CHAPTER II

Sustainable Development Policies and Measures and International Climate Agreements

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One of the most difficult challenges facing nations attempting to implement the Climate Convention is the integration of GHG considerations into national development programs. Building on Winkler et al. (2002), this chapter explores this challenge at the international level. Namely, how might an approach based on policies and measures be formalized and defined within a future international climate agreement? In other words, how might Parties develop a mechanism for formally recognizing and advancing the kinds of sustainable development policies and measures (SD-PAMs) discussed in this volume?

The approach outlined here proceeds along several steps. First, the international community would likely need to agree on general guidelines for what constitutes an "SD-PAM" that is eligible to be pledged under the UNFCCC. These basic definitional considerations are outlined in section 1. Second, a process would be needed whereby Parties would actually pledge eligible SD-PAMs. Such a process, discussed in section 2, could work in a variety of different ways, either as unilateral, mutual, or harmonized pledges. Third, once pledged, SD-PAMs could be recorded and tracked by the Convention Secretariat or other body (section 3). Fourth, a broader program of assessing progress would likely be needed, including reporting and review procedures (section 4). Finally, while this is essentially a qualitative approach, it is conceivable that it could incorporate a quantitative dimension, and perhaps also be integrated into the nascent international carbon market. Section 5 discusses issues and options regarding quantifying SD-PAMs.

1. DEFINING AND FORMALIZING SD-PAMS

Generally, SD-PAMs deliver both tangible national and global benefits. This could include many of the actions described in the case studies presented here, as well as others, such as renewable energy initiatives, energy efficiency standards, and forest conservation programs. Beyond this foundational description and indicative examples, however, three of the salient characteristics of SD-PAMs warrant elaboration.

First, as discussed in Chapter 1, "sustainable development" is not a rigidly defined concept. Sustainable development, as articulated in the Rio Declaration on Environment and Development, is about the promotion of healthy and productive lifestyles through improved social and economic conditions (UNGA, 1992). This includes environmental protection and conservation. Because priorities and circumstances differ widely by country, the sustainable development aspect of SD-PAMs would be defined by individual developing countries (Winkler et al., 2002). This is similar to the approach taken in the Clean Development Mechanism (CDM), where it is the host country's prerogative to determine whether a project assists in its sustainable development objectives (UNFCCC, 2001).

Accordingly, national sustainable development benefits may pertain to a wide variety of areas, including economic, social, and environmental. In a study of SD-PAMs in South Africa, for example, Winkler et al. (2002) identified energy development and housing as important priorities within a national sustainability context. Chapters 3-6 of this report identify some other priorities within varying national contexts.

Second, "policies and measures" could include legislative or executive acts, regulations, and public-private partnerships such as negotiated agreements. PAMs could be fiscal (taxes, charges, subsidies), regulatory (mandates, standards, sector reforms), or other initiatives that have some official status (Table 2, p. 19). Although there is no need to form a restrictive definition of what form of action might constitute a "policy" or "measure," they are generally distinguishable from solely *private* initiatives or *projects*.[1] In this way, SD-PAMs are distinct from the project-based CDM, discussed in Chapter 1.

Of course, not all policies and measures have a beneficial effect on GHG emissions; in fact, development would generally be expected to increase emissions. Thus, a third basic characteristic of SD-PAMs is that they must have some beneficial effect on GHG emissions or absorptions. As this report and other studies demonstrate, there are a wide range of policies in transport, energy efficiency (industrial and buildings), power generation, forestry, and elsewhere that contribute to the Convention objective while having the primary purpose of supporting local and national priorities (Goldemberg and Reid, 1999; Chandler et al., 2002). Table 1 lists national (sustainable development) benefits and indicative global (emissions) benefits that might be derived from SD-PAMs.

An SD-PAM may have a beneficial GHG effect without reducing emissions in absolute terms. As the Climate Convention suggests, energy use and emissions in developing countries will need to grow to meet the requirements of sustainable economic development. This is illustrated clearly in China's transport sector (Chapter 4) and India's power sector (Chapter 5), where even the cleanest scenarios show emissions increasing. Rather than absolute emission reductions, the test should be whether development is proceeding using clean, efficient, and energy-saving technologies and processes.

Thus, pledged SD-PAMs must be (1) government actions that have (2) development benefits and (3) GHG benefits. In considering which SD-PAMs are eligible for international recognition and assistance, the motivating rationale among these factors should not be relevant. In most cases, developing countries are likely to act on the basis of development rather than global priorities, given that poverty, public health, employment, and other factors continually keep climate change low on the political agenda.

Finally, accompanying the pledge of a particular policy or measure might also be a description of what the intended results or impacts are in terms of both development objectives and emissions cobenefits. Such a description might be a set of key performance indicators reflected in particular policy goals (for example, the number of homes electrified, jobs created, and so on) or framed in more general terms (for example, the means by which GHG emissions are kept in check). Such an approach would assist in ascertaining whether the pledged action is in keeping with the basic characteristics of an SD-PAM.

2. PLEDGING SD-PAMS

The incorporation of SD-PAMs into the international climate regime could involve additional discrete stages, including (1) a pledging process for national governments, (2) the tracking of pledges through an international registry, and (3) review of implementation. This section considers the first operational stage—pledging—while the following sections consider the two subsequent stages.

Emission targets for industrialized countries under the Kyoto Protocol were established through the usual give-and-take of an intergovernmental negotiation process. The general approach was that a Party would propose a

target for itself (pledge), and subsequently try to convince other Parties that this was a reasonable and fair level of effort considering the principles of the Convention, the unique circumstances of the Party, and the relative stringency of other countries' targets. Negotiations over SD-PAMs could proceed in a procedurally similar manner, but with notable differences.

Instead of setting a target emission level (as in Kyoto), developing country Parties would pledge either to implement existing policies or adopt new ones that meet the broad criteria agreed to by the Parties. Where good policies are on the books, but not being implemented, they could be worthy of recognition and support by the international community. In the course of negotiations, several different approaches to pledging SD-PAMs might be adopted, including single-country pledges, mutual pledges, and harmonized pledges.

First, a *single country* might pledge one or more SD-PAMs that are unique to its national circumstances and not directly related to the pledges of other countries. In this way, the system functions in a bottom-up fashion, starting from the premise that different countries are likely to prefer different approaches to social and economic development.

A second approach would be *mutual pledges*, which would involve simultaneous pledges by both a developing and developed country. Here, the approach envisioned in Article 4 of the UNFCCC[2] would be implemented. A developing country Party would pledge to undertake a particular PAM, and one or more industrialized countries would agree to assist in technology transfer or funding support. This approach might build on existing bilateral relationships between countries, including through provision of official development assistance. Particular industrialized countries might pledge to take lead roles in assisting with particular SD-PAMs, with further implementation and financing details to be worked out later among a broader range of participants and stakeholders. This has the additional attraction of engaging donor countries on SD-PAMs in which they have a mutual interest, such as for the development of a particular technology. Of course, as discussed in Chapter 1, entities such as the Global Environment Facility (GEF), multilateral development banks, private companies, or other organizations could also play important roles in financing or implementing mutual (or single-country) pledges.

Harmonized pledges among multiple countries could constitute a third element of an SD-PAMs negotiation process. This approach acknowledges the global nature of many industrial activities, and opens the door to multiple countries agreeing to the same kind of measures to promote or maintain an "even playing field" for competitive industries (Baumert et al., 2005). Iron and steel, chemicals, aluminum, and motor vehicles, for instance, are sectors characterized by significant cross-border trade and investment. In these kinds of areas, it is less likely that individual countries would unilaterally pledge significant actions, given the perceived or actual impact on international competitiveness.

Table 1. Indicative Policy Outcomes: Emissions and Development

Sustainable Development	GHG Emissions
Greater access to electricity	Improved energy efficiency*
Reduced costs to consumers	Improved energy conservation*
Reduced costs to companies	Switching to lower carbon fuels
Improved national security	Increased market share of clean products
Improved balance of payments	Reduced deforestation rates
Higher employment levels	Changed agricultural practices
Increased housing	
Reduced air pollution	
Improved public heath	
Export promotion	

* The amount of GHG benefit in these instances would depend on the underlying fuel mix.

Harmonized pledges might have particular potential among major trading partners, where relationships tend to already be established through regional organizations, such as MERCOSUR (in Latin America) and ASEAN (Southeast Asia). Although SD-PAMs are advanced here primarily as an approach for developing countries to engage in global mitigation efforts, it may be equally important to engage industrialized countries in harmonized pledge systems. The North America Free Trade system (NAFTA), for instance, might be one grouping that would bring together important Annex I and non-Annex I Parties. Other groupings, either formal or informal, also have potential.

A system within which governments pledge actions—either unilaterally, through mutual cooperation, or in a harmonized fashion—would require significant preparatory work at the national and international levels. At the national level, individual countries would of course need to determine ahead of time, through their own domestic processes, which actions they are prepared to pledge (Box 1). At the international level, governments might need to engage in bilateral, multilateral, and regional consultations prior to a formal negotiation session. A series of sub-negotiations on specific topics would likely emerge.[3] This could resemble other international negotiations on complex issues, such as trade, which some have suggested is a

model for climate negotiations (Reinstein, 2004). On a smaller scale, an analogous process took place at the 2004 Bonn Renewable Energies Conference (Box 2), where developed and developing countries made specific pledges.

Overall, the expectation is that a pledge-based system for engaging developing countries opens up new space and opportunity for international cooperation on what might be the most complex global issue. At the same time, it is equally important that the UNFCCC, by embracing SD-PAMs, coordinate its efforts with those under way elsewhere, including the U.N. Commission for Sustainable Development, the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO), and other specialized and regional organizations.

Box 1. Steps in Applying the SD-PAMs Approach

Winkler et al. (2002) outline five steps that a developing country might undertake in considering its commitment to SD-PAMs:

1. Outline future development objectives, where possible quantifying the expected benefits and possible risks. Many developing countries already identify development objectives through National Strategies for Sustainable Development or Agenda 21 plans.

2. Identify PAMs that would make the development path more sustainable, primarily for reasons other than climate change (e.g., greater social equity and local environmental protection while maintaining or enhancing economic growth). This might include existing or new policies.

3. Quantify the changes in GHG emissions of particular SD-PAMs, which should be reported in accordance with the Convention or other reporting provisions.

4. Compare the results from steps 2 and 3 to show which actions create synergies between sustainable development objectives and climate change policy, and which conflict.

5. Summarize the net impact of a basket of SD-PAMs on development benefits and GHG emissions.

Source: Adapted from Winkler et al. (2002)

Box 2. The International Action Programme for Renewable Energies

The International Action Programme (IAP) for renewable energies is one of the main outcomes of the 2004 Bonn Renewable Energies Conference. The IAP contains concrete actions and commitments toward developing renewable energy put forward by governments, international organizations, stakeholders from civil society, the private sector, and others. All conference participants were invited—through a "Call for Actions and Commitments"—to contribute to the IAP by pledging voluntary commitments to goals, targets, and actions within their own spheres of responsibility.

Source: Adapted from International Conference on Renewable Energies, Bonn, at: http://www.renewables2004.de/en/2004/outcome_actionprogramme.asp. The IAP and other documents can be found on this website.

3. KEEPING TRACK: INTERNATIONAL REGISTRY

An important element of formalizing an SD-PAMs system could be to maintain an international registry of pledged actions (Winkler et al., 2002). The registry could be a database containing information on all SD-PAMs pledged by governments. Such a system would serve several purposes.

The registry would serve as a tool to exchange information among governments and among governments and civil society, including industry. Making information on pledged SD-PAMs public would help inform the international community and national stakeholders of how various governments are contributing to the UNFCCC objective within the context of their own national priorities. A registry would be consistent with existing practice (such as the registry of CDM projects) and Article 6 of the Climate Convention, which calls on Parties to promote and facilitate public access to climate change-related information.

The SD-PAMs registry could be maintained by an international organization or body, such as the UNFCCC Secretariat. Parties would need to agree on the basic elements of the registry. Table 2 presents a series of indicative categories that might be used to structure such a registry.

4. ASSESSING PROGRESS: REPORTING AND REVIEW

A final element of a successful SD-PAMs system would be to assess implementation. This is necessary to ensure that pledged policies and measures are more than mere words contained in a registry. There are perhaps two central elements of a successful assessment system: reporting and review.

First, Parties should report on the implementation of their pledged SD-PAMs. This could come in the form of an annual or other regular progress report. Reporting could cover both aspects of PAM implementation—development and emissions—perhaps using key performance indicators pertaining to each. Some information from the reports could be entered into the registry as well.

Procedurally, one option would be to integrate reporting into the existing reporting structure of the Climate Convention, under which Parties must submit national communications that, among other things, describe the steps taken or envisaged to implement the Convention (UNFCCC, 1992: Art. 12.1b). However, this system suffers low levels of reporting, as some developing countries

Table 2. Indicative Classification Parameters for SD-PAMs

Policy Types	Sector	Fuel/Technology	Other Classification Details
Fiscal ▪ Taxes (exemptions, credits, etc.) ▪ Fees, charges, refunds ▪ Subsidies (transfers, grants, etc.) Market / Regulatory ▪ Mandates (products, processes) ▪ Standards (products, processes) ▪ Sector regulatory reforms ▪ Product labelling ▪ Disclosure requirements ▪ Consumer purchase options Voluntary Agreements ▪ Corporate challenges ▪ Public-private partnerships	Energy production ▪ Extraction ▪ Processing/refining ▪ Transport/transmission ▪ Electricity generation Buildings ▪ Appliances ▪ Heating ▪ Cooking, lighting, etc. Industry ▪ Steel, chemicals, cement aluminum, others Transportation ▪ Passenger, freight, air, etc. Waste Management ▪ Landfills, etc. Forestry Agriculture	Fossil Fuels ▪ Coal ▪ Oil ▪ Natural Gas Renewables ▪ Geothermal ▪ Solar ▪ Wind ▪ Biomass ▪ Tidal / wave ▪ Hydroelectric, etc. Others ▪ Hydrogen ▪ Carbon capture / storage ▪ Fuel cells ▪ Landfill gas ▪ Biofuels ▪ Industrial process change	Country Policy name & description Key Performance Indicators ▪ Sust. Development ▪ Emissions Status ▪ Pledged ▪ Enacted / Implemented ▪ Completed Effective Date(s) References / Links

Source: WRI, based on IEA/OECD (2001)

have yet to submit a single communication. Others have only recently submitted their first report, more than a decade after the Convention entered into force. One reason why is that national communications are presently accompanied by complete national GHG inventories, which are technically challenging and expensive to produce. A reporting system under SD-PAMs could focus less on inventories, and more on policies and measures, including the status and results of their implementation.

A second element of the assessment process would be a review of national reports. This process could be analogous to the present "in-depth" review system employed for reviewing the national communications of industrialized country Parties.[4] According to the UNFCCC Secretariat, these reviews aim "to provide a comprehensive, technical assessment of a Party's implementation of its commitments."[5] For SD-PAMs, these reviews would be facilitative in nature and would try to identify both successes and areas where implementation can be improved. Civil society groups and international organizations might also provide reviews of national reports, although these would have an unofficial status.

A process whereby an independent body evaluates implementation of SD-PAMs might assist in the learning process and help build capacity to take further actions. This kind of review might uncover underlying reasons why some SD-PAMs did not achieve their desired results. In some instances, it could be that promised financial or technology transfer was not delivered (for example, in a mutual pledge). In other instances, it could be that the effects of "unpledged" policies and measures nullified the expected influence on GHGs of the pledged policies. For example, the removal of coal production subsidies could be counterbalanced by increases in subsidies for combustion of coal in electric power generation. SD-PAMs, by their nature, would capture only the former and therefore would give an incomplete picture.

There are precedents for these kinds of approaches in other areas of international relations. The World Trade Organization's Trade Policy Review Mechanism, for example, provides a kind of "peer review" of a country's trade policies and practices, which helps "enable outsiders to understand a country's policies and circumstances," while "providing feedback to the reviewed country on its performance …."[6] This system provides for reports by both the WTO member country and a review by a body independent of the Parties, the WTO Secretariat.

With respect to SD-PAMs, the information generated in a review process would enhance the ability of regulators and stakeholders to distinguish between policies that were effective from those that failed to produce desired results, either in terms of local sustainable development benefits or emission reductions. This would inform future policy

making at the national level, as well as promote useful cross-country exchanges of experiences. Finally, beyond promoting learning, both official and unofficial country reviews would promote accountability and increase the likelihood that pledged actions are fully implemented.

5. QUANTITATIVE APPROACHES: ACCOUNTING FOR EMISSION REDUCTIONS

SD-PAMs are qualitative in nature and are clearly distinguishable from quantitative approaches to climate protection such as emission targets and the Clean Development Mechanism. However, it may be possible or even desirable to connect the pledged actions to these and other quantitative approaches in order to harness the potential benefits of the international carbon market. There are at least three possibilities of building a quantitative dimension into SD-PAMs: the existing CDM, an expanded "policy" or "sector-based CDM" (Samaniego and Figueres, 2002; Bosi and Ellis, 2005), and "action targets" (Baumert and Goldberg, 2005).

These three options each have advantages and drawbacks, and are explored briefly in this section. A cross-cutting issue that affects all options is whether a carbon market will exist after 2012 and, even if it does, whether it will establish a price signal sufficiently strong enough to affect widespread behavior. The viability of Kyoto's CDM, for instance, is partly a function of emission reduction commitments of industrialized countries, which stimulates the demand for emission-reducing projects in developing countries. If President Bush and subsequent U.S. administrations continue to oppose such an approach, it is uncertain whether the European Union, Japan, and Canada will be willing to continue with emission caps beyond 2012. Thus, broader future climate change policy considerations factor heavily into the viability of some options outlined in this section.

5.1 Clean Development Mechanism

The basic elements of the CDM are set out in Article 12 of the Kyoto Protocol and elaborated further in the 2001 Marrakesh Accords.[7] The CDM has a dual purpose: (1) to assist developing countries "in achieving sustainable development," and (2) to assist industrialized countries in achieving compliance with their emission limits. This is done through GHG-reducing projects in developing countries (such as installing wind-based power instead of coal-fired power), which generate emission credits that, in turn, can be used by industrialized countries to offset their own domestic emissions. The sustainable development dimension of the CDM, as discussed above, is decided on a project-by-project basis at the discretion of the host government.

Although the CDM is a *project-based* mechanism, it could be supportive of SD-PAMs. SD-PAMs could provide the regulatory mandates or market incentives to develop projects that have concrete sustainable development and climate benefits. Those projects, in turn, could be eligible for crediting under the CDM. Indirectly, this would provide a further incentive to implement SD-PAMs, given that some costs could be recouped through sale of emission reduction credits.

To operate in this manner, CDM rules may need to be changed. CDM rules are designed to ensure that projects are *additional* to what would have occurred in the absence of the CDM. Projects implemented under existing or new SD-PAMs could be rendered "non-additional" by the mere fact that they are now required by law or made financially attractive through government intervention. In other words, projects might be precipitated by an SD-PAM—not the CDM—and therefore be considered non-additional. In 2004, the CDM Executive Board, which oversees the mechanism, established guidelines that partially address this issue. Under the guidelines, "climate-friendly" policy incentives (such as an energy efficiency subsidy) may be ignored by project developers in baseline formulations (UNFCCC, 2004b). However, projects

adopted pursuant to *mandatory* regulations are still not subject to any guidance, and it is not clear whether they would qualify for CDM crediting.[8]

Finally, the use of SD-PAMs as a platform for CDM project development could significantly increase the overall flow of projects. While this would be favorable, it would also overwhelm the already strained administrative capacity of the CDM Executive Board, which is responsible for registering projects, certifying emission reductions, and issuing credits. A renewable energy program in a single country, for example, could generate tens or even hundreds of projects that would all need to be validated and registered, with subsequent claimed emission reductions verified, certified, and issued. A significant restructuring of the mechanism's basic regulatory and administrative systems would likely be needed.

5.2 Policy or Sector CDM

Some observers have already examined the prospect of expanding the scope of the CDM to encompass policies or cover entire national sectors or geographic areas (Samaniego and Figueres, 2002; Schmidt et al., 2004; Bosi and Ellis, 2005). Under this vision, an SD-PAM itself, or the sector in which one or more SD-PAMs is targeted, could generate emission reduction credits.

This approach has some apparent advantages. It could help create incentives for positive policy change along the lines discussed throughout this report. Second, restructuring the mechanism along sectoral or policy lines could alleviate some of the bottlenecks and high transaction costs of a burgeoning project-only mechanism. A basket of policies and measures in a single sector could, for instance, all be aggregated together for a determination of emission reductions. All of the policies and projects undertaken in China's transportation sector, discussed in Chapter 4, might be treated collectively, for example.

There are also a number of challenges and shortcomings associated with a sector- or policy-based CDM. The most significant challenge would be determining the amount of emission reductions (or avoidance) associated with PAMs. Even under the present project-oriented CDM, this has proven controversial and more difficult than expected. Disagreement is particularly rife with respect to determinations of "additionality," as it is very difficult to develop simple rules capable of reasonably ensuring that credits are issued only to projects that would not have occurred absent the CDM. Additionality assessments in the context of SD-PAMs would be virtually impossible. Indeed, the very concept of additionality is at odds with SD-PAMs, which are likely to be implemented for non-climate reasons. Furthermore, the SD-PAMs approach would cover the implementation of existing policy.

Accordingly, a new framework would be needed for deciding which policies and measures are creditworthy and which are not. Rather than additionality assessments, a more promising approach might be to define a set of activities or policies—such as some of those discussed in this report—that are unquestionably climate-friendly and therefore *a priori* eligible for crediting, regardless of the motivation for enactment. Accounting standards, based on such a set of activities and policies, would then need to be developed to enable emission reduction determinations in a manner that is reasonably simple and transparent.[9] This might be done through a system of performance benchmarks or rate-based emission baselines (for example, CO_2 per unit of output), probably on a sector or subsector level.

Even if this is feasible, however, a sector/policy-based CDM still has a remaining problem pertaining to the structure and balance of the overall carbon market. A sector/policy-based crediting mechanism could generate large quantities of emission reductions. As illustrated in this report, just a handful of large sectoral initiatives could generate reductions of hundreds of millions of tons of CO_2. However, reductions of this scale might overwhelm the demand from industrialized countries, or otherwise dampen incentives in those countries to continue abatement efforts. This problem might be remedied by deeper emission cuts in industrialized countries. Yet such cuts do not appear to be forthcoming. In particular, some countries like the U.S.—even if it agreed to an emission limit—would not likely cap emissions at a level that would leave it overly dependent on credits from other countries to comply.[10]

5.3 Action Targets

Action targets, summarized in Box 3, are a third possibility for incorporating a quantitative dimension into SD-PAMs. Action targets would address some of the difficulties discussed above, though substantial challenges would remain.

Under an action targets approach, in addition to pledging SD-PAMs, a country would pledge to achieve a quantity of emission reductions (the "action target"). The expectation would be that the SD-PAMs ("actions") pledged would generate emission reductions that, in turn, would be used to satisfy the target. If SD-PAMs were to generate emission reductions in excess of the target, all or part of these surplus reductions could be sold to governments or private buyers, thereby generating a financial return.

Box 3. Action Targets

An action target would be a pledge to achieve or acquire an agreed amount of GHG *emission reductions*. For example, if a country adopted an action target of 2 percent for the period 2013–17, it would need to demonstrate emission reductions equal to 2 percent of its actual emissions during this period. In this way, an action target defines the amount of abatement to be achieved during a commitment period. This differs from Kyoto-style or dynamic targets, which define a level of *emissions* (or *emissions per unit of GDP*) to be achieved during a particular period.

To illustrate, suppose Country A agrees to an action target (AT) of 5 percent for the year 2015. If Country *A*'s emissions (*E*) in that year are 100 million tons of carbon ($MtCO_2$), then the required amount of reductions is 5 $MtCO_2$ (5 percent of 100). It follows that, if emissions are *actually* 100 $MtCO_2$ in 2015 and the country has demonstrated 5 $MtCO_2$ of domestic reductions, then emissions *would have been* 105 $MtCO_2$ in the absence of any actions taken to reach the target. In this way, action targets would have the effect of bending the emissions trajectory of a country downward.

Source: Adapted from Baumert and Goldberg (2005)

Action targets entail some advantages over sector/policy CDM. In particular, the risk of overwhelming the demand for credits from Annex I is substantially reduced because not all credits generated are transferable; only emission reductions achieved in excess of domestic action targets could be sold. An appraisal of the expected abatement quantities generated by *existing* SD-PAMs might constitute a useful starting point for setting an action target. In this way, substantial quantities of "non-additional" credits (in the parlance of the CDM) could be used to satisfy domestic action targets, with new SD-PAMs generating emission reductions that, in whole or part, could be transferred.

Second, by adopting quantitative commitments, it is possible that SD-PAMs when coupled with action targets could attract more concessional financing from industrialized countries under the UNFCCC. With the added quantitative commitment, developing countries may improve their negotiating position with respect to additional funding. On the other hand, developing countries have long resisted quantitative commitments in any form, and might continue to do so.

The chief challenge associated with sector/policy CDM, however, remains for action targets as well. Namely, what constitutes an "emission reduction" that can be used to satisfy an action target or be sold? How could an accounting system be devised that captures emission reductions from diverse kinds of SD-PAMs, such as renewable energy portfolio standards, product efficiency standards, road charges, and clean energy subsidies, among many others? Although a full exploration of this topic is beyond the scope of this report, some preliminary observations can be made.

First, because not all emission reductions would be tradable, the need for quantitative precision is reduced, and in any case experience shows that accuracy is unachievable. The purpose of the accounting system for SD-PAMs, coupled with action targets, would be to identify and promote the kinds of SD-PAMs that are needed to achieve the Climate Convention's objective, including those actions taken mainly for economic, social, or other purposes. In this way, it would differ substantially from the CDM's additionality tests. A system of performance benchmarks or rate-based emission baselines might be called for (as with sector/policy CDM), probably on a sector or subsector level.

Second, lessons from Kyoto suggest some procedural safeguards that could improve the likelihood of success. Most importantly, negotiators should agree on an accounting system—at least the main contours of one—*prior* to adopting action targets under an SD-PAMs system. In doing so, governments would avoid the approach taken under Kyoto, which turned negotiations on CDM project eligibility, additionality methodologies, and other issues into *de facto* renegotiations of national targets. To the extent possible, an accounting system should be developed through broad stakeholder participation (given the inevitable policy issues that will arise) coupled with the input of technical competence and expertise.[11]

6. CONCLUSION

This chapter has outlined several ideas and parameters for formalizing SD-PAMs in the context of the broader evolution of the climate change regime. A number of elements are likely to required, including definition of eligible types of SD-PAMs, as well as procedures for pledging, tracking, reporting on, and reviewing SD-PAMs implementation. Resolving GHG accounting issues may also enable quantification of the GHG benefits flowing from particular PAMs, or sectors within which multiple PAMs are targeted. Additional future work is needed in these areas.

While the concept of pledging national policies and measures may be untried, many elements described above are adapted or borrowed from existing practice under the Convention. For instance, the process of agreeing on emission targets involved, in some sense, a bottom-up pledging process. Likewise, the Convention already employs a system for reporting and review of policy implementation. To be successful, an SD-PAMs system would need to build on and improve these systems.

ENDNOTES

[1] The line between projects and policies could be blurred in some instances, particularly if a project is large scale. Large-scale infrastructure projects, for instance, may require enabling legislation, partnerships, or even international agreements as prerequisites to planning, financing, and implementation.

[2] UNFCCC, Article 4.1(b), states that "all Parties shall "[f]ormulate, implement, publish and regularly update national ... programmes containing measures to mitigate climate change..." Article 4.3 then states that the developed countries shall "provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures that are covered by paragraph 1 of this Article...."

[3] An issue for future consideration would be whether pledge "periods" (i.e., negotiations) should be set in regular intervals or be rolling. Parties may need to hold pledge periods in regular intervals (such as every three to five years).

[4] In-depth review process is defined in COP decisions 2/CP.1 (1995) and 6/CP.3 (1997).

[5] UNFCCC, 2005. *National Communications Annex I: Review of Information.* Available at: http://unfccc.int/national_reports/annex_i_natcom_/items/1095.php.

[6] See WTO, 1995 and "Trade policy reviews: ensuring transparency." Available at: http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm11_e.htm.

[7] UNFCCC, 2001. Ongoing guidance is also promulgated by the CDM Executive Board. For information about the Executive Board, see http://unfccc.int/cdm/EB.

[8] UNFCCC, 2004b (Referring to type L- and L+ policies or regulations).

[9] See the GHG Protocol Initiative (convened by the World Resources Institute and World Business Council for Sustainable Development) for an example of such accounting standards at the corporate and project level. Information available at: http://www.ghgprotocol.org.

[10] See e.g., Bush Administration, 2001 (Asserting that the "Kyoto Protocol would leave the United States dangerously dependent on other countries to meet its emission targets ... There is no guarantee that these allowances would be available.") Similar objections would likely be expected from future administrations as well.

[11] The GHG Protocol may be a useful multistakeholder model for developing such standard. *See supra* note 9.

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