

Kyoto's Clean Development Mechanism: global warming and its market fix

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Recent developments have exposed a UN greenhouse gas emissions trading program as a lucrative source of profits. The program has hindered investment in technologies that would contribute to a long-term decline in the emissions that cause global warming.

The emissions trading program, called the Clean Development Mechanism (CDM), began its operation in December 2003 and is one part of the Kyoto protocol. Under the protocol, "Annex 1 countries" (including Canada, Japan and the more economically developed countries of Europe) have pledged to reduce their greenhouse gas emissions to an average of 5.2 percent below their 1990 levels by 2012. So-called developing countries ("non-Annex 1 countries," including China and India) are not bound to reduce their greenhouse gas emissions.

The stated rationale for the CDM is to encourage sustainable development in non-Annex 1 countries, and to lessen the burden of Kyoto-bound countries in meeting their reduction targets. Under the CDM, this is to be accomplished through the coordination of emission-reduction projects in non-Annex 1 countries, such as China and India.

CDM projects generally operate on a profit basis with details of funding and distribution of profits to be worked out among the participants—including companies and banks in Annex 1 countries as well as companies or governments in non-Annex 1 countries. Projects must be based on an approved methodology, that is, a means of reducing greenhouse gas emissions and a means of monitoring and confirming such reductions.

Once a project is approved by the CDM Executive Board and the Designated National Authorities, credits are issued to the participants in Annex 1 countries based on confirmed reductions. These credits can in turn be used to meet Kyoto targets or can be sold on the carbon market. This is an attractive option for companies in Europe and elsewhere because it is often cheaper to sponsor these projects than to reduce emissions at their own companies.

While the CDM has generated many carbon credits, and thus lessened the burden of Kyoto-bound countries, it has failed to truly encourage sustainable development. Predictably, the most popular CDM projects are those that yield the greatest profits for the participants. Projects that consider the development of sustainable alternative sources of energy are among the least popular in terms of credits issued. The discouragement of renewables has much to do with the way credits are issued and the economics of CDM

projects.

Credits are issued according to the "global warming potential" of the particular gas reduced. For example, reducing a tonne of methane would have the same effect as reducing 23 tonnes of carbon dioxide over a 100-year period. Certain greenhouse gasses such as HFC-23, also known as fluroform, have a much larger global warming potential. One tonne of HFC-23 in the atmosphere is equivalent to 11,700 tonnes of carbon dioxide in the atmosphere over a 100-year period.

The issuing of credits based on global warming potential has strongly skewed the economics of the CDM toward reduction projects with high potentials and low costs. For a modest initial investment and small operating costs, these projects generate a large number of credits annually. This means that there has been little investment in alternative energy projects, which tend to be capital intensive and therefore have lower profit potential.

From statistics gathered from the CDM web site, of the 467 projects currently registered, 15 large projects stand to earn 68 percent of the yearly issued credits. Ten of these projects concern the destruction of HFC-23, a byproduct of HCFC-22 production. HCFC-22 is a refrigerant, and is to be phased out under the Montreal protocol since it depletes the ozone layer. These 10 projects stand to earn half of the yearly issued credits as part of the CDM program. For the projects that destroy HFC-23, a process done voluntarily by many large HCFC-22 chemical manufactures, the participants stand to reap huge profits.

Thus the bulk of credits issued relate to the production of a chemical whose production must be eliminated anyway.

According to a study commissioned by the UN, only \$4 million is required to upgrade an HCFC-22 production facility with annual operating costs of \$250,000. Assuming the 2006 average market price of \$10.5 a credit, there is about \$563 million a year to be derived from the 10 currently registered HFC-23 projects. The participants, including companies as well as large banks and corporations from the European Union and Japan, no doubt stand to gain substantially, even after the assorted fees and portions going to governments are taken into account.

That the CDM is seen mainly as a cheap source of credits to trade on the carbon market is exemplified by its participants, many whom have significant interests in the fossil fuel industry. The non-profit group CDM Watch noted in a report published in December 2004, "Market failure": "Strikingly, some of the most prominent participants in the CDM like BP, Statoil, Mitsubishi and the World

Bank are simultaneously engaged in fossil fuel projects that directly stymie the stated intent of their CDM projects. The World Bank is currently the biggest single player in the CDM and one of the most enthusiastic promoters of a carbon market as a means of addressing climate change. Yet the US\$410 million that it manages through its six carbon funds (which invest in CDM and JI projects) is less than the US\$500-600 million it provides annually to fossil fuel extraction projects, and about one sixth of its total 2003 financing for fossil fuel related projects, estimated to be US\$2.5 billion.”

The situation in China illustrates the failure of the CDM. The World Energy Outlook for 2004 estimates yearly carbon dioxide emissions will rise to 4,386 million tonnes in the year 2010, a 91.6 percent increase over 1990 levels and about 16 percent of the world’s total expected emissions for 2010. Of the major sources, 77 percent of these emissions will come from the burning of coal, 20 percent from the burning of oil and 3 percent from the burning of natural gas. In 2010 fossil fuels will constitute the source of 89 percent of China’s power production and heat plants.

Of the 35 CDM projects based in China, 23 concern the development of power from non-carbon-based renewable sources (wind, hydroelectric). However, the combined yearly emissions reductions, the equivalent of about 2 million tonnes of carbon dioxide, constitute a tiny fraction of China’s expected emissions—just .05 percent of China’s expected carbon dioxide emissions in 2010. The CDM does nothing to effect a major shift in China or elsewhere away from fossil fuel consumption.

Several other factors have combined with the CDM to lessen the effectiveness of the Kyoto protocol. The Kyoto protocol arose out of the United Nations Framework Convention on Climate Change (UNFCCC). Negotiated in 1997 and coming into formal effect in 2005, the Kyoto protocol is the first international treaty to address global warming. The United States played a large role in the Kyoto negotiations, insisting on the market-based “flexible mechanisms,” such as the “cap and trade” system and the CDM.

Among parties to the UNFCCC, participation is voluntary. Two of the largest polluters per capita, the United States and Australia, have not ratified the protocol. For countries that do participate, there are no real enforcement mechanisms.

Countries that exceed their cap must make up the difference plus an additional 30 percent and are barred from selling credits on the carbon market. However, a government may decide it is less burdensome to simply withdraw from Kyoto. Canada’s former environmental minister, Rona Ambrose, announced in April of last year that it would be impossible for Canada to meet its Kyoto targets, citing close to a 30 percent increase in greenhouse gas emissions over 1990 levels. In May the Conservative government cut the Canadian government’s funding for Kyoto compliance, signaling a likely withdraw from Kyoto.

Kyoto’s distribution of emission allowances to countries based on 1990 levels has raised some concerns, especially in the case of Russia, whose emissions have significantly dropped as a result of the economic decline following the collapse of the Soviet Union. As a consequences, it is expected that Russia will have a large surplus of credits to trade on the carbon market, lessening the effect of Kyoto.

Moreover, Kyoto’s fixed allowances divided among industrialized states fail to reflect the increasingly dynamic, globalized and interconnected nature of production and the emergence of India and China as major economic forces. While China and India are exempt, they are the host to transnational corporations, many of which originate in Kyoto-bound countries. Another scenario, not suggested by promoters of “cap and trade” carbon markets, is that transnational corporations could shift some of their more polluting operations to developing countries where there is no regulation of greenhouse gas emissions.

The net result is that Kyoto fails even as a modest proposal to reduce greenhouse gas emissions and hence address the serious and pressing problem of global warming. According to the World Energy Outlook for 2004, yearly carbon dioxide emissions will continue to rise to 27,817 million tonnes in the year 2010, a 38.9 increase over 1990 levels, even were all existing policies to reduce emissions implemented.

The failure to act could be catastrophic. The effects of human-induced global warming are becoming increasingly visible, with 2006 being the warmest year on record for the United States. Global temperatures have increased by 0.6 degrees Celsius over the last three decades, and 2007 is expected to be the warmest on record. NASA’s Goddard Space Flight Center reported late last year a significant decline in maximum sea ice cover in 2005 and 2006 of 6 percent per year, whereas previously it remained stable. Also, it was recently reported that the Canadian Ayles Ice Shelf has broken free, one of six major ice shelves in Canada’s Arctic.

The ineffectiveness of the Kyoto protocol stems from the fact that it attempts to reconcile environmental measures with the nation-state system and the demands of private profit and corporate competition. What is increasingly demonstrated—through the negotiations of the Kyoto protocol, the operations of the CDM and the carbon market—is the domination of capitalist interests over the public’s interest in the protection of the environment and the need for a truly integrated and international plan to confront the problem of global warming.



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