United Nations Framework Convention on Climate Change

Transfer of Technology Consultative Process (Decision 4/CP.4)

Asia and the Pacific Regional Workshop

Cebu, Philippines
17-19 January 2000

Country paper by the United Kingdom

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Introduction

1. The United Kingdom supports the consultative process established at the fourth Conference of the Parties (COP4) under decision 4/CP.4, and the three regional workshops, with a view to concluding the process at COP6. The UK, along with a number of other EU Member States, participated in the first regional workshop held in Arusha in August 1999. The UK's views on the issues and questions listed in the Annex of decision 4/CP.4 were reflected in the EU's submission of March 1999 (see FCCC/SBSTA/1999/ MISC.5/Add.2). The EU has also submitted a further paper for this workshop.

2. The UK welcomes this further opportunity to contribute to the consultative process. However, we are very conscious that we are only part of the way through the process with only one workshop held to date. We see the three regional workshops primarily as an opportunity for non-Annex I countries to set out their views, priorities and concerns. We are also currently awaiting completion of the IPCC *Special Report on Methodological and Technological Issues in Technology Transfer* which we consider will be both an important and valuable input to discussion of this issue. In our view therefore it is too early to make any firm proposals on the likely outcome of the consultative process.

3. This paper outlines what the UK is doing in the field of technology transfer and offers some reflections on the consultative process.

UK initiatives

UK Bilateral Development Programme

4. The UK, through the bilateral assistance programme of the Department for International Development, aims to help eliminate poverty through the promotion of sustainable development. Sustainable development, in the long term, is not possible unless it is based on the sound management of the environment.

5. DFID supports the provision of cleaner forms of energy to the poor in ways that do not degrade the environment. At the same time, improving the efficiency of

existing power systems will enable a more reliable supply, better use of resources and lessen the need for new investment. Since 1992 DFID has supported energy efficiency projects worth over £670 million.

6. An increasingly important part of DFID's energy efficiency activities are undertaken through the Knowledge and Research (KaR) programme. The KaR programme is focused to ensure that investment in infrastructure, to overcome constraints on economic development (with particular emphasis on the provision of basic services to the poor), is carried out with the benefit of enhanced knowledge and technology.

7. The following are a few examples of DFID projects which transfer climate change technologies to developing countries:

- The 'Windpump Development: from Test Bed to Technology Transfer', which developed a new design of windpump (mechanical water pumping windmill) taking the technology from testing to technology transfer and the manufacture of a pre-production prototype in developing countries.

- The 'EU-China Small Hydro Workshop and Technology Guide' project which covers the exchange of information on state-of-the-art technologies and innovative developments in the field of small hydropower in the EU and South Asia. It includes publication of a technology guide and an industry workshop in China.

- The 'Research and Development on Stand-alone Photovoltaic Systems' project to advance the status of stand-alone photovoltaic (PV) systems for developing countries, through UK participation in Task III of the International Energy Agency PV Power Systems programme.

- The development of the "*Environmental Manual for Power Development*" to provide a valuable tool for evaluating options and trade-offs which are not readily included in conventional power system models

- The 'Stimulation Of Local Development For Windpumps In Asia' project was undertaken by an international team, who identified countries in Asia with active and promising windpump sectors. It promoted the development of national and regional networks of manufacturers, installers and other key players. The team encourage and support each market with information and capacity building and helped to develop networks with international organisations with other associations.

- The 'Pico-hydro for Affordable Village Power' project has assessed and reported on existing pico-hydro technology and is developing new turbine designs to reduce the minimum head required for operation of pico-hydro units. A trial will be installed and monitored in Nepal.

<u>Joint Environmental Markets Unit (JEMU)</u>

8. The UK Government's Joint Environmental Markets Unit (JEMU) acts as a gateway to the UK environmental industry for those seeking environmental solutions from the UK. The Unit maintains a database of UK companies (currently 5,000) operating in this industry: the database is available in CD ROM format, and will soon be accessible via JEMU's Website. The Unit is jointly staffed by the Department of the Environment, Transport and the Regions (DETR) and the Department of Trade and Industry (DTI).

Technology Partnership Initiative (TPI)

9. JEMU administers the UK's *Technology Partnership Initiative* (TPI). TPI was established after the Rio Earth Summit in 1992 in direct recognition of the need to help rapidly industrialising and developing countries gain access to environmental technologies. Ultimately, technology transfer is achieved on a commercial basis; but TPI helps recipient countries understand the merits – including the commercial benefits – of environmental responsibility. Specific services/activities provided under TPI include: quarterly newsletter and special feature supplement; seminars, workshops and other training events; and publications promulgating the effectiveness of UK environmental solutions.

10. JEMU works closely with local organisations in target countries to develop mutual understandings in the search for appropriate solutions to local challenges. For example, in 1998, under TPI, JEMU facilitated a number of training workshops in Malaysia, Thailand and Vietnam to help local industry realise the benefits of reducing the impacts of industrial processes on the environment. A similar series of workshops is being planned for India in February 2000. In November 1999, JEMU launched an initiative in partnership with the Federation of Thai Industry to identify specific solutions in priority sectors. Environmental solutions will be implemented and monitored in about 10 local factories. It is hoped that the results may then provide the confidence required by local industry to engage on a wider implementation programme.

Environmental Technology Best Practice Programme

11. Industry often needs a commercial incentive to change behaviour. This is as true in the environmental field as any other. Increasingly, people are understanding that harmful environmental impacts do not offer a sustainable future for business. But to accelerate the process of change and the adoption of environmental technologies, the benefits to business must be presented. The UK's Environmental Technology Best Practice Programme (ETBPP) identifies best environmental practice in specific industrial sectors, and disseminates information accordingly - mostly in the form of case studies and guidance notes. The Programme costs £5m per annum to run - financed wholly by the UK Government - but delivers savings to British industry in excess of £60m per annum. Those are the real commercial drivers for environmental good practice, which result too in significant reductions in environmental impact. There are many case studies of individual companies now enjoying very significant cost savings as a result of employing environmental good practice.

12. In November 1999, JEMU launched a new international website facilitating easy access to the advice and guidance developed under ETBPP. The information is free of charge to all international visitors. This service represents a further tangible contribution by the UK to environmental technology transfer and global sustainable development. The website address is: www.etbpp.gov.uk/international.

Climate Change Challenge Fund

13. The UK's Climate Change Challenge Fund (£500,000 per annum) supports projects involving UK companies in developing countries. The Fund aims to help developing countries achieve economic growth with lower emissions of greenhouse gases. The ability of projects to promote technology transfer is one of the factors taken into account when allocating funding.

UK support for multilateral initiatives

World Bank Group

14. The UK supports the activities of the World Bank Group, providing £185 million in the financial year 1998/99. Last year the Bank introduced the sector strategy paper, *Fuel for Thought: Environmental Strategy for the Energy Sector*, to bring about a better understanding of policy and lending priorities at the nexus of energy and environment and will serve as the basis for more detailed operational guidelines that will help shape country-specific assistance programs.

United Nations Industrial Development Organisation (UNIDO)

15. The goal of the United Nations Industrial Development Organisation (UNIDO) is to help developing countries and economies in transition meet the challenges of industrial development and modernisation. The UK's annual contribution to UNIDO is just over £3 million. UNIDO's environmental objectives are to improve efficient use of power and fuel by industry; reduce emission of greenhouses gases and pollutants; encourage the local manufacture of appropriate energy-related equipment through technology transfer and capacity-building; and increase the number of fundable industrial energy projects. UNIDO is also promoting renewable energy technologies, including the use of solar power for heating or for charging batteries, harnessing the wind, tapping geothermal sources, and using hydro-power and biomass fuels for the generation of electricity in remote areas.

United Nations Development Programme (UNDP)

16. The UK provided £35 million to UNDP last year in support of its programmes, including programmes that assist governments and organisations of civil society to improve the livelihoods of people living in poverty. Some of these programmes encourage the adoption of integrated approaches that focus on the sustainable management of natural resources. The UK also provides additional funds to local UNDP offices on a country to country basis in support of their programmes. UNDP

undertakes a number of environmental activities that both directly and indirectly promote technology transfer in developing countries. As well as being an Implementing Agency for the Global Environment Facility, UNDP supports the following environmental initiatives: the Public-Private Partnerships for the Urban Environment (PPPUE) programme, the Sustainable Development Networking Programme, the Capacity 21 Programme and the activities of the Sustainable Energy and Environment Division (SEED).

Global Environment Facility (GEF)

17. So far the UK has pledged £215 million to the Global Environment Facility. As an operating entity of the financial mechanism of the UN Framework Convention on Climate Change, GEF has allocated about $753 million to climate change projects, matched by more than $4.3 billion in co-financing. GEF projects promote energy efficiency and open markets for renewable energy technologies, extending power to rural communities and reducing reliance on less efficient technologies that cause air pollution and contribute to climate change.

International Energy Agency

18. The UK has taken a leading role in the International Energy Agency (IEA) to promote a wide range of technology transfer activities in countries such as India and China over the past few years, particularly with respect to cleaner coal technologies. Examples of recent initiatives include:

- A pilot project aimed at identifying a range of measures that could be used to improve the efficiency of existing coal fired power stations in China
- A workshop on financing cleaner energy technology in Asia
- Publication of a report on the status of cleaner coal technologies
- Publication of a report on financing cleaner coal technology projects
- Providing easier access to IEA collaborative technology and information exchange agreements by developing countries

19. In addition to IEA focused activities, the UK's Department of Trade and Industry (DTI) has supported a number of workshops and seminars in China aimed at encouraging information exchange on both conventional and advanced energy technologies. On cleaner coal, for example, a Memorandum of Understanding (MOU) was signed in September 1998 with the specific objective of enhancing technology transfer. Since China's main source of energy is likely to come from coal for the foreseeable future, effective technology transfer on cleaner coal technology could have a major impact on reducing greenhouse gas emissions. To date six projects have been initiated under the MOU involving UK industry and universities.

Climate Technology Initiative (CTI)

20. The UK supports the IEA/OECD Climate Technology Initiative (CTI), launched at the first Conference of the Parties in 1995. CTI aims to foster international co-operation for the accelerated development and diffusion of climate-friendly technologies and practices. The CTI will participate at the workshop and report on the outcome of the second CTI/Industry joint seminar on technology diffusion in Asia on 14-15 January 2000.

Greentie

21. The UK supports Greentie, which provides a database of OECD companies capable of supplying technologies that can help reduce carbon dioxide and other greenhouse gas emissions. The database is intended for dissemination to developing countries and activities are directed by the IEA/OECD's Energy and Environmental Technologies Information Centre (EETIC) initiative, who are establishing local contact points in developing countries.

Some reflections on the consultative process

22. The **IPCC Special Report** will provide an important contribution to the debate on technology transfer. The report is still in the draft stage, but Parties are familiar with some of the draft conclusions and in particular the draft Summary for Policymakers. The Report highlights the large number of stakeholders involved in the process of technology transfer, such as governments, the private sector, financial institutions, non-governmental organisations and research/education institutions. It also identifies the barriers to technology transfer. The report acknowledges that there is no pre-set answer to enhancing technology transfer. It is important to tailor action to the specific barriers, interests and influences of different stakeholders.

23. Extra effort is needed to enhance the enabling environment for private sector technology transfer. This effort involves all Governments and specific actions by both developed and developing countries. For example, Governments need to improve the conditions under which technology transfer takes place. Building capacity - both human and organisational - is important to strengthen existing networks. Other examples of action are the need to enact measures to remove subsidies, improve legal systems, develop intellectual property rights, encourage financial reforms and promote competitive markets.

24. It is important that the consultative process focuses on how to overcome the barriers to technology transfer. These include:

- Economic and financial - e.g. market barriers, existence of disincentives, size of markets, risk averseness.

- Organisational and institutional - e.g. business environment, lack of national polices that support technology transfer, lack of co-ordination amongst projects and donor programmes, inadequate or lack of institutional capacity.

- Human resource related - lack of appropriate training and skilled technical workforce.

- Technological - lack of institutional infrastructure, technical ability and normal engineering procedures or maintenance.

- Technology information - poor technical information base and access to information.

25. We need to bear in mind that the majority of technology transfer occurs through the private sector. But Governments clearly have an important role to play in creating the right enabling environment for technology transfer by the private sector. Technology transfer cannot be viewed in isolation but only as part of the wider policy framework. Governments need to take steps to promote open and competitive markets, to remove fiscal and regulatory barriers, to protect intellectual property rights, and so on. While these measures may not be primarily focused on climate change they are an important part of the whole process of fostering a policy environment which encourages the general development and practical application of technology nationally and internationally, and the range of commercial mechanisms through which the vast bulk of technology transfer takes place.

26. A key constraint to effective technology transfer is the extent to which **intellectual property** can be protected in developing countries. This is a major concern to companies being asked to participate in technology transfer activities of governments and international organisations. Among the most effective technology transfer activities are those related to **training** and implementation of **best practice**. It is in these two areas where potentially some of the largest gains could be made in terms of improving efficient use of resources and plant operation.

27. The UK welcomed the discussion of **capacity building** at COP5 where it was acknowledged that capacity building for developing countries must be country-driven, reflecting their national initiatives and priorities (see Decision 10/CP.5). Capacity building activities – including technology needs assessments - are crucial to accelerate the development, adoption and dissemination of environmentally sound technologies. It is also important to consider the respective roles of governments, the private sector and international organisations in relation to capacity building.

Conclusions

28. The UK believes that the workshop should focus on identifying the factors involved in successful technology transfer in Asia and the Pacific region, i.e. what has worked and why, and what are the lessons for the region and for other areas? We look forward to a discussion of these issues and to hearing the views of other participants, particularly those from Asia and the Pacific region.