



AUSTRALIA

Technology Cooperation

Submission to the AWG-LCA

This submission contains the initial views of Australia on the matter of technology cooperation under the AWG-LCA.

The development and diffusion of low emission technologies is a core component of efforts to reduce global emissions. It is in the interest of all Parties to the UNFCCC to facilitate international cooperation in low emission technologies.

The AWG-LCA should address technology cooperation as it relates to policies and measures that encourage investment in research and development, ways to facilitate the key enablers of diffusion in the private and public sectors, and the encouragement of environments that best enable the diffusion of clean technology. Technology cooperation is a separate matter to the challenge of scaling up financing for clean development.

Experience of low emission technologies varies between Parties. While advanced economies can help finance clean development, it is not always Annex I countries whose economies drive low emission technologies. Technology is a global commodity. For some, the development and deployment of advanced technologies form a core part of their economy. Other countries, including Australia, rely heavily on importing technologies from other countries. As a rule, Australia imports wind turbines from China, and not the reverse.

In this regard, it is notable that non-Annex I Parties represent eleven of the top twelve countries with the highest proportion of high-technology exports in 2005 (the measure of technology capability used by the UN Human Development Index) (see Table 1). The three countries in the world with the highest ratio of high technology exports were the Philippines (71% of exports), Singapore (57% of exports) and Malaysia (55% of exports).

Table 1: High Technology Exports
(as a % of manufactured exports)

Rank	Party	%	AI	NAI
1	Philippines	71.0%		•
2	Singapore	56.6%		•
3	Malaysia	54.7%		•
4	Malta	53.5%		•
5	Cyprus	46.3%		•
6	Tajikistan	41.8%		•
7	Papua New Guinea	39.4%		•
8	Costa Rica	38.0%		•
9	Korea (Republic of)	32.3%		•
10	United States	31.8%	•	
11	Sierra Leone	31.1%		•
12	China	30.6%		•
45	Australia	12.7%	•	

Source: Human Development Report, World Bank data

And the balance continues to shift. Between 1990 and 2005, non-Annex I Parties grew their high-technology export ratio by more than twice as much as that achieved by Annex I Parties.

The Millennium Development Goals provide three other indicators of technical advancement – internet penetration, fixed line telephone penetration and mobile phone penetration. All three indicators demonstrate that the availability of technology is not well aligned to the current Annex I/non-Annex I categories of the UNFCCC.

The data also demonstrates the dramatic improvements in technology that have been made in non-Annex I countries since 1990. The majority of the countries with the greatest growth in cellular subscribers between 1990 and 2005 were non-Annex I Parties. Every single one of the top thirty countries experiencing growth in fixed line telephone penetration over the same period were non-Annex I Parties. On average¹, the growth rate of fixed line penetration by non-Annex I Parties was almost double that of Annex I Parties between 1990 and 2005.

¹ Non-weighted compound annual growth rate. Thirty-one non-Annex I Parties have higher rates of fixed line penetration than the lowest ranked Annex I Party. Forty-nine non-Annex I Parties have higher rates of cellular penetration than the lowest ranked Annex I country. Forty-four non-Annex I Parties have higher rates of internet penetration than the lowest ranked Annex I country. One non-Annex I country, the Republic of Korea, has the seventh highest rate of internet penetration in the world.

This global penetration of technologies is achieved by the market. While public funding is an important source of support for technology development, Governments hold minimal intellectual property or have the capacity to deploy low emission technologies. This is primarily the domain of the private sector, with the market enabling technologies to be deployed globally. It is imperative that the private sector be successfully engaged by Governments globally if the post-2012 outcome is to shape pathways towards global uptake of low emission technologies.

An excellent example of pragmatic technology cooperation that diffuses techniques and expertise among countries are projects under the Asia Pacific Partnership on Clean Development and Climate. Most of these projects are public-private partnerships, whose rollout was facilitated by their voluntary nature.

Role of the Private Sector & International Development Banks

The AWG-LCA should note that technology diffusion occurs at many levels through many actors. We will not be able to achieve the mitigation and adaptation outcomes we desire from initiatives that rely on ad hoc funding from the public sector alone. Discussions under the UNFCCC should take appropriate account of the role of the private sector and of international development banks in technology cooperation.

Given that the private sector is responsible for 86 per cent of global investment and financial flows, it is clear that it will be the principal mechanism for technology diffusion. Intellectual property (IP) is developed and held privately in most countries, including Australia.

Parties should consider ways of improving the environment for technology diffusion, including enhanced regulatory frameworks, fostering positive environments for investment, and incentives for private sector commercialisation of clean development technologies and the associated IP.

The development of clean development technologies is critical given their importance in reducing emissions. Carbon Capture and Storage (CCS) is one such technology. The IEA estimates that world coal consumption will increase by 74 per cent between 2004 and 2030, to 199 quadrillion Btu². Coal's share of the electric power sector is expected to grow to 45% by 2030. It is clear that deployment of CCS technologies will be necessary in order to ensure that emissions from coal are minimised.

² IEA's International Energy Outlook 2007 Reference case

Facilitating the growth of other clean technologies is also important. Australia, for example, has introduced a Mandatory Renewable Energy Target that aims at sourcing 20 per cent of Australia's electricity needs from renewable sources by 2020. The development of stable and attractive investment frameworks, including strong property rights and protection for commercial IP, have enabled the development of world class industries.

Similarly, it is important to harness the expertise of international development banks. Such institutions are key enablers of clean technology financing and we should ensure that their expertise is fully leveraged.

Australia would welcome discussion in Accra, and beyond, on ways to best engage with business and with relevant global financing institutions as equal partners in technology cooperation, recognising their role as key delivery mechanisms for UNFCCC objectives.

Given the need to conclude discussions at COP15 in Copenhagen, Parties will need to approach discussions on technology cooperation with renewed vigour. Australia suggests that discussions under the UNFCCC be focused on three key areas:

1. Framework
 - Does the UNFCCC Framework appropriately conceptualise the key processes involved in the development and diffusion of technology? In what areas could it be better focussed?
 - How can the Technology Needs Assessment (TNA) process be improved?
 - Is a different approach needed for adaptation technologies than mitigation technologies?

2. Institutional structures
 - How can the UNFCCC better support technology cooperation, including through engagement with other agents and organisations ?
 - What is the most appropriate role for the UNFCCC and other agents?
 - How can enabling environments be improved to support increased investment flows?

3. Mechanisms

- How can we better leverage and support the wide range of current mechanisms in order to promote broad based and sustainable investment in technology and related processes and know-how? What gaps, if any, are there in the current international and national mechanisms?
- How can we increase collaborative R&D on clean technology and processes?
- What scope exists to pursue innovative approaches to IP licensing arrangements?
- What lessons can be learnt from previous experiences in promoting technology cooperation (including by Multilateral Development Banks, including the World Bank, the Global Environment Facility, Asia Pacific Partnership on Clean Development and Climate)