



The Australian Overseas Aid Program and the Challenge of Global Warming

Technology transfer for climate change

Technology transfer for reducing greenhouse gases refers to the flow to stakeholders of the knowledge and equipment needed to mitigate and adapt to climate change. It includes the process of learning to understand, utilise and replicate the technology. It also includes the capacity to choose it, adapt it to local conditions, and to integrate it with indigenous technologies.

Sharing skills and technologies

The United Nations Framework Convention on Climate Change (UNFCCC) aims to stabilise the atmosphere's greenhouse gases at levels that will not cause dangerous interference with the climate system. Achieving this aim will require technological innovation and the rapid transfer and application of technologies for the mitigation of greenhouse gas emissions. Transfer of environmentally sound technology for adaptation to climate change is also an important element of reducing vulnerability to climate change.

Private and public sector transfer

The transfer of technologies to developing countries in sectors such as industry, energy supply and transportation predominantly occurs through the private sector, which plays the key role in technology development, diffusion and transfer.

However, the public sector in developing countries also plays an important role in this process by building the capacity to take advantage of new technological circumstances and acquire new skills. It can also enable the introduction of new technologies through appropriate legal, institutional and policy frameworks that will facilitate private sector investments. It can ensure that adequate educational and research and development frameworks exist and are enhanced.



The SEAFRAME station of the South Pacific Sea Level and Climate Monitoring Project, established at eleven sites in the Pacific.

Australia's overseas aid program funds activities that help to reduce greenhouse gas emissions and assist countries to adapt to climate change. The activities build developing country capacity, transfer environmentally sound technology, and address the concerns of vulnerable countries. Australia contributed nearly \$26 million towards climate-related activities in the 1999–2000 financial year. The total value of these activities is more than \$237 million.



The Australian Government's Overseas Aid Program



Australia's assistance for technology transfer

The Australian overseas aid program helps partner countries to build capacity, to develop enabling environments and to gain access to innovative and environmentally sound technologies, particularly renewable energy technologies.

Capacity building

Australia contributed \$4.5 million to the United Nations Development Programme's *Capacity Building for the Rapid Commercialisation of Renewable Energy Project* in the People's Republic of China, where the transfer of modern commercial technologies is a key focus of China's strategic planning. After



assessing market conditions and the potential for future greenhouse gas reductions, Chinese authorities selected a range of wind, solar, bagasse and biogas energy technologies. The project addresses the need for technology software, facilitates technology dissemination and

promotes project replication through workshops, training sessions, guidebooks and the establishment of standards and codes.

Enabling environments

With the Global Environment Facility (GEF), Australia is co-financing the *Thailand Energy Efficiency Project*. The project comprises a demand-side management plan that will build institutional capability in the Thai electric power sector and throughout the Thai economy. It includes the design of legal, institutional and policy frameworks to facilitate private sector investments.

The project has already resulted in lighting manufacturers replacing the production of fluorescent tubes with high efficiency lamps. In addition, the Electricity Generating Authority of Thailand has launched a *High Efficiency Refrigeration Program*. Programs focusing on local research capability, new commercial building designs, industrial motor efficiency improvement, and demand-side management training are also in place.

Sectoral actions

In the Philippines, Australia has contributed \$13.8 million to the *Municipal Solar Infrastructure Project*. The project will install 1000 solar-powered systems to supply electricity for

health centres, water pumps, schools and community halls. It includes education and training of local communities in the use and maintenance of the new systems. One of the lessons learned with the *Municipal Solar Infrastructure Project* is that potential problems may arise from introducing, and gaining community support for, implementing a new technology over such a large number of discrete areas. To minimise the potential for such problems, the project includes a training and social awareness program as well as an ongoing spare-parts delivery component.

In Indonesia, the Government consulted with local stakeholders to identify the need to address pollution problems in East Java. In partnership with Australia, the Indonesian Government decided demonstration projects using advanced technology would help to introduce such technologies more broadly in the area. An example of this is the Australian \$21 million *Bapedal East Java Pollution Control Implementation Project*. One of the technologies demonstrated is solar-powered, reverse osmosis water-purification equipment. This innovative technology not only benefits the global climate, it also assists sustainable development by assuring a clean water supply to the local villages.

Also in Indonesia, the *Renewable Energy Eastern Islands Project* aims to provide 14 villages in Sulawesi with electrical power supplies from localised renewable hybrid power stations. In partnership with Australia, and in consultation with local groups, the Indonesian authorities identified the renewable hybrid approach as environmentally and socially appropriate. The project is replacing high-cost and high-polluting oil and kerosene power technologies with solar photovoltaic modules and power conversion units. Project technicians are receiving training on the new equipment, and an outreach program is strengthening compliance of consumers to pay for electricity, enhancing the long-term sustainability of the project.

Other mechanisms

The Clean Development Mechanism of the Kyoto Protocol will significantly increase the flow of climate technologies to developing countries. Multilateral development banks, and the GEF, which is the financial mechanism of the UNFCCC, are important sources of funding for technology transfer. Australia provides financial resources to the GEF, the World Bank and the Asian Development Bank. Australia also supports the work of the Climate Technology Initiative, which fosters international cooperation for accelerated development and diffusion of climate-friendly technologies and practices.

Australia will continue to program environmentally sound technology activities that help to achieve the UNFCCC's objective. It will keep this support under review in order to meet the changing requirements of its developing country partners.



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