

Strengthening the Clean Development Mechanism

A Background Paper

prepared for

**Renewable Solutions: An NGO Conference on
Renewable Energy and Climate Change**

Roger Peters

November 2005



Sustainable Energy Solutions

About the Author

Roger Peters is a professional chemical and environmental engineer with 30 years of experience in energy efficiency and renewable energy. At The Pembina Institute, Roger guides the organization's work on national renewable energy and energy efficiency policy, and has authored several reports on the innovative financing of energy efficiency improvements. He has also gained substantial expertise on climate change, providing assessments and technical assistance to project developers on the use of the Clean Development Mechanism (CDM) and other sources of carbon financing. Roger has significant international experience in Asia, Latin America and Africa, with projects on energy efficiency and rural energy funded by the World Bank, the Global Environmental Facility and the Canadian International Development Agency (CIDA).

Strengthening the CDM
November 2005

©2005 The Pembina Institute

The Pembina Institute 780.542.6272
Box 7558
Drayton Valley, AB
T7A 1S7 Canada
e-mail: piad@pembina.org

About the Pembina Institute

The Pembina Institute creates sustainable energy solutions through research, education and advocacy. It promotes environmental, social and economic sustainability in the public interest by developing practical solutions for communities, individuals, governments and businesses. The Pembina Institute provides policy research leadership and education on climate change, energy issues, green economics, energy efficiency and conservation, renewable energy, and environmental governance. More information about the Pembina Institute is available at <http://www.pembina.org> or by contacting: info@pembina.org

Strengthening the CDM

Table of Contents

Introduction	1
Summary of Recommendations	2
Changes to the CDM Itself	3
Expand resources and support for the Executive Board	3
Approved protocols for different project types	4
Additionality	4
Confirm the eligibility of “unilateral” CDM projects by host countries	5
Including programs and sectors in the CDM	6
Tools and mechanisms that allow aggregation of small-scale projects and reduce transaction costs	6
Exclusion of controversial and temporary projects	6
Leadership by Annex 1 Countries	7
Increasing Board Resources	7
Provide a stable carbon market: Give value to CERs beyond 2012	7
Establish permanent funds for capacity building and project development	7
Purchase credits from projects with high development value	8
Mobilize conventional investment	8
Conclusions	9

Introduction

It is now clear that the Clean Development Mechanism (CDM) will play a major role in helping Annex 1 countries meet their requirements to reduce greenhouse gases (GHG) during the Kyoto Protocol commitment period of 2008-2012. Because progress has been slow and only modest when it comes to reducing domestic GHG emissions, many countries will now need to purchase significant numbers of international credits through the CDM, Joint Implementation (JI) and international emissions trading (IET). For example, Canada now expects to purchase up to 115 megatonnes of emissions per year through domestic offsets and international credits.¹

The CDM also has the potential to play a significant role in financing sustainable development and the establishment of a low-carbon economy in developing countries—helping those without energy services to access clean, sustainable sources of energy, and to realize positive benefits from energy that contribute to the reduction of poverty.

The CDM has now been in operation for four years, beginning in 2001 before the ratification of the Kyoto Protocol. This has provided both host countries and Annex 1 countries with a chance to evaluate the CDM's effectiveness in its current form, and identify needed improvements. Much has been achieved in this time, including the development of a wide range of baseline and monitoring protocols that will provide the basis for faster approval in the future. The concept of additionality has also been embedded in a set of guidelines, and effectively used since 2004.²

However, the Clean Development Mechanism is not providing the sustainable development benefits expected, and the rate at which projects are developed and approved is not sufficient to meet the growing demand for international credits from Annex 1 countries. The current roster of projects is expected to deliver an average of 26.3 Mt CO₂e per year over the 2008-2012 period. That compares with estimates of an expected demand for Certified Emissions Reductions (CERs) in the range of 217 to 640 Mt CO₂e per year by 2010. The reality of the CDM is that, under any scenario, there will not be time to develop large-scale GHG reduction projects soon enough to deliver CERs in the 2008-2012 commitment period. It is generally agreed now that the only projects and programs that can provide the volume of CERs needed in the required time frame are those of medium- and small-scale that can be implemented quickly, such as energy efficiency, small-scale renewable energy and waste processing.³

It is of particular concern that until now, the majority of the larger CDM projects have involved technologies that do not provide development benefits, and that most projects are in larger industrializing countries.⁴ This is confirmed by Pembina's experience in India, Kenya, and Africa working with small-scale CDM project developers. Limited awareness and training are significant barriers to non-governmental organizations (NGOs) and local small and medium-

¹ Government of Canada, April 2005. "Moving Forward on Climate Change."

² de Jong, Lex. 2005. "CDM lessons learned and future challenges." Dutch-Canada Conference on Climate Change, Oct 6-7 in Ottawa, Canada.

³ Newcombe, Ken. 2005. "CDM lessons learned and future challenges." Dutch-Canada Conference on Climate Change, Oct 6-7, in Ottawa, Canada.

⁴ International Institute for Sustainable Development. 2005. "Realizing the Development Dividend."

sized enterprises, preventing them from leveraging carbon financing to support local project activities.⁵

We are also losing opportunities to use the CDM to finance renewable energy and energy efficiency projects that are part of larger programs, because of the strict application of project-based criteria by the Executive Board. There is a need to review the definition of CDM projects in the Marrakech Accords to allow carbon financing of these important programs.

Another crucial issue for the Clean Development Mechanism is the existence of a market for carbon credits beyond 2012. Many CDM projects rely on the income from the sale of credits for up to 10 years. Without a value being given to these credits beyond the Kyoto commitment period, few project developers will use the CDM.

Finally, there is the issue of conventional financing. While “carbon financing” through the CDM is designed to improve the viability of technologies that reduce emissions, it will never provide more than 5% to 20% of the investment required. We urgently need increased public and private investment in renewable energy, energy efficiency and other sustainable development projects and programs.

Summary of Recommendations

The Pembina Institute believes that at the Montreal Climate Change Conference (the Conference of the Parties, or COP 11), the Parties should advocate that the following changes be made to strengthen the CDM so that it can deliver on its twin objectives of GHG reduction and sustainable development in a timely manner:

- ❑ Expand the resources, professional skills, and effectiveness of the CDM Executive Board.
- ❑ Develop approved methodologies into protocols for different project types.
- ❑ Institutionalize the concept of “additionality,” through the adoption of guidelines, sectoral baselines, and/or a list of approved technologies.
- ❑ Confirm the eligibility of “unilateral” CDM projects by host countries.
- ❑ Expand the scope of the CDM to include programs and sectors.
- ❑ Introduce tools and mechanisms that allow the aggregation of small-scale projects and reduce transaction costs.
- ❑ Continue to exclude controversial and temporary projects, such as forest management, agriculture, carbon storage and others.

Annex 1 Parties should show leadership at COP 11 through the following actions:

- ❑ Announcing a significant increase in funding for the Executive Board CDM process.
- ❑ Building a consensus that will ensure that the international carbon market will continue beyond 2012, and CERs will have some value beyond 2012.
- ❑ Establishing permanent funds for capacity building and project development for small-scale projects in key countries, especially Africa.

⁵ The Pembina Institute. 2005. “Delivering Sustainable Development Benefits through the CDM.” www.pembina.org/cop11/workshop6.shtml

-
- ❑ Agreeing to purchase CERs from projects that deliver significant sustainable development benefits at the local level (using criteria such as those set by the Gold Standard), and to pay a premium price for these credits to reflect their sustainable development value.
 - ❑ Agreeing to mobilize conventional investment in renewable energy and energy efficiency.

Changes to the CDM Itself

Expand resources and support for the Executive Board

While the Executive Board must continue to be the body that reports to the United Nations Framework Convention on Climate Change (UNFCCC) on the Clean Development Mechanism, the financial and professional resources provided to the Board must be significantly increased. The structure of the Board should be changed so that a permanent professional body or secretariat reporting to the Board is responsible for the day-to-day operation of the CDM. This permanent body with experience in carbon financing, GHG technologies, and emissions trading would be provided with high-level guidance by the Board. The current Methodological Panel and desk reviewers would be replaced by a technical advisory body in order to ensure objective, expert input and opinions on methodologies—especially for projects that require new baseline methodologies.

Conventional financing and a sound business plan are essential aspects of any project that is going to provide CERs through the CDM, and this is particularly true for small-scale project developers with limited access to upfront carbon financing. Financial institutions can play a major role in providing this financing and due diligence, and can also provide a pipeline of potential projects suitable for carbon financing. It is recommended that in the redesign of the Executive Board process, those staff with development bank experience in energy efficiency, renewable energy and other types of smaller-scale projects be retained, and used at local levels to help expedite the financing of good bankable CDM projects.⁶

Better interaction with stakeholders is also needed – both in host countries and internationally. A process allowing for public hearings should be considered to achieve this.

Many observers, including the International Institute for Sustainable Development (IISD)⁷ and the International Emissions Trading Association (IETA),^{8 9} support these changes to Board structure and financing.

⁶ It should be noted that a “bankable” project does not mean that it must be viable without carbon financing, but instead that it has conventional financing lined up and a sound business plan that can be implemented once conventional and carbon financing are secured.

⁷ IISD, op cit

⁸ International Emissions Trading Association. 2005. “Strengthening the CDM.” Position Paper for COP 11, October.

⁹ Marcu, Andrei. 2005. “CDM lessons learned and future challenges.” Dutch-Canada Conference on Climate Change, Oct 6-7, in Ottawa, Canada.

Approved protocols for different project types

The Executive Board has already approved six consolidated baseline and monitoring methodologies that can be used by new projects that utilize similar technologies. This greatly reduces the time required for project approval. One of the priorities of a Board with expanded resources should be to prepare a greater number of consolidated methodologies, and turn them into full protocols for certain technologies, regional programs and sectoral programs. These would include model Certified Emissions Reduction (CER) Purchase Agreements and other documents that reduce transaction costs. (See also additionality and the inclusion of programs, below.)

The redesigned Executive Board system should include a division with the responsibility for producing these protocols.

Additionality

Since its establishment in 2002, the Clean Development Mechanism Executive Board has sought to clarify the concept of “additionality.”¹⁰ Several tools may be used when submitting a project to the Board to demonstrate that a project activity is additional, and therefore not part of the baseline scenario. Among others, they include:

- A flow chart or series of questions that lead to a narrowing of potential baseline options
- A qualitative or quantitative assessment of different potential options and an indication of why the non-project option is more likely
- A qualitative or quantitative assessment of one or more barriers facing the proposed project activity (such as those laid out for small-scale CDM projects)
- An indication that the project type is not common practice (e.g. it occurs in less than a designated percentage [$<x\%$] of similar cases) in the proposed area of implementation, and is not required by a Party’s legislation/regulations

Additionality is normally evaluated by the Executive Board as part of the baseline methodology approval process, although the Designated Operational Entity (DOE) is expected to make recommendations about whether a project qualifies as “additional” when it is submitted for registration.

The baseline methodology approval process has provided the Board with feedback about the additionality of actual projects, and it is becoming much easier for potential project developers to determine clearly whether their projects are additional before submitting them. This increased ease is illustrated by IETA’s comment that “the additionality tool is currently widely used, of necessity, by many project developers, as it is the only realistic option to avoid a possible delay of [registering] the project.”¹¹ The belief that additionality screening has added clarity and is

¹⁰ “Report of 10th meeting of the CDM Executive Board Annex 1: FURTHER CLARIFICATIONS ON METHODOLOGICAL ISSUES. A. Clarifications on how, through the methodology, it may be demonstrated that a project is additional and therefore not the baseline scenario.” July 26-28, 2003. Also available online at <http://cdm.unfccc.int/EB/Meetings>

¹¹ IETA, op cit, p7

working well was also confirmed by speakers at the recent DC-4 conference in Ottawa, Canada, in early October 2005.¹²

Senter International has developed a series of definitive criteria for determining additionality, based on the CDM Additionality Tools that would be used in the acquisition of international credits by the Dutch governments.¹³ A project is considered additional if it can meet one of the following three tests:

- Test 1: The project is not business-as-usual and thus additional, because an alternative exists for the project that is more economically attractive.
- Test 2: The project is not business-as-usual and thus additional, because without the sales of carbon credits the project is not economically viable.
- Test 3: The project is not business-as-usual and thus additional, because several significant barriers to the use of the technology exist.

Either the current guidelines used by the Board or the Senter test should be adopted permanently for determining additionality. The Project Design document should be modified so that the test is a requirement for completion.¹⁴

Another way of ensuring additionality is to develop a positive list. Automatic additionality would be assumed for small-scale projects; projects and technologies that always face price barriers and other market barriers, such as energy efficiency and solar PV; and for sectors and programs such as rural electrification in some countries. This approach of establishing a list of automatically approved technologies received recent support from the World Bank.¹⁵

Confirm the eligibility of “unilateral” CDM projects by host countries

Allowing host countries to register projects under the Clean Development Mechanism without a buyer—the so-called unilateral CDM—would encourage the development and aggregation of more small-scale projects with a premium development value that could be implemented quickly. This would be further helped by expanding the scope of the CDM to include programs and sectors (see below). It would also allow projects and programs that produce biofuels in developing countries for later use to be included in the CDM.

¹² de Jong, Lex. op cit

¹³ For more details visit: www.carboncredits.nl.

¹⁴ PDDs for small-scale projects already include such a test

¹⁵ Newcombe, Ken. op cit

Including programs and sectors in the CDM

Expanding the scope of the CDM to allow the registration of programs that directly or indirectly reduce GHGs would greatly increase the ability of host countries to deliver CDM credits and provide local sustainable development benefits. Countries would be able to register their programs for rural electrification, energy efficiency and community energy with the CDM. The Designated Operational Entity (DOE) would verify the results of the program in terms of installed measures and performance each year. The same approach could be applied to programs targeting sectors or specific industries, i.e., small-scale dairy producers. Local DOEs with experience in these sectors would provide verification.

There is another significant benefit of using the sector-and-program approach. It would remove the incentive that discourages host countries from implementing programs and policies that reduce GHGs, because projects under these programs and policies would be ruled non-additional.¹⁶

Tools and mechanisms that allow aggregation of small-scale projects and reduce transaction costs

To provide the increases needed in the flow of small projects, we suggest that host countries, project developers and other interested parties be provided with better tools to aggregate small-scale projects under the Clean Development Mechanism into larger bundles that could be marketed to prospective credit buyers. For example, many small-scale community development projects that reduce existing or future emissions are being implemented by NGOs and others, and could be aggregated on a national basis. Once GHG reductions from similar projects are aggregated into larger bundles of CERs, buyers would be more likely to be interested in pursuing these purchases. The aggregation process would also allow a program to start with a small number of installations, and add more over a number of years.

Pembina's work with small project developers in India and Kenya has demonstrated that even with the simplified provisions regarding baseline, monitoring, Project Design Document and additionality, small projects still have to bear significant transaction costs (such as those associated with registration and DOE fees) that often do not make it worthwhile to use the CDM. This penalizes the types of projects that can deliver premium development benefits to host countries as the CDM originally intended. The costs of validating and verifying projects by Designated Operational Entities should be reduced by using local consultants and experts, and fees for small projects should be waived or further reduced.

Exclusion of controversial and temporary projects

There has been some discussion about the potential expansion of the provisions on carbon sinks to include forestry management and agricultural practices.¹⁷ Certainly for countries with

¹⁶ Baumert, K. A., Blanchard, O., Llosa, S., & Perkaus, J., Eds. 2002. "Evolving to a sector based CDM." In *Building on the Kyoto Protocol: Options for Protecting the Climate*. Washington, D.C.: World Resources Institute.

¹⁷ IISD op cit

significant forest coverage, an expanded definition of eligible projects would enable them to have a wider scope in meeting their GHG reduction targets.

However, Pembina does not agree that carbon removal options under the CDM should be expanded to include these types of projects in order to increase the supply of CERs. Sound forest management and agricultural practices should be followed as part of sound environmental management, and would therefore not be additional. The temporary nature of such carbon removals also would not contribute to the long-term permanent reductions in GHG levels that are needed to reduce the impacts of climate change.

Leadership by Annex 1 Countries

Increasing Board Resources

Canada recently announced that it would increase its current funding of the Executive Board Clean Development Mechanism process.¹⁸ Canada and other Annex 1 countries should pledge to provide the CDM with sufficient funds through 2012.

Provide a stable carbon market: Give value to CERs beyond 2012

Without the promise of CER sales beyond 2012, it will not be worthwhile for project developers of any size to participate in the CDM. It would be disastrous, less than a year after the Kyoto Protocol was ratified, to signal the end of carbon financing in 2012. A bridging formula should be developed at COP 11 that would provide a stable carbon market into the post-2012 climate regime. If discussions at COP 11 about a post-2012 climate regime do not resolve this issue, Canada should build a consensus among other industrialized countries to buy credits unilaterally from CDM projects after 2012 until a formal regime is in place.

Establish permanent funds for capacity building and project development

The number of CDM projects that are available would be increased significantly if Annex 1 countries increased their level of support for capacity building and project development. Capacity building initiatives like the Capacity Development for the CDM (CD4CDM) program delivered by the United Nations Environment Program (UNEP)/Riso Centre are providing excellent support in a number of key countries, but more is needed. Canada and other Annex 1 buyers of CERs should establish an international fund for capacity building and project development, which would produce a pipeline of CDM projects with a high development value

¹⁸ Government of Canada. 2005. "Government of Canada affirms commitment to investing in international efforts to address climate change." News release. November 17. Available online at www.ec.gc.ca/press/2005/051117_n_e.htm

from smaller developing countries. Individual countries should use dedicated support funds like Canada's recently replenished Climate Change Development Fund for this purpose.¹⁹

Training programs would help new project developers identify how the CDM could contribute financially to their projects, and this would increase the flow of new projects. An increased familiarity with, and a practical understanding of, the CDM process are important for small businesses and NGOs that do not have the organizational capacity to access the CDM under its current conditions. This is especially true in countries within Africa and other regions where the CDM has not taken hold. The Canada CDM Small Projects Facility delivered by the Pembina Institute in India, Kenya and now Nigeria has demonstrated that small, well-directed capacity-building funds can contribute effectively to the development of new CDM projects.²⁰

The Facility development model also provides the opportunity to increase the supply of CDM projects without diverting existing Official Development Assistance.

Purchase credits from projects with high development value

Annex 1 countries such as Germany, Austria and Spain have allocated part of their national commitment to purchase CERs from small-scale projects and programs with a high development value. Canada, through its new Climate Fund, and other Annex 1 countries should follow this lead.

The Gold Standard for the CDM²¹ is a recognized standard for qualifying projects with a high sustainable development value. The objective is to assure purchasers of Certified Emissions Reductions that projects meet sustainable development criteria, will provide direct community benefits, and have been developed through measurable stakeholder participation. Using the Gold Standard reduces the risks associated with financing, delivery delays and additionality concerns of CER buyers.

Mobilize conventional investment

International meetings on renewable energy held in Germany (2004) and Beijing (2005) have called for large increases in public and private investment in renewable energy and energy efficiency, in order to accelerate a global transition to sustainable energy. These increased investments are needed to both reduce greenhouse gas emissions and meet development needs as reflected in the Millennium Development Goals. They are also needed to complement increased carbon financing through the CDM, which can only provide between 5% and 20% of most project financing requirements at current or expected carbon prices.

Annex 1 countries should therefore institute policies that leverage private investment in renewable energy and efficiency, and increase their support for multilateral partnerships such as the Renewable Energy and Energy Efficiency Partnership (REEEP) and the Global Village Energy Partnership (GVEP). Some development banks, such as the European Bank for

¹⁹ Ibid

²⁰ Pembina Institute, op cit

²¹ Further information on the Gold Standard is available at www.cdmgoldstandard.org

Reconstruction and Development, have provided extensive financing for energy efficiency. All multilateral development banks should be required to make projects that deal with renewable energy and energy efficiency their primary clients.

Conclusions

The Clean Development Mechanism is at a watershed. One of the key issues to be discussed at the Montreal Climate Change Conference is how the CDM can progress from its current learning phase and meet the growing demand for CERs. The CDM has now been in operation for four years, beginning in 2001, before the ratification of the Kyoto Protocol. Much has been achieved, including the development of a wide range of baseline and monitoring protocols that will provide the basis for faster approval of CDM projects in the future. However, changes are essential if the CDM is to achieve its twin goals of delivering sustainable development and providing carbon credits to Annex 1 parties.

Two types of change are needed. First, the operation of the CDM itself has to be strengthened in terms of its technical capacity and scope. The most important of these changes will be to increase the capacity of the CDM Executive Board, set clear but effective additionality rules, and affirm that sectoral and other programs can be included in the CDM.

Secondly, Annex 1 countries must show leadership in the ways they use and support the CDM. They should commit to significant and long-term funding of the CDM process; agree to purchase CERs from CDM projects beyond 2012; support the development of smaller-scale CDM projects with high sustainable development value; and agree to purchase significant numbers of credits from these projects.

These changes would also pave the way for a seamless transition to an expanded international carbon market that supports sustainable development in the post-2012 climate change regime.