The Good, the Bad, and the Dammed Ugly

Status Note on Large Hydro and the Clean Development Mechanism

May 2003
International Rivers Network & CDM Watch

In October 2002, International Rivers Network and CDM Watch published "Damming the CDM: Why Big Hydro is Ruining the Clean Development Mechanism." The report showed that a significant proportion of proposed Clean Development Mechanism credits could be captured by "non-additional," business-as-usual, large hydro projects. "Damming the CDM" warned that this trend threatened to undermine the effectiveness and credibility of the Kyoto Protocol.

The seven months since our report was released have seen positive and negative developments relating to hydro in the CDM. On the positive side, the Dutch government rejected the largest and most controversial hydro project proposed for credits so far, Bujagali Dam in Uganda. Also highly positive is the Dutch and Germans' move toward requiring that hydro projects from which they source credits comply with the recommendations of the World Commission on Dams (WCD).

On the negative side, precedents may be set that would make it standard practice for developers to benefit from CDM credits for business-as-usual projects – ones which are being built regardless of whether they receive carbon credits. Evidence has also emerged that the World Bank hopes to use the CDM to promote an upsurge in large hydro building.

Overall, the concerns expressed in "Damming the CDM" remain. Large hydro may still help turn the CDM into a carbon accounting scam that produces spurious credits, subsidizes bad projects and undermines the integrity of the Kyoto Protocol.

The Good

In February 2003, the Dutch environment ministry rejected applications for CDM credits from two large hydro projects, Bujagali in Uganda and Huanza in Peru. The credits would have been financed under the Dutch CERUPT carbon procurement program. Both dams are business-as-usual developments. If approved they would have reduced the Dutch Kyoto target by 10 million tons of carbon dioxide-equivalent units, about five percent of the Netherlands' required reductions in the first Kyoto commitment period (2008-2012).

US power company AES claimed in its application to CERUPT that it needed revenues from carbon credits to make Bujagali financially attractive. Yet AES has been under contract to build the highly controversial Bujagali Dam since 1994 and has never claimed in any other project documentation that carbon credits were needed to make the dam viable.

AES continues to state its intention to develop Bujagali despite its CERUPT application having been rejected. (The project has been long delayed because of an ongoing corruption investigation by the US justice department, and a campaign led by Ugandan environmentalists which has shown the dam is a bad deal for electricity consumers, and that apparently cheaper geothermal power options have not been properly assessed.)

The Dutch government did not reveal their reasons for turning down Bujagali. It is believed the decision was based on the non-credible baseline put forward by AES rather than on the dam's non-additionality. AES claimed that if Bujagali were not built all its power would be replaced by high-emitting diesel generators. All other analyses of Uganda's power sector show that the most likely alternatives to Bujagali are another (less controversial) hydro plant and geothermal power.

When "Damming the CDM" was released, claimed carbon credits from large hydro represented nearly 40% of the total from all projects in validation or validated as eligible for the CDM. The rejection of Bujagali and Huanza and the addition of new projects to the validation process has reduced this proportion to 11% as of May 2003 (see "Percentages of carbon credits claimed" chart on p. 5).

The Dutch environment ministry's request for AES to submit a proposal for credits for Bujagali was highly controversial (see www.irn.org/programs/greenhouse/index.asp?id=letters.html). This unexpected storm of controversy seems to have persuaded the Dutch they need quality control over the hydro projects from which they request proposals for CDM validation. The ministry now promises that it will only source credits from hydro projects which "take on board" the recommendations of the WCD.

Many believe that applying the WCD recommendations would weed out destructive hydropower projects. The Commission's recommendations include such measures as comprehensive and participatory assessments of development needs and project options, and holding developers accountable to negotiated agreements with affected people.

The German ministers of environment and of development cooperation both support making compliance with the WCD a condition for German CDM hydro projects. There are also reports that the European Commission is considering this as a criterion for all CDM credits entering the European Trading Scheme, and that a major carbon trader is considering it as a pre-condition.

The Bad

While it was a positive sign that the Dutch rejected Bujagali and Huanza for CERUPT credits, there are still concerns about projects they did approve (see "The CERUPT portfolio – a step backwards for climate protection," www.cdmwatch.org/cerupt_list.php). None of the 18 projects approved by the Dutch are additional. Only four of the projects are large hydro, but these represent nearly a third of the total credits claimed.

The four CERUPT large hydros and the two promoted by the World Bank's Prototype Carbon Fund (PCF) are claiming a volume of credits equal to half the credits claimed by all 23 renewables projects combined. If all of the large hydro projects currently seeking CDM registration are successful, they will generate nearly 11 million tons of fake reduction credits in the first Kyoto commitment period. That means 11 million tons of greenhouse gas reductions that industrialized country ratifiers of the Kyoto Protocol won't have to make, and which will not be compensated by emission reductions elsewhere.

The Ugly

Hydro projects are at the vanguard of a concerted attempt by project developers and others to undermine the concept of additionality so that it becomes business-as-usual to approve business-as-usual projects for the CDM. CERUPT approved two large hydro projects – Esti and Bayano in Panama – which are nearly complete and scheduled to be finished in 2003, regardless of whether their developer (an AES subsidiary) receives a financial boost from carbon credits. Even the consulting company acting as CERUPT's validator for these projects has conceded they are business-as-usual developments. If they are registered by the CDM's Executive Board once the Kyoto Protocol comes into force, they would establish a precedent that almost any hydro project could be eligible for CDM credits.

One of the most worrying developments relating to hydro and the CDM in the past six months is the attempt by the PCF and the Dutch environment ministry to define "additionality" as "environmental additionality," a highly contentious concept being pushed by some developers and carbon brokers. Environmental additionality is commonly understood to mean that a project would result in lower emissions than a hypothetical alternative scenario, regardless of whether the alternative scenario was actually possible.

A hydro project, for example, could qualify as "environmentally additional" if it would emit less than a coal plant, even if the hydro plant would be completed without receiving carbon credits and if there was no likelihood in the real world of the coal plant being built. "Environmental additionality" does not result in emission reductions in developing countries to offset non-reductions in industrialized countries, and so undermines the Kyoto targets.

The PCF's application for CDM validation of El Canadá, a hydropower project in Guatemala, states that the Marrakesh Accords "clarify that additionality is to be determined as 'environmental additionality'." Yet the phrase "environmental additionality" is found nowhere in the Accords. (The Marrakesh Accords is the international agreement which sets out the "modalities and procedures" for the CDM.)

As El Canadá was already 70% complete when the PCF submitted its application for validation in April 2003, it is clearly a business-as-usual project. The PCF can only demonstrate "additionality" by distorting the concept to mean "environmental additionality" and comparing the emissions of the with-project scenario to a counterfactual without-project scenario which is not going to happen.

It is particularly disturbing that the World Bank's PCF should be party to this underhanded attempt to reinterpret the Accords. With the World Bank's resources behind it, the PCF is highly influential in discussions on the CDM. It claims a commitment to "high quality emission reductions" and to "learning by doing." The latter means that, as an early mover, the PCF intends to set precedents that will determine how the CDM operates once it is fully up and running.

The PCF's documentation for El Canadá is rife with omissions and unjustified assumptions. These serve to greatly exaggerate the quantity of emissions the project would be reasonably likely to displace (see El Canadá comments, www.irn.org/programs/greenhouse/index.asp?id=letters.html). If the PCF is indeed setting the precedents for the CDM, this is a worrying indication that it will be standard practice for developers and carbon funds to claim inflated emission reductions. The PCF would seem to believe that validators and the CDM Executive Board will not analyze emission reduction claims with any great rigor. This is perhaps in

the belief that the fragility of the nascent market in avoided carbon means that validators would not want to discourage developers or upset powerful players like the World Bank.

What makes this more worrying is that the World Bank's much-criticized Water Resources Sector Strategy, released in March 2003, supports a revival of funding for large dams (what it terms "high-risk, high-reward hydraulic infrastructure"). The water sector strategy promotes the CDM as a source of revenues for these projects. Critics of the strategy believe that the Bank's promotion of large hydro in the past has, as shown by the WCD, resulted in too many high-risk, low-reward projects and largely ignored the potential of low-risk, high-reward ones. The CDM is supposed to be an instrument to help lower the cost of emission reductions and promote sustainable development, not one to help further World Bank strategies.

The Conclusion

In October 2002, IRN and CDM Watch warned that including large hydro in the CDM would inject large quantities of spurious credits into the carbon market, subsidize harmful projects and undermine efforts to mitigate climate change. Despite some hopeful signs, the approval of carbon credits for non-additional large hydro by the Dutch government, and the World Bank's efforts to use the CDM as a source of hydropower subsidies show that, seven months later, our concerns remain valid.

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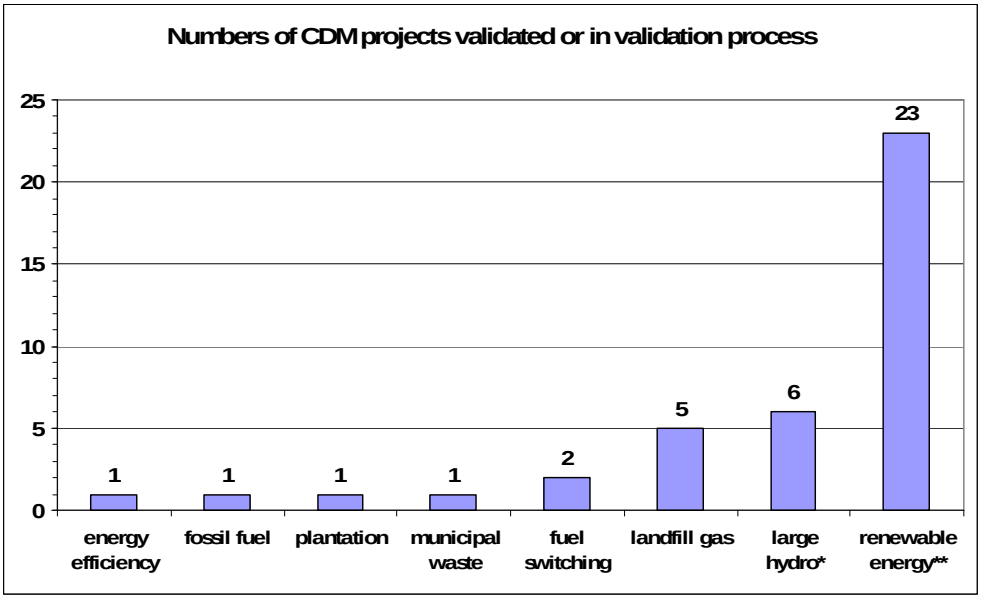
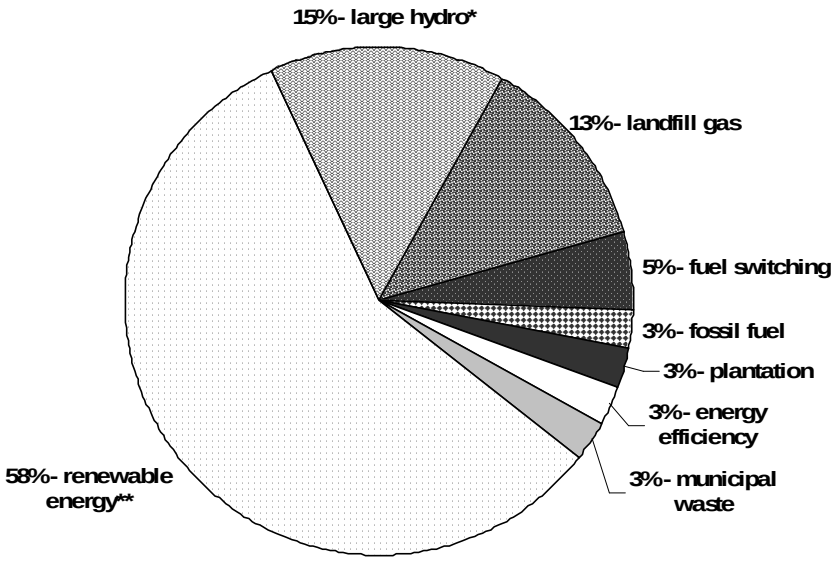
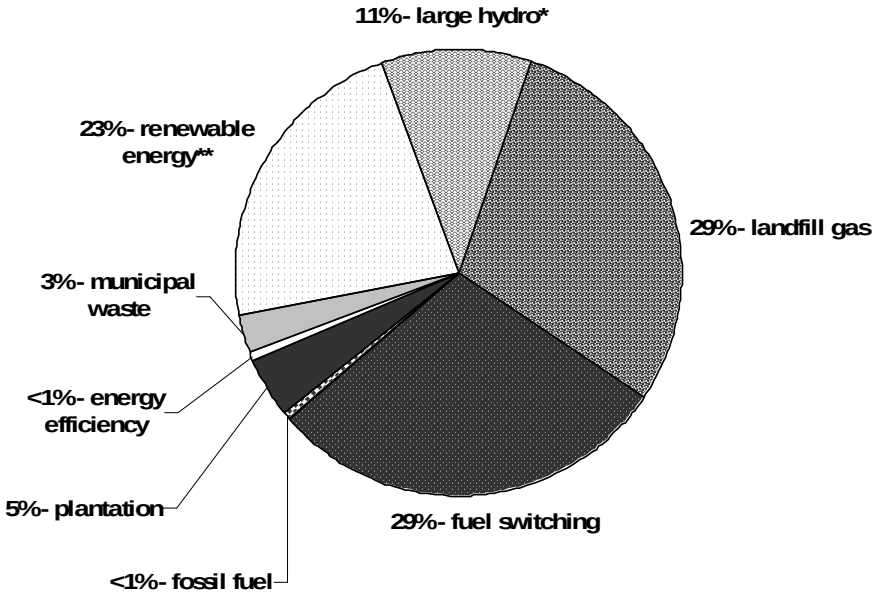


Note: The plantation and fuel switching components of Plantar are treated as separate projects in this chart.

Percentages of CDM projects validated or in validation process



Percentages of carbon credits claimed



*** Large hydro includes projects greater than or equal to 10 MW.**
**** Renewable energy includes wind, geothermal, biomass and hydro projects less than 10 MW.**
Note: The plantation and fuel switching components of Plantar are treated as separate projects in these charts.

Projects that have been rejected, validated or are in the CDM validation process

Project	Type	Country	Size (MW)	Credits (tCO_2eq)	Carbon Broker	Status
AyP Efficient Gas	Fossil Fuel	Bolivia	30	319,392	Senter	Contracted
V&M do Brasil	Fuel Switch (FS)	Brazil		21,000,000	IFC-NCF	PCP completed
NovaGerar	Landfill Gas	Brazil	12	11,800,000	NCDF	PCP completed
Tremembe	Landfill Gas	Brazil		700,000	Senter	Contracted
Salvador da Bahia	Landfill Gas	Brazil		5,208,344		PCP completed
Plantar	Plantation/FS	Brazil		12,900,000	PCF	Contracted
Catanduva Sugar Mill	Biomass	Brazil	19.5	259,506	Senter	Contracted
Aquarius	**Small Hydro**	**Brazil**	**4.2**	**313,782**	**EPDC**	**PCP completed**
Chacabuquito	**Large Hydro**	**Chile**	**26**	**2,812,000**	**PCF**	**Contracted**
Huitengxile	Wind	China	34.5	600,248	Senter	Contracted
Jepirachi	Wind	Columbia	19.5	1,168,000	PCF	Contracted
Cartago Cement Kiln	Efficiency	Costa Rica		491,000	Senter	Contracted/no PCP
Penas Blancas	**Large Hydro**	**Costa Rica**	**35.4**	**806,800**	**Senter**	**Contracted**
Rio Azul	Landfill Gas	Costa Rica	3	785,840	Senter	Contracted
Cote	**Small Hydro**	**Costa Rica**	**6.3**	**204,000**	**PCF**	**Contracted**
Chorotega	Wind	Costa Rica	8.4	300,000	PCF	Contracted
Vara Blanca	Wind	Costa Rica	9.6	327,000	PCF	Contracted
Shell El Salvador	Geothermal	El Salvador	5	100,000	Senter	Contracted
El Canadá	**Large Hydro**	**Guatemala**	**49**	**3,030,000**	**PCF**	**PCP completed**
Candalaria	**Small Hydro**	**Guatemala**	**4.3**	**505,000**	**EPDC**	**PCP completed**
CarbonTrade	Wind	Honduras	49.5	1,156,650	PCF	In preparation
Balrampur	Biomass	India	19.55	1,009,741		PCP completed
Ind-Barath	Biomass	India	7.5	378,324	Senter	Contracted
Kalpataru	Biomass	India	20	1,150,000	Senter	Contracted
Suzlon Tamil Nadu	Wind	India	15	361,000	Senter	Contracted
Vestas Tamil Nadu	Wind	India	14.45	308,000	Senter	Contracted
Enercon Karnataka	Wind	India	30	475,607	Senter	Contracted/no PCP
Unocal Wayang Windu	Geothermal	Indonesia	110	5,432,369	Senter	Contracted/no PCP
Wigton	Wind	Jamaica	20.7	522,500	Senter	Contracted
Mauritius Waste	Waste Incineration	Mauritius	11.2	2,800,000	PCF	PCP completed
Tangiers and Tarfaya	Wind	Morocco	200	1,590,000	PCF	In preparation
Gemina	Biomass	Nicaragua	1.43	212,395	PCF	Contracted
Esti	**Large Hydro**	**Panama**	**120**	**3,575,927**	**Senter**	**Contracted**
Bayano	**Large Hydro**	**Panama**	**110***	**366,923**	**Senter**	**Contracted**
Fortuna	**Large Hydro**	**Panama**	**12****	**261,000**	**Senter**	**Contracted**
Durban Landfill	Landfill Gas	S. Africa	10	10,742,434	PCF	PCP completed
Yala Rubber Wood	Biomass	Thailand	23	60,000	EPDC	PCP completed
A.T. Biopower	Biomass	Thailand	110	4,300,000	Mitsubishi	PCP completed
West Nile	**Small Hydro**	**Uganda**	**6.6**	**1,884,000**	**PCF**	**Contracted**
The following projects went through the validation process but were rejected						
El Encanto	**Small Hydro**	**Costa Rica**	**7.5**	**184,360**	**Senter**	**Rejected**
Tamil Nadu	Wind/Biomass	India	15	411,000	Senter	Rejected
Olkaria III	Geothermal	Kenya	39***	2,000,000	Senter	Rejected
Huanza	**Large Hydro**	**Peru**	**90.6**	**2,158,917**	**Senter**	**Rejected**
Bujagali	**Large Hydro**	**Uganda**	**200**	**7,561,000**	**Senter**	**Rejected**

* added to existing 150 MW plant
** added to existing 300 MW plant
*** added to existing 12 MW plant
PCP = Public Comment Period
PCF = Prototype Carbon Fund
EPDC = Electric Power Development Company, Japan
IFC-NCF = Int'l Finance Corp-Netherlands Carbon Facility
NCDF = Netherlands Clean Development Facility