

NUCLEAR ENERGY PROJECTS

An Integral Tool in the Clean Development Mechanism

The Clean Development Mechanism (CDM) is intended to encourage the transfer of technologies to the developing world that control, limit or avoid carbon emissions and provide for sustainable development. By allowing a project to earn tradable emission credits, the CDM provides an economic incentive to use technologies that produce fewer tons of carbon than the likely alternative.

The CDM will not effectively eliminate carbon emissions unless this incentive is available to all categories of technology and projects needed for sustainable development. Foremost among these technology needs – without which sustained economic growth will not occur – is large-scale, baseload, electricity generation for urban populations. And the cleanest choice for such base-load electricity is nuclear energy.

Human settlement patterns are shifting throughout the world. For the first time in history, more people are living in urban centers than in rural areas. The Earth's population continues to grow. Eliminating poverty in a crowded metropolis through sustained economic growth will require energy-intensive municipal services: drinking water purification, sanitation, food security, public transportation, medical treatment, education, and industrial and commercial enterprise. To put it simply, current settlement patterns can't achieve sustainable economic development without high-volume, concentrated energy sources. Baseload electricity generation will be built in the developing world because diffuse, intermittent, and distributed generation alone cannot meet urban needs.

Developing countries require a secure energy supply to enable and support economic expansion as price fluctuations and interruptions in fuel supply create costs and uncertainties that undermine sustained economic growth. Assuring a secure and diverse energy supply requires the use of indigenous resources insulated from the vagaries of import markets. Such indigenous sources include nuclear energy because the fuel can be purchased and stored for multi-year periods, ensuring long-term availability at stable prices.

Integral to the design of the CDM is environmental protection. Technologically advanced baseload energy systems, such as nuclear electricity, that avoid or internalize potential environmental impacts require a higher initial investment than comparable combustion systems. In most cases, the additional costs incurred to avoid environmental impacts cannot be recovered in the market because these technologies must price the electricity to compete with sources that lack controls and, as a result, are cheaper. Creating tradable emission credits under CDM is an effective way for these additional investments to be recovered so that the private sector can confidently invest in cleaner technologies without incurring competitive disadvantage in energy markets.

For example, if carbon credits trade at US\$25 per ton, an averaged sized nuclear energy plant can recover approximately US\$445 for each kilowatt of capacity built. If a nuclear plant costs US\$2,000 per kilowatt, and a conventional fossil unit US\$1,000, then the CDM credits represent a partial recovery of the additional investment in carbon control. Moreover, the nuclear plant also internalizes other costs, such as avoiding emissions of conventional pollutants and isolation of solid wastes from the environment. In all, nuclear energy plants as CDM projects would avoid significant adverse impacts on the environment, and transfer an important technology for economic development.

The Rio Declaration on Energy and Environment recognizes the right of every nation to use domestic resources pursuant to its environment and development policies. Respecting this right, while encouraging environmentally sound development choices, requires the CDM to include all technologies that can eliminate the adverse effects of uncontrolled pollution, especially those that can provide baseload electricity to sustain economic growth. Non- or low-carbon emitting technologies, such as renewables, hydroelectric, clean coal and nuclear energy are precisely the advanced technologies that the Clean Development Mechanism was designed to encourage and support.

