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DEVELOPMENT CO-OPERATION AND THE RESPONSE TO KYOTO

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I. Introduction

1. Emissions of CO2 and other greenhouse gases have increased substantially over the past 50 years, along with economic development and demographic growth. Most of that historic growth has occurred in OECD countries, but it has also occurred increasingly in regions outside the OECD, particularly over the past 20 years. OECD scenario analysis shows that, under business-as-usual assumptions, emissions from industrialised countries would continue to increase, possibly reaching levels 50 to 70 per cent above 1990 levels by the year 2020. In developing countries, emissions are expected to increase even more rapidly, from the present share of roughly 30 per cent of global emissions to just over 50 per cent by the year 2020 [2]. In addition to India and China, the rapidly industrialising countries of East Asia and Latin America are expected to account for an overwhelming share of this growth. Less dynamic countries, and in particular the least developed countries, are expected to play only a marginal role. Recent studies by the International Panel on Climate Change (IPCC) also suggest that many developing countries will be particularly vulnerable to adverse impacts of climate change.

2. Projected levels of greenhouse gases, still relatively low given developing countries' share of the world population, reflect rapid increases in living standards and energy use. Promoting economic growth is indeed vital for these countries, both to create employment for a rapidly-growing work force and to improve the quality of life for their people, including through the provision of such basic services as lighting, heating and transport.

3. OECD countries recognise these basic development needs of the developing countries, as well as their own responsibility to take the lead in reducing net greenhouse gas emissions. Nevertheless, the future global emissions paths reveal a need for all countries to co-operate in order to address the global climate change challenge. This need for co-operation through common but differentiated responsibilities has also been recognised by all Parties to the Framework Convention on Climate Change. Accordingly, assisting developing countries in meeting their development needs in the most energy-efficient manner, will be an important element of co-operative partnerships for sustainable development and a critical component of efforts to control CO2 emissions at the global level.

4. This paper is a preliminary "think-piece" on some of the key connections between the post-Kyoto agenda and the policy and resource outlook for development co-operation and development finance more generally. Responses are invited.

II. Collaborative Approaches to Addressing Climate Change Concerns: Building on the Convergence of Global and National Priorities

5. As parties to the UN Framework Convention on Climate Change (UNFCCC), developing countries have both an important responsibility and a vital stake in global efforts to achieve the objectives of the Convention. At the same time, the objective of containing greenhouse gas emissions may compete

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1. This document was prepared by the Development Co-operation Directorate and has not received official clearance from the other Directorates noted in this common document "cote."

2. The World in 2020 -- Towards a New Global Age, OECD, 1997.

with other priorities, including the urgency of reducing poverty and meeting basic social and economic needs. International co-operative approaches to address climate change concerns, including through the Clean Development Mechanism, must recognise this reality and focus on addressing global and national development priorities simultaneously and in a mutually reinforcing manner.

6. The scope for doing so is wide. Energy consumption, a major source of CO2 emissions, is also a major cause of local pollution problems in many developing countries and a significant health threat in many cities. Economic estimates alone of the human cost of such pollution, in the form of respiratory diseases leading to premature death, range from 0.5 per cent to 5 per cent of GNP in the case of China[3]. Other harmful effects of local air-borne pollution include agricultural land degradation through acid rain.

7. The strong correlation between energy consumption and harmful pollution implies that efforts to improve energy efficiency, through investment in cleaner technologies, in key sectors such as energy, industry and transport, will have significant beneficial impacts locally as well as contributing to global reductions in greenhouse gas emissions. In all these sectors, there is a wide scope for improving efficiency and reducing pollution while also improving the quality and reliability of service delivery.

8. Furthermore, many developing countries have a potential "latecomer" advantage when it comes to the introduction of energy efficient technologies. Without the encumbrance of past investments, they have the opportunity to by-pass the "dirty" stages in technological development, and introduce more efficient technologies from the outset. Some may even be able to play a leading role in the development of emerging climate-friendly technologies. Similarly, many economies in transition are saddled with obsolete and highly inefficient industrial facilities, and stand to benefit enormously from a switch to more modern technologies.

9. Many developing countries are already focusing on energy-efficiency, as part of their long-term strategies towards sustainable development. The recent international focus on climate change concerns and the establishment of means, such as the Clean Development Mechanism (CDM), to promote international co-operation in this field could reinforce these locally-driven efforts and existing co-operation activities by providing additional financial and technical support for priority investments in a number of areas ranging from urban pollution control to rural electrification.

10. Similarly, by encouraging co-operation in the forestry sector, with a view to enhancing carbon absorption, the CDM could also provide further welcome assistance to developing countries in the area of sustainable forest management. However, special care will be required to ensure that the multiple objectives of sustainable forest management are compatible with those of carbon sequestration, which concentrate overwhelmingly on timber growth. To be sustainable, initiatives in this area will have to guard against reducing the role of forests to that of carbon absorption, and to give proper attention to their many functions, notably economic, social, cultural and ecological. This, in short, will imply ensuring that the needs of forest-dwellers and other users, which include the harvesting of timber and a wide range of other forest products, are met in priority, and carbon-sequestration being only a secondary objective.

3. World Bank

III. Development Finance and the Response to Kyoto

a) Background

11. Development finance includes the total amount of finance from all sources -- domestic and external; private and public -- needed to meet development goals in ways that are financially sustainable. The largest share of financial resources for development already comes from domestic sources, and increasingly from the private sector. Apart from the poorest developing countries, where Official Development Assistance (ODA) accounts for up to 20 per cent of GDP, aid flows are equivalent to about 2 per cent of developing country's GDP, with external private flows together (foreign direct investment, bank lending, bonds and portfolio investment) accounting for about 3-4 per cent on average.

b) Mobilizing private finance for energy-efficient investment

12. There is a clear trend in most developing countries for the State to move away from direct involvement in industrial activities. Critical sectors of the economy, including energy and industry, are increasingly seen to be primarily the responsibility of the private sector. Private sector enterprises are also seen as the major source of technological innovation and the principal conduit through which cleaner technology is diffused.

13. Policy efforts to mobilise finance for development, therefore, should focus first and foremost on providing the private sector with a stable and attractive investment climate. This includes, in particular, policies ensuring macroeconomic stability; stimulating domestic savings and investment through the development of efficient capital markets; and establishing an open and competitive environment in all economic spheres, with a prominent role given to the private sector.

14. To a large extent, the policies required to mobilise domestic finance are equally effective in attracting external funds and notably Foreign Direct Investment (FDI). The developmental impact of FDI is often greater than its monetary value, due to its positive side-effects, including the transfer of modern technology, the spread of efficient management practices and increased access to external markets.

15. Opening key industrial sectors, such as energy, to private capital, both domestic and foreign, can thus accelerate investment in energy-efficient infrastructure. This, however, requires a conducive legal framework, a clarification of the respective roles of the public and private sectors, and a clear definition of investors' rights and liabilities.

c) The catalytic role of Official Development Assistance

16. Official Development Assistance (ODA) as such should not be seen as a leading source of finance for investment in cleaner technologies. Rather, the appropriate role of development co-operation concentrates on assisting developing countries to address the fundamental determinants of development which include a sound policy environment, strong investment in human capital, well-functioning institutions and governance systems and environmental sustainability. Effective development co-operation in these areas is highly complementary to development financing patterns which move from aid dependence to domestic resource mobilisation and access to foreign direct investment.[4]

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4. 1997 Development Co-operation Report, DAC/OECD.

17. Scarce development co-operation resources are intended to be used in a catalytic fashion. In the absence of a conducive policy environment, directing major resources towards investment in cleaner production would have very limited results, both in terms of the magnitude and durability of impact. In essence, it would amount to using scarce resources to address the symptoms of the problem without attending to its causes. Conversely, ODA should not "crowd out" private initiative by substituting for finance that the market could otherwise provide on commercial terms.

18. In addition to financial constraints, many developing countries lack the necessary policy frameworks and the human, institutional and technological capacities necessary to enable them to take full advantage of existing cleaner and/or more energy-efficient production approaches. Well-functioning administrative structures at the national and local levels and a firm commitment at the political level to promote a shift towards cleaner development are also essential.

19. For these reasons, development co-operation concentrates primarily on improving the policy environment and alleviating institutional bottlenecks, developing the necessary human and technical capacity for the adoption of cleaner technologies, and providing catalytic financial support.

i) Assistance to improving the policy environment

20. Bilateral and multilateral development assistance agencies have been providing assistance in the formulation and implementation of policy frameworks. Examples include: assistance to identify priority needs for sectoral reform, and designing market incentives such as removal of inappropriate subsidies, introduction of user fees, environmental taxes and fiscal incentives and the necessary institutional mechanism for their implementation. Some of the key elements of a conducive policy framework are outlined in Box 1.

ii) Capacity development

21. Capacity development for cleaner and efficient production encompasses the whole range of assistance activities designed to develop the skills, knowledge and technical know-how required to allow developing countries to adopt cleaner production technologies and adapt them to their needs. Some of the main instruments of technical co-operation to this end include: provision of training in the private sector, including for engineers, managers and other groups of personnel; training of local staff, who in turn can take active part in the training of new instructors; demonstration and pilot projects; and contribution to science, research and technological development. Donors might consider providing further assistance specifically aimed at helping developing countries meet the objectives of the UNFCCC. Examples would include capacity building to develop national greenhouse gas inventories, a necessary component in the formulation of national strategies for sustainable development and in the design of national plans to address climate change concerns.

iii) Catalytic financial support

22. Donor-assisted financing aims primarily at mobilising and multiplying additional financial resources in a catalytic fashion. Donors' financial support for investment in the energy sector has accordingly been based on a clear commitment on the part of the partner country to forge ahead in critical areas of policy reform as well as efforts at improving the capacity of national financial institutions and development banks to better assess and evaluate the risks and benefits of new technologies with a view to removing any bias against innovative investments in their lending decisions.

23. Donors have also been providing support for the establishment of multilateral mechanisms specifically designed to assist developing countries address global environmental concerns, including climate change. These include the *Global Environmental Facility (GEF),* which is administered jointly by UNDP, UNEP, and the World Bank.

d) The clean development mechanism: potential and limitations

24. By providing an additional incentive for (unsubsidised) investment in the energy sector in developing countries when such foreign investments "count" towards meeting the Kyoto commitments of the countries from which they originate, the Clean Development Mechanism (CDM) could provide a valuable source of finance for investment in energy-efficient infrastructure, notably in the power sector.

25. At the same time, it must be recognised that the mechanism does not, in itself, contribute to the resolution of the principal impediments to investment, as outlined above. It will thus be important, in the further elaboration of the CDM, to bear in mind some of these potential barriers and try to alleviate them to the extent possible. Some of the lessons learned from past experiences which are outlined in section IV below -- such as the need for involvement of local stakeholders and 'soft' as well as 'hard' technology co-operation -- could serve as valuable inputs to those who will be engaged in developing the CDM.

IV. Development Co-operation in Support of Environmentally Sound Production in Developing Countries. Key Lessons from Donors' Experience.

26. The OECD Development Co-operation Assistance (DAC), its Working Party on Development Assistance and Environment and the Development Co-operation Directorate have in recent years undertaken a substantial body of work centred around the role that development co-operation can play in helping developing countries in their efforts to manage technological change in order support cleaner production and to reduce pollution and greenhouse gas emissions. From this work, a number of key principles have emerged.[5]

- ***Effective co-operation must be driven by local needs and adapted to the local circumstances***

27. Cleaner production projects and programmes must be based on the actual needs of the recipient country, and be tailored to local conditions. It is essential to involve local stakeholders and potential beneficiaries in the definition of needs and thereby generate a genuine ownership of the resulting actions, rather than an externally imposed solution. Local experts can provide the necessary insight on such matters as the cultural background, gender roles, and local political and legal structures.

- ***Co-ordination under the leadership of the host country is key***

28. Adapting assistance to local needs requires co-ordination among the various external and domestic actors involved. This is essential in order to avoid contradictory approaches or conflicting

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5. For a more detailed description, please see *Effective Technology Transfer Co-operation and Capacity Building for Sustainable Development: Common Reference Paper,* OECD/GD(94)12. *Promoting Cleaner Production in Developing Countries - The Role of Development Co-operation,* OECD, 1995; *Capacity Development in Environment: Principles in Practice* , OECD 1997.

advice, overlaps and duplication, which place additional burdens on administrative structures in developing countries. Co-ordination facilitates the sharing of experience and the dissemination of "best practices". Co-ordination fora should be led by the host country itself.

29. Notwithstanding the urgency and importance of moving forward in the area of co-operation towards cleaner production, the risk of uncoordinated -- and ultimately ineffective -- initiatives must be avoided. The wide body of experience in the area of technical co-operation, summarised in the "*DAC Principles and New Orientations in Technical Co-operation*"[6] should serve as a useful guide in this connection.

- ***Successful technology co-operation promotes capacity development and not only hardware***

30. The principal constraints to the rapid diffusion of cleaner production technologies in developing countries relate to a lack of institutional and managerial capacities needed to manage technological change. Support for the dissemination of technological know-how must concentrate on developing the necessary human, scientific, technological, organisational, institutional and resource capabilities to underpin the long-term application of new technologies. The provision of training for specific cleaner production projects should be linked to broader efforts to improve the country's overall technological and scientific know-how.

- ***Effective co-operation is a long-term effort***

31. Capacity development is a long-term process, rather than a finite product. Its results will have to be absorbed and accepted into the general societal fabric of a country, and, therefore, this may require a continuous effort over a long period of time. Effective technology co-operation may require commitments for support that go beyond the normal planning horizon of 3-5 years. Efforts towards policy and institutional sector reform take even longer and may be framed within a time horizon of as long as 10-20 years.

- ***Involving industry in the design of regulations and enforcement mechanisms is critical***

32. The major actor in technology innovation, diffusion and application is the private sector, therefore it should be involved at an early stage in policy formulation and, more specifically, in the design of regulations and enforcement mechanisms.

33. Efficient channels of communication and greater collaboration between industry and government are important instruments in this regard. In an increasing number of countries, private sector actors, including business and industry associations, chambers of commerce, and academic research centres, are improving co-operation with government. The involvement of the trade sector -- i.e., industries with export and import linkages -- can also facilitate greater coherence between national environmental and other policies.

- ***Information dissemination is crucial***

34. Access to up-to-date and accurate information on available and emerging cleaner technology options is necessary to foster technological change. Such information is often difficult and costly to find, especially for small and medium-sized enterprises. Information dissemination is an important factor of efforts promoting technology diffusion. This should focus on identifying cleaner technology options, i.e.

6. *Development Assistance Manual - DAC Principles for Effective Aid,* OECD 1992.

evaluating the cost and benefits of cleaner production and providing information on existing and emerging laws and regulations.

35. The impact of weak enforcement of intellectual property rights is a topic of considerable debate in discussions about the transfer of cleaner technologies to developing countries. OECD research shows that intellectual property rights do not appear to be a significant factor. Weak or inadequately enforced environmental regulations or poor access to financing are considered to be far more important obstacles.

- ***Public awareness of the impact of environmental degradation can greatly assist efforts to create a conducive policy framework***

36. Public awareness of the health and other impacts of pollution and the necessity of a transition towards sustainable development is an important factor promoting the formulation of a conducive policy framework. Improving public knowledge of environmental problems can assists in mobilising collective efforts towards environmental protection and create a demand for the improved environmental performance of public and private actors.

Box: Promoting Investment in Energy-Efficient and Cleaner Production: Key Policy Prerequisites

Notwithstanding important differences across developing countries, with respect to level of industrial development, human and natural resource endowment and many other factors, the main components of a policy framework conducive to private-sector investment in environmentally sound production can be identified. They involve a mix of economic and regulatory instruments designed to influence the production and consumption decisions of economic agents. The key elements of such a framework include:

1) Openness to trade

Cleaner production technology, including their equipment and know-how components, is often transferred to developing countries through regular commercial channels. Openness to foreign trade is thus an important factor in technological diffusion. Experience has shown that the developing country enterprises that progress the fastest have been those engaged in international markets or with ties to firms in industrialised countries, mainly because of better access to new technological options. In countries where technical capabilities of large enterprises are weak, there has been little investment in new, improved equipment, and many out-of-date facilities continue to operate.

2) Price liberalisation, the removal of energy subsidies, and fiscal incentives and disincentives

Many developing counties still provide subsidies for key industrial inputs, notably energy. Initially thought necessary to foster industrial development, these are now recognised as important factors encouraging wasteful use of energy, with very significant negative impacts in the form of pollution. Full cost pricing of inputs is clearly essential to provide an incentive the adoption of efficient production techniques.

The progressive elimination of energy subsidies, in particular, is a clear win-win strategy offering direct economic, fiscal and environmental advantages, in addition to climate-change related benefits. In the short term, the reduction of energy subsidies can lead to a lowering of demand and a reduction in waste. In the longer run, full cost pricing has a decisive impact on the production choices of firms, making investment in energy-efficiency worthwhile. Other measures which can favour investment in cleaner technologies include taxes on relatively more polluting input, subsidies for research and development, and accelerated depreciation rules that favour a regeneration of the capital stock.

3) An innovation-friendly regulatory framework and credible and consistent monitoring and enforcement mechanisms

Traditional forms of regulation have too often focused on specifying technical solutions to pollution reduction problems, stifling innovation in pollution prevention measures. New approaches focus on specifying emission and energy-efficiency standards while leaving private sector producers flexibility as to how to meet them.

Pollution prevention and control regulations must be complemented by effective enforcement procedures. It is important, in particular that enforcement authorities have a clear mandate to inspect firms periodically, rather than merely responding to complaints and alarms, and that they be given the power to penalise violating firms. One way of linking positive and negative incentives is to channel revenues from non-compliance with environmental regulations to special funds earmarked for investment in cleaner technologies.

Regulation requiring disclosure of information on pollutant release and regular audits of major sectors of activity can play an important role in mobilising public support and facilitating enforcement of environmental regulations.