

Nuclear proliferation – the solution to climate change?

**why US attempts to include nuclear
power in the CDM will fuel nuclear
proliferation**

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In November this year, the Parties to the United Nations' Climate Change Convention will meet in The Hague, The Netherlands, to continue negotiations on the Kyoto Protocol. Among the most controversial issues to be discussed is whether nuclear power should be an eligible technology for the Clean Development Mechanism (CDM), a part of the Protocol designed to promote sustainable, projects that reduce carbon emissions in developing countries. The United States has insisted that nuclear power be included, yet recent developments show that there is an acute proliferation threat in allowing nuclear projects to be subsidised by the CDM, and that the CDM may end up conflicting with US non-proliferation goals.

Will the Kyoto Protocol end up fueling nuclear proliferation in the name of climate protection?

Introduction

During September's International Atomic Energy Agency (IAEA) 2000 General Conference four developing countries presented case studies on how they could use the CDM to help fund new nuclear plants: India, Pakistan, China and Vietnam. In each the

conclusion was clear – CDM funds would help overcome financial obstacles and could increase the number of reactors that might be built. In the absence of the CDM, reactor construction would be reduced, or cease altogether.

The studies sent a clear message to nuclear reactor vendors and governments about the importance of the CDM for future sales: no CDM – no orders. Yet they also reveal the potential of the CDM to fuel nuclear proliferation. Of the four countries angling for CDM funding, three are extremely proliferation-sensitive. India and Pakistan refuse to sign the Nuclear Non-Proliferation Treaty (NPT) and reject full scope safeguards on their nuclear facilities. China is the only major nuclear vendor country that does not abide by the Nuclear Suppliers Group (NSG) export guidelines¹ - which sets proliferation-related conditions for nuclear trade - and has recently built a reactor for Pakistan. Recent developments, detailed below, show clearly that the CDM could be used in these countries to support activities that undermine global efforts to combat proliferation.

Yet at the same meeting that these case studies were presented, United States officials were quoted as saying “*There is no way we are going to allow nuclear power to be excluded from the CDM*”². This is despite clear evidence of the impact of this policy decision. The inescapable conclusion is that US climate policy is in direct conflict with US non-proliferation policy.

India

The Indian nuclear power and nuclear weapons programs are inextricably linked. It was technology acquired by India ostensibly to generate nuclear electricity that was used in the 1974 nuclear weapons test and subsequent tests in 1998. The plutonium for the weapons was produced in a Canadian supplied CANDU reactor using heavy water from the United States, despite assurances that the reactor would only be used for “peaceful purposes”³.

India is not a signatory to the 1970 Nuclear Non-Proliferation Treaty (NPT), the cornerstone of international non-proliferation architecture, and does not accept full-scope IAEA inspections of its nuclear facilities. The Nuclear Suppliers Group (NSG) – established in 1975 in response to India’s nuclear weapons test – prohibits the export of nuclear technology to countries which do not accept full-scope safeguards.

In addition, the 1978 US Non-Proliferation Act specifies that nuclear reactors cannot be exported to countries which do not accept full-scope safeguards inspections by the IAEA. The Act was primarily a response to findings by Congress that US technology had aided the 1974 Indian weapons test⁴. The 1998 tests resulted in further economic sanctions, still in place, and India remains listed as a “Restricted Country” for nuclear exports, along with countries such as Syria and Burma⁵.

Given this, it is hard to understand why the US is now working so hard to create a new subsidy for the Indian nuclear program through the CDM.

US climate policy – a new subsidy for Minatom exports

Ironically, the existing restrictions on nuclear trade with India mean US companies will not benefit from any CDM-induced reactor construction program. Instead, Minatom looks set to be the main foreign beneficiary. Russia and India recently agreed the construction of two VVER1000 reactors at Kudankulam in the southern Indian State of Tamil Nadu. The Kudankulam agreement is an open breach of NSG guidelines, yet Russia is clearly willing to subordinate proliferation concerns in pursuit of nuclear trade on the subcontinent. The head of Minatom, Yevgeny Adamov, finalised the contract in a visit to India in June 1998, just a month after the Indian nuclear weapons tests⁶.

Nuclear collaboration between the two nations is intensifying. In October this year, Russian President Putin visited India and signed a Memorandum of Understanding on the “peaceful use of nuclear energy”⁷. The MoU, according to one New Delhi defence strategist, “suggests that Russia is willing to sell reactors to India, and support an expansion of the country’s nuclear establishment”⁸. Putin also signed a contract for the supply of 58 tonnes of nuclear fuel for the US-supplied Tarapur nuclear power station near Bombay⁹. Russia’s ambivalent attitude to proliferation implications was underlined when Putin visited the Bahba Atomic Research Center (BARC), a key facility in the Indian nuclear weapons program.

Both Russia and India have also shown interest in building on the Kudankulam agreement in the coming decades. Russia's Deputy Prime Minister has said that Minatom wants "*to participate in setting up at least half of the new nuclear power generation capacities planned by India*"¹⁰. Total nuclear capacity in India could total 20,000MW by 2020, up from the current figure of only 2,500¹¹. If additional reactors were eligible for CDM credits it would obviously increase the likelihood of them being built. India's paper to the IAEA conference states that current targets "*could be revised to increase the share of nuclear in the event that appropriate technologies and funding become available, including subsidies under CDM*"¹². Thus, US insistence that the CDM include nuclear projects could lead directly to expanded nuclear trade between Russia and India, providing direct financial support to India's unsafeguarded nuclear industry and further undermining the NSG.

CDM to fuel new Pakistan - China nuclear agreements

Including nuclear power in the CDM could lead to further reactor sales between China and Pakistan, and jeopardize efforts to get China to join the NSG. In its presentation to the IAEA conference, Pakistan explained that financial and technical difficulties stood in the way of building new reactors, and stated that "*new coal-fired plants will be built instead of nuclear power in the absence of CDM*"¹³.

As a non-NPT signatory that does not accept IAEA safeguards on its nuclear facilities, Pakistan is off-limits to foreign vendors under NSG guidelines. China,

however, does not abide by such restrictions. It is the only major nuclear vendor that is not a signatory to the NSG, and has just completed a 325MW reactor for Pakistan at Chasma. If new reactors are built it is highly likely the contract will again go to China.

Getting China to accede to the NSG guidelines and cease unsafeguarded nuclear trade has been a major non-proliferation goal of the US and other western nations. The prospect of new reactor orders from Pakistan, banned under the NSG, has been one of the main stumbling blocks. China has said it would likely not join the NSG if there is potential for nuclear trade with Pakistan¹⁴. Thus, if the CDM helps Pakistan overcome the financial barrier to new nuclear construction and leads to it placing another order with China, it will be acting directly against the stated non-proliferation goals of the US government.

Nuclear power must be excluded from the CDM

The threat of nuclear proliferation is but one reason why nuclear power should be excluded from the CDM. Even in the absence of proliferation risk, there are other environmental, social and economic factors that should rule out nuclear power. It should be remembered that the CDM has a twin mandate: not only to reduce greenhouse gas emissions, but also to "*assist developing countries in achieving sustainable development*". Nuclear power, with its production of radioactive waste, vulnerability to catastrophic accidents and high costs, is perhaps the least sustainable of energy technologies, and

should be ruled ineligible for the CDM on this point alone.

Instead, the CDM must promote renewable energy technologies that provide sustainable energy without the problems and security risks associated with nuclear power.

Conclusion

The question of whether nuclear power should be eligible for the CDM cannot be reduced to a simple measurement of carbon dioxide emissions. Nuclear power technology is fundamentally a military technology that was developed to build weapons of mass destruction; the spread of nuclear technology inevitably increases the risk of nuclear proliferation. To pretend that somehow this can be overlooked because nuclear reactors don't emit carbon dioxide

would be reckless in the extreme. The above examples indicate clearly that if nuclear power is included in the CDM, the Kyoto Protocol will fuel nuclear proliferation in some of the most unstable regions on the planet. Not only will nuclear power not save the climate, it will bring countries closer to nuclear confrontation. That is *not* "clean development", and it is not a solution to global warming.

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¹ this should in no way be seen as an endorsement of the NPT or NSG, both of which are fundamentally flawed. It should also not be seen as implying that other countries have not "flouted" non-proliferation norms. There are many examples of other states acting in violation of non-proliferation agreements. It must also be recognised that any country that has "civil" nuclear technology could be considered a proliferation risk due to the dual nature of the technology, regardless of whether they are NPT signatories or not.

² "US told EU in Lyon it will block ban on nuclear in CDM", in *Nucleonics Week* Vol. 41 No. 39 September 28, 2000.

³ Gilinsky, V., and Leventhal, P., "India Cheated", *Washington Post*, 15.6.98.

⁴ Leventhal, P., "Preventing the inevitable: ruminations on India and Pakistan", in *The Monitor*, 3.6.98.

⁵ <http://www.nrc.gov/NRC/NMSS/EXPORT/restricted.html>

⁶ PTI news agency, New Delhi, 29.9.00

⁷ AFP, 5.10.00.

⁸ World News, 6.10.00

⁹ Jane's Defence Weekly, 18.10.00.

¹⁰ Business Line 2.10.00

¹¹ Indian Department of Atomic Energy, <http://www.dae.gov.in/kaiga.htm>.

¹² Nema, A.K., et al "India – nuclear power for GHG mitigation and sustainable energy development", paper presented to the 44th General Conference of the IAEA, Vienna, 21.9.00.

¹³ Ahmad, M., et al, "Pakistan – nuclear power for GHG mitigation and sustainable energy development", paper presented to the 44th General Conference of the IAEA, Vienna, 21.9.00.

¹⁴ "Pakistan not counting on more Chinese PWR imports, PAEC says", in *Nucleonics Week*, Vol 41 No 40, October 5, 2000.