

The Clean Development Mechanism; an instrument for sustainable development or a new nuclear subsidy?

The nuclear industry is in terminal decline. Poor economics, an appalling safety record, mounting piles of radioactive waste and the ever-present threat of nuclear weapons proliferation have eroded public confidence and seen orders for new plants dry up. One of the industry's last hopes is exploiting global concern over climate change by promoting itself as a carbon-free energy technology. It is hoping to be made eligible for the Kyoto mechanisms – the Clean Development Mechanism and Joint Implementation – thus gaining access to a potentially significant new source of financing and public credibility. The decision on whether it is eligible for the CDM will be taken this November in The Hague at the 6th conference of the Parties to the Climate Change Convention (COP6). To allow this would be a disaster. It would risk not only a new dawn for this polluting and dangerous industry, but undermine efforts to combat climate change.

The CDM needs to be truly clean. It should focus positively on renewable energy technologies, not unsafe and environmentally polluting ones like nuclear power.

Introduction

In November, the Parties to the Climate Change Convention will meet in The Hague for further negotiations on the shape of the Kyoto Protocol. Among the most important decisions that will be

made is that on the rules and structure of the Clean Development Mechanism (CDM). The CDM is one of the Kyoto Protocol's so-called "flexible mechanisms". It is intended to allow industrialised countries to meet a part of their greenhouse gas reduction targets by funding projects in developing countries that lead to reduced emissions. It is also meant to assist developing countries in achieving sustainable development. One of the most important issues is what technologies and practices should be eligible for the CDM, and in particular whether nuclear power should be eligible.

Growing opposition to nuclear in the CDM

A growing number of countries have supported efforts to have nuclear power excluded [see p 6]. The Association of Small Island States (AOSIS) has proposed language excluding nuclear power. Indonesia, the Philippines and Singapore have said they do not want nuclear in the CDM. The European Union (EU) recently adopted a position that would *de facto* exclude nuclear from the CDM by calling for a positive list of safe, environmentally sound eligible projects based on renewable energy and energy efficiency.

Softly-softly – the nuclear industry's stealth tactics

In response to this opposition, and in contrast to its high profile lobbying of recent years, the industry is currently pursuing a softly-softly approach to getting nuclear into the CDM. In the lead-up to COP5, the industry urged supportive governments *not* to openly endorse nuclear for fear of a backlash,



especially just after the Tokaimura accident in Japan. Their new tactic is to shape the rules of the CDM so that no technology or practice is excluded, thus allowing nuclear to gain eligibility for the mechanisms by default¹. Parties to the Climate Change Convention must not allow this stealth tactic to work – *nuclear power must be explicitly excluded from the CDM.*

What it will mean if nuclear becomes eligible – quantifying the threat

Developing countries are the key to the nuclear industry's future, yet to date orders for new reactors have been scarce. The main barrier is economic. The huge capital cost of a new reactor and the long repayment period are significant deterrents. The nuclear industry is looking to the CDM for help. The International Atomic Energy Agency (IAEA) recently admitted that because of high costs "*nuclear would not be used by most developing countries in the absence of the CDM mechanism*".²

For example, a 700MW coal fired power station emits about 4.5 million tonnes of CO₂ a year³. If a nuclear reactor was built instead, it could be claimed that it offsets this amount of CO₂. Estimates of the value of CO₂ per tonne vary but for a CDM project an amount of approximately \$10-30 a tonne is likely. Thus, the carbon offset by this nuclear reactor over a 10-year period⁴ would be valued at between \$450 million and \$1.35 billion (less when future credits are discounted). An agreement between the western supplier of the reactor and the developing country in which it was being built to subtract the value of the carbon credits from the initial capital cost of the reactor would greatly

improve the economics. A 700MW nuclear reactor costs approximately \$2.5-\$3 billion. The CDM credits it generates could cut the capital cost by 10-40%.

Undermining of domestic action by industrialised countries

Aside from the economic implications there is also great potential for nuclear plants to undermine domestic action to reduce greenhouse gas emissions. If, for example, Canada were to secure another contract to build two 700MW reactors in China it could potentially claim 9 million tonnes of carbon reduction credits per annum – equivalent to approximately 6% of its 1998 carbon dioxide emissions⁵.

The case of China

China's nuclear plans graphically demonstrate the potential threat of a CDM which includes nuclear power. Its 10th five-year plan is currently being finalised by Beijing, and may include plans for up to 6 new nuclear reactors. According to a report in the industry journal *Nucleonics Week* China is waiting to see if it will get CDM credits for new nuclear plant before it finalises a decision on how many additional units to build. The final decision will be made within six months of COP6⁶. A decision to allow nuclear power to be eligible for CDM credits at The Hague could rapidly see the mechanism become a subsidy for nuclear power in China.

Not surprisingly, the industrialised countries who are most firmly in favour of nuclear being eligible for the CDM are also those who stand to gain most from China ordering new nuclear plants



With its growing economy and rocketing energy demand, China has long been the great hope of the western nuclear industry.

Other developing countries have also made it clear they want to use the CDM to fund their nuclear programs. India has made the inclusion of nuclear projects in the CDM non-negotiable⁷. South Korea has also stated that it will support the inclusion of nuclear power at COP6. Vietnam has said it may use carbon credits if it decides to go ahead with a nuclear program.

Win-win for nuclear; lose-lose for the environment

If nuclear power becomes eligible for the CDM, these countries and their nuclear industries stand to gain considerably. Indeed, for them it will be a win-win situation. The CDM will provide a new subsidy for their ailing nuclear industries, while the carbon reduction credits from new nuclear plants will help them meet their emission reduction targets.

But it will be a lose-lose for the environment. Not only will there be an expanded nuclear industry, with increased production of radioactive waste and the constant risk of catastrophic accidents, but every dollar spent on nuclear power will be diverted from the development of sustainable energy systems and effective measures to combat climate change. As Denmark's environment minister, Svend Auken, said at COP5: "*the CDM is about Clean Development and nuclear energy has no place here*".

Nuclear proliferation is *not* clean development

If nuclear power is made eligible for the CDM, the Kyoto Protocol will be contributing to the threat of nuclear proliferation. All nuclear power plants produce weapons-usable plutonium. A sphere of plutonium smaller than a tennis ball can be used to make an explosive device that can kill many thousands of people. Two of the developing countries lobbying most aggressively for CDM credits for nuclear projects are China and India, both of whom have active nuclear weapons programs. Other likely candidates for nuclear credits under the CDM, like South Korea, have only recently halted clandestine programs to develop a nuclear arsenal.

The threat to global security posed by nuclear proliferation is equal to that of climate change. For the Kyoto Protocol to exacerbate this threat through its mechanisms would be a truly perverse and dangerous outcome to the Climate Convention negotiations.

Nuclear credits will drain resources from non-nuclear developing countries

Many developing countries, particularly those in the Pacific and Africa, are concerned that investment in CDM projects will mirror current investment flows and be biased towards high-growth countries like China and India. They are rightly seeking an assurance that the CDM will be structured to ensure an equitable distribution of resources among all developing countries.



Allowing nuclear power in the CDM will undermine their efforts. It will see CDM credits sucked in by nuclear mega-projects, further reducing the resources available for sustainable projects in non-nuclear developing countries.

The 'Kyoto stamp of approval'

Allowing CDM credits for nuclear power will be seen as an endorsement of the nuclear industry's argument that it has a role to play in combating climate change. It will be, in effect, the 'Kyoto stamp of approval'. This could encourage developing countries to go down the nuclear road, and help those developed countries who cling to the nuclear dream justify further subsidies for their domestic nuclear power programs, extension of reactor operating lives, and even new building.

The legitimacy it would give to the nuclear industry could also jeopardise phase-out plans, legislated or *de facto*, in a number of countries. As a Swedish delegate at COP5 said: "*If Sweden were to allow nuclear in the CDM, that would make political trouble for the nuclear phase-out at home*"⁸. In short, CDM credits would help legitimise a dying industry which has no other arguments left.

Excluding nuclear power is NOT neo-colonialism

In a desperate effort to fend off criticism of its pro-nuclear position, some Governments have branded calls for the exclusion of nuclear power as "neo-colonial".

The argument is total nonsense. In the case of India, developed countries

already place restrictions on exports of nuclear technology as a result of India's nuclear weapons program and its refusal to sign the Nuclear Non-Proliferation Treaty (NPT). Is the UK suggesting that these restrictions are neo-colonial?

The neo-colonialism argument is actually true in the reverse. Western nuclear companies, unable to get contracts at home due to safety, environmental and costs concerns, are instead attempting to dump their unwanted technology on developing countries. As an Indonesia delegate commented: "*I think it is simple colonialism to push nuclear power onto developing countries, leaving them with all the burdens that come with it*"⁹.

The AOSIS text – part of a simple and effective solution

The Association of Small Island States (AOSIS), whose members have perhaps the most to lose from climate change, has proposed the following text: that CDM projects "***Not support the use of nuclear power***".

If the CDM is to be an effective instrument for sustainable development, and advance the goal of greenhouse gas reductions, then support for such clear text from all parties to the Climate Change Convention is essential. Otherwise, a key mechanism of the Kyoto Protocol will become just another nuclear subsidy.

Positive list for a positive outcome

Ultimately, the only way to make the CDM an effective vehicle for clean development and global climate protection is to restrict CDM projects to



renewable energy technologies. These technologies should be specified in a prompt start positive list that is made part of the rules of the CDM This list has to be agreed at COP6. Technologies and practices that are not on this list – such as sinks, ‘clean coal’ and nuclear power – would not be eligible for CDM credits.

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Government statements opposing nuclear power in the Kyoto mechanisms

Greece - "The progress made so far in resolving issues regarding the new flexible mechanisms of the Protocol is important.....This decision cannot include eligibility of nuclear energy and other non-sustainable activities".

Italy - "And I wish to stress that nuclear power should not be eligible under the Kyoto mechanisms".

Sweden - "The issue of nuclear power has been brought to the agenda. Let me clearly state: Nuclear power is neither clean nor sustainable. Therefore it has no place within the Clean Development Mechanism".

Germany - "Projects under the mechanisms have to be environmentally effective, sustainable and future-oriented. That is the reason why Germany rejects the use of nuclear energy as eligible projects in the framework of CDM and JI. It is our position that nuclear energy is to be

phased out in Germany and is not an option for precautionary climate protection".

Austria - "Keeping in mind the principle of sustainable development the emissions reduction from power generation by switching to nuclear power is not an option in this context. I want to remind you of the still unsolved questions associated with the transport and disposal of nuclear waste. Therefore, Austria clearly opposed the promotion and use of nuclear energy technologies within the project-based Kyoto mechanisms".

Ireland - "An effective CDM will provide an important additional mechanism to maximise these transfers in a sustainable manner, which Ireland considers must exclude nuclear energy projects".

Denmark - "Also it should be stressed that CDM is about Clean Development and nuclear energy has no place here".

Nauru - "Distinguished delegates, the issue of nuclear energy as an alternative source of clean energy in the climate processes does not warrant further consideration. It is not a solution nor does it achieve sustainable development in the long run".

Philippines - "CDM projects should not include use of nuclear power..."

Indonesia – "Nuclear energy should be excluded from CDM for socio-economic, environmental and safety reasons".



References

¹ Nucleonics Week, "Nuclear should not be endorsed as a CDM, say Japan and Finland", 4.11.99 and "op. cit", 11.11.99.

² Financial Post (Cdn) "Canada's nuclear nabobs try to turn Green", 20.5.00.

³ Assuming 0.9 kgs of CO2 emitted for every kWh of electricity.

⁴ It is likely that CDM projects will only be able to calculate carbon credits for 10 years initially, after which they will likely be recalculated with new baselines.

⁵ United States Energy Information Administration, www.eia.doe.gov/emeu/iea/tableh1.html

⁶ Nucleonics Week, "Nuclear advocates trying to sway Beijing to include new projects", 25.11.99.

⁷ Nucleonics Week, 12.11.99

⁸ ibid

⁹ Agus Sari, quoted in "Power struggle, what are the odds that global warming will throw the nuclear industry a lifeline", New Scientist, 13.5.00.

