toward building a low-carbon society that offers substantial opportunities and ensures continued high growth and sustainable development, based on innovative technologies and more sustainable production and consumption and lifestyles, while ensuring a just transition of the workforce that creates decent work and quality jobs." However, there is only so much that individual countries can do to bring about paradigm shifts. Many types of change require international action. Adger et al. (2006, p.7) states that in the context of adaptation, "inaction at higher levels effectively transfers responsibility for adaptive responses to lower levels of collective action [...] with attendant consequences for the range of available alternatives and burden sharing."

Regional institutions can effectively bridge the gap between national and global responses. They can analyze the shortcomings in international systems that prevent effective national action, and work within their capabilities to address these shortcomings. Based on their understanding of on-the-ground conditions in individual countries, regional institutions can develop strategies to expand the range of available adaptation, mitigation, and clean development alternatives. They may seek to reform market conditions, trade systems, and international lending practices; they may establish systems for regional-level technology development and dissemination; they may create pilot programs for local governments or for at-risk communities; or they may work on specific aspects of capacity building with branches of national government. Regional institutions can also work with nongovernmental organizations, development banks, and the private sector to develop and implement strategies.

Overall, regional strategies will aim to facilitate progress on the same internationally agreed-upon metrics used within country-level plans. Regional institutions may be eligible to receive funding to implement these strategies, based on the criteria of the Regional Catalytic Funding Formula, described in Box 5. Their effectiveness will be evaluated every five years, and the corresponding lessons about catalyzing systemic change will be shared with the broader international community as described in Box 4. Like country-level climate change plans, regional strategies will be updated every five years, to learn from past experiences and to account for changes in the needs of constituent countries.

Conclusions

In this paper, I argue that treaty-based multilateral funding institutions in general—and the UNFCCC's Green Climate Fund in particular—should allocate funding based on specific guidance from the countries that are party to the treaty. I suggest that this guidance take a particular form: funding formulas based on agreed-upon principles, indicators, and metrics in support of treaty goals. I further suggest that this guidance be developed using a particular process: exploration, discussion, and negotiation within a working group representing signatory countries, assisted by an expert panel, and guided by a neutral facilitator. I also argue that the current UNFCCC framework for national action does not enable the adaptive and systemic response that will be required to avoid the catastrophic impacts of climate change. I suggest that new institutions are needed to connect country activities to the international community. I prescribe a network of regional institutions to take on the critical responsibilities of providing technical assistance, supporting monitoring and evaluation, enhancing inter- and intra-regional coordination, reporting on progress, and catalyzing change.

Box 1: Global Environment Facility and the Resource Allocation Framework

The Global Environment Facility (GEF) adopted a Resource Allocation Framework (RAF) at a special meeting of the GEF Council in 2005 based on policy recommendations of the third replenishment of the GEF Trust Fund. The RAF is a system for allocating scarce resources "with a view toward maximizing the impact of these resources on global environmental improvements [...] to global environmental priorities and to countries based on performance" (GEF 2005).

The RAF is built on two indices: a Benefits Index that measures a country's potential to generate global benefits in a particular focal area, and a Performance Index that measures each country's capacity, policies, and practices relevant to successful implementation. The Performance Index includes three indicators weighted and aggregated from GEF project ratings, World Bank Operations Evaluations, and World Bank Country Policy and Institutional Assessment. The GEF Benefits Index in the Climate Change Focal Area is constructed from two indicators: baseline greenhouse gas emissions for the year 2000 in tons of carbon equivalent, and a Carbon Intensity Adjustment Factor that measures countries' success in reducing carbon intensity of GDP from 1990 to 2000. The RAF entitles the highest-ranked individual countries to receive allocations from allocation "envelopes," and the remaining countries are left to contend for a smaller pool of resources.

Although few question the wisdom of seeking to maximizing the impact of resources, the GEF's RAF has been heavily criticized for lack of transparency, insufficient flexibility, and unfair treatment of countries with political problems. Furthermore, high-ranked countries that are virtually guaranteed funding have little incentive to develop high-quality projects, while other countries face intense competition for a very limited amount of money (Clemencon 2006). Many have expressed concern that the RAF is incompatible with the spirit and letter of the multilateral agreements that the GEF is serving (Clemencon 2006). This example demonstrates that it is feasible to develop this type of system for allocating multilateral funding and that without a transparent, inclusive process for developing these systems, they will lack the credibility necessary to succeed.

Box 2: Sample Funding Formula for the Goal of Adaptation

Country Score = (0.7 * Need Score) + (0.2 * Effectiveness Score) + (0.1 * Efficacy Score)

Principles and weighting	0.7 * Need	0.2 * Effectiveness	0.1 * Efficacy
Indicators and weighting	0.5 * Biophysical vulnerability 0.4 * Socioeconomic vulnerability 0.1 * Adaptive capacity	0.2 * Governance capacity 0.5 * Past performance 0.3 * Estimated maximum reductions in vulnerability	0.4 * Mitigation co-benefits 0.3 * Innovation 0.3 * Systemic Change
Metrics and weighting	?	?	?

Box 3: Millennium Development Goals

In September 2000, world leaders came together to adopt the UN Millennium Declaration, committing their nations to a new global partnership to achieve the Millennium Development Goals (MDGs) by 2015. The MDGs "form a blueprint agreed to by all the world's countries and the world's leading development institutions," and "have galvanized unprecedented efforts to meet the needs of the world's poorest" (UN 2010).

The eight Millennium Development Goals provide a vision for the future and a framework for measuring progress. Goals include:

Goal 1. Eradicate extreme poverty and hunger
Goal 2. Achieve universal primary education
Goal 3. Promote gender equality and empower women

Each goal includes one or more time-bound target. Targets include:

Target 1A. Halve, from 1990–2015, the proportion of people whose income is less than one dollar a day
Target 1B. Achieve full and productive employment and decent work for all, including women and young people
Target 1C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger

One or more indicators are associated with each target. Indicators for Target 1.C include:

1.8. Prevalence of underweight children under five years of age
1.9 Proportion of population below minimum level of dietary energy consumption.

Data collection, analyses, and progress reports are the work of the Inter-agency and Expert Group on MDG Indicators, coordinated by the UN Statistics Division. The monitoring framework was revised in 2007 to include four new targets agreed upon at the 2005 World Summit. Thanks to these carefully derived indicators and targets, the 2010 review of the MDGs enabled reflection, learning, and productive future-oriented discussion. Overall, MDGs have had a high impact on policy narratives and have succeeded in shifting development aid to social sectors (IDS 2009).

Box 4: Regional Institutions and the IPCC

The work of the Intergovernmental Panel on Climate Change has had a major impact on international acceptance and understanding of the science of anthropogenic climate change. The products of Working Groups II and III on mitigation and adaptation have further enhanced collective appreciation of the scale and scope of changes that may be required. However, in seeking to be "policy relevant" rather than "policy prescriptive," the IPCC is missing a critical opportunity to help countries around the world increase the effectiveness of current activities, capitalize on new policy opportunities, and design more context-appropriate programs.

In the future, a new Policy and Planning Working Group will be able to fill the needed global policy evaluation role based on reports and evaluations of regional institutions. Prior to the release of IPCC reports, representatives of each of the regional institutions can work together and with IPCC authors to share what they have learned about the effectiveness of policy interventions around the world. They can also provide raw data on metrics for further analysis by the IPCC. The knowledge that regional institutions gain from this sharing process can then inform the development of future regional strategies and country-level plans.

The reports of the Policy and Planning Working Group will line up with the five-year funding renewal schedule of the Green Climate Fund. These reports will thus often be released independently of other IPCC publications. Furthermore, they will not be subject to the same type of lengthy writing process and rigorous review. Given that their main purposes will be to inform country-level plans and decisions of the Funding Board, they will be created over a period of approximately six months.

September–December 2013: Regions work with countries to collect data, evaluate progress, and reflect on the effectiveness of different country- and region-level actions.

January–March 2014: Regions work together with the IPCC Policy and Progress Working Group to report data and share lessons learned. Regions work with IPCC authors from other working broups to acquire new scientific and technical information.

April–June 2014: Preliminary report of the IPCC Policy and Progress Working Group is released, including regional and country-level data on progress and information on policy learning.

June–September 2014: Regions and countries work together to create/revise national plans and regional strategies based on country-level priorities. Countries and regions submit applications for funding.

October–November 2014: The Green Climate Fund governance body applies formulae to determine funding for January 2015–December 2020.

December 2014: Regions and countries prepare to implement plans and regional strategies.

Box 5: Regional Catalytic Funding Formulas

The same type of formula used to allocate funding to countries for climate change plans can also be used to allocate funding to regional institutions for regional strategies. Different principles may be useful for judging regional strategies around a given goal. Different indicators and metrics may also be required. However, the same process and set of actors that develop the Country-Level Funding Formula can also be used to create a Regional Catalytic Funding Formula.

The formula, principles, and indicators below provide an example of what a Regional Catalytic Funding Formula might look like for the goal of adaptation previously discussed in Box 2. I hypothesize that all regions might receive a base level of funding, with additional funding based on need, efficiency, and efficacy. The principle of effectiveness and the metrics of past performance and governance capacity might be less important for regions than for countries. The principle of efficacy and the indicators of co-benefits, innovation, systemic change, and partnerships might be more important.

Regional Score = BASE + (0.4* Need Score) + (0.1* Effectiveness Score) + (0.5* Efficacy Score)

Principles and weighting	0.4 * Need	0.1 * Effectiveness	0.5 * Efficacy
Indicators and weighting	0.5 * Biophysical vulnerability 0.4 * Socioeconomic vulnerability 0.1 * Adaptive capacity	0.1 * Governance capacity 0.3 * Past performance 0.6 * Estimated maximum reductions in vulnerability	0.25 * Mitigation co-benefits 0.25 * Innovation 0.25 * Systemic Change 0.25 * Strategic partnerships
Metrics and weighting	?	?	?

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