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To: See attached list
Fax #: See attached list
From: William N. White
Subject: Growth targets paper

Date: January 28, 1998
Pages: 5, including this cover sheet.

COMMENTS:

Please find attached the "Growth Targets" paper prepared by EPA to be discussed at today's Assistant Secretaries meeting. If the transmission is not complete, please call 260-4332.

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1/28/98

Developing Country Growth Targets

One of the goals of the USG in engaging developing countries in 'meaningful participation' under the FCCC is to achieve a commitment to quantified emission obligations (targets). The approach used in setting targets for Annex 1 countries - a fixed quantity target relative to a specific base year - is not realistic for most developing countries. Realistic targets for developing countries have to accommodate some level of emissions growth (although at reduced rates from business as usual). In addition, the relative uncertainty, or outright volatility, of 10-20 year economic growth projections in most developing countries means that fixed targets relative to a base year will be impractical to assess or negotiate.

Recognizing that emissions from developing countries must be permitted to grow, some analysts have proposed "growth targets" for developing countries. A growth target is a target set higher than current emission levels, but lower than business as usual projections. Growth targets provide for economic and emissions growth in developing countries, but lower emission growth rates. In addition, adoption of growth targets would allow developing countries to participate in international greenhouse gas trading. This paper examines alternative formulations for establishing growth targets, and suggests further analysis to develop this concept.

Options for Establishing Growth Targets

- *Fixed Quantity Growth Targets*

The simplest formulation of a growth target would be a fixed quantity target. A fixed quantity growth target will be difficult to negotiate due to uncertainties in projecting future economic growth and emissions. There are inherent risks in agreeing to targets that are too small (constraining economic growth) or too big (generating paper tonnes). A good example is Korea. Last year, the Koreans appeared concerned about the danger that a fixed quantity target would underestimate economic growth and become unduly restrictive. Conversely, Korea's unpredicted, large economic slump due to the recent Asian financial crisis illustrates the risk of agreeing to too large a budget filled with hot air.

While a fixed quantity growth target might be negotiated for a few countries, this options paper will focus primarily on the following two options that: 1) allow for emissions growth; and 2) are structured to accommodate uncertainties in economic development.

- **Carbon Efficiency Targets**

A carbon efficiency target based on CO₂ emissions/dollar of GDP is an alternative formulation. A carbon efficiency target would not set an absolute target on greenhouse gas emissions, but would set a target on future emissions relative to future economic output. The target could be set as:

- 1) An averaged carbon efficiency target, e.g., commit to an average emissions/GDP ratio for a specified period of time (budget period); or
- 2) A relative growth *rate* target, e.g., commit to a target ratio of the rate of change in emissions growth relative to the rate of change in economic growth, e.g., change in CO₂ emissions/change in GDP.

Pros An emission intensity growth target would have several advantages. First, because it does not set an absolute emission target, it reduces the perceived limitation on economic growth. Second, it avoids the uncertainty inherent in economic projections. If economic growth is lower than projected, the emissions target shrinks accordingly. If countries experience more rapid growth than expected, their emissions target expands to accommodate the growth.

Finally, it builds upon and encourages the natural reduction in emission intensity that occurs as a byproduct of economic development. Although, developing countries as a whole emit more emissions per unit of economic output than developed countries, improved energy efficiency and clean technology investment inevitably lead to declining emission intensity over time.

Cons A problem with an emission intensity approach is the difficulty in measuring indicators of economic productivity comparably. Volatile exchange rates, lack of infrastructure and large informal economic sectors in many developing countries makes measurement of GDP and other indicators difficult. Adjustments for 'purchasing power parity' further complicate such estimates.

- **Sectoral Targets**

A third option is the concept of sectoral growth targets. These might be formulated as: 1) absolute targets; 2) carbon efficiency targets; or 3) performance standard targets but would apply only to specific economic sectors or subsectors. Examples include targets set as emissions per kilowatt-hour of electricity generated; emissions per unit of industrial production, such as tons of steel; miles per gallon (liters per 100 kilometers) for its vehicle fleet, or energy consumption per unit of building floor area.

Pros Individual economic sectors or industries in developing countries may be more developed and more stable than their economies as a whole. For this reason, developing countries which oppose national targets may be willing to adopt sectoral targets. If a country with a small, inefficient and predominantly coal-based utility sector is poised to add a lot of

capacity over the next decade or so, it would be comparatively easy to secure an agreement to achieve an improvement in the nation's average carbon/kilowatt hour. This would be especially true if we commit economic and technical assistance – through trading or other investment – to reach the target.

Cons While a sectoral target formulation would avoid the inherent difficulty of making national economic and emission projections, such an approach would still require measurement or projection of sectoral baselines. With a performance based target, such as miles per gallon or energy efficiency standards, translating performance to emission reductions could be inherently difficult.

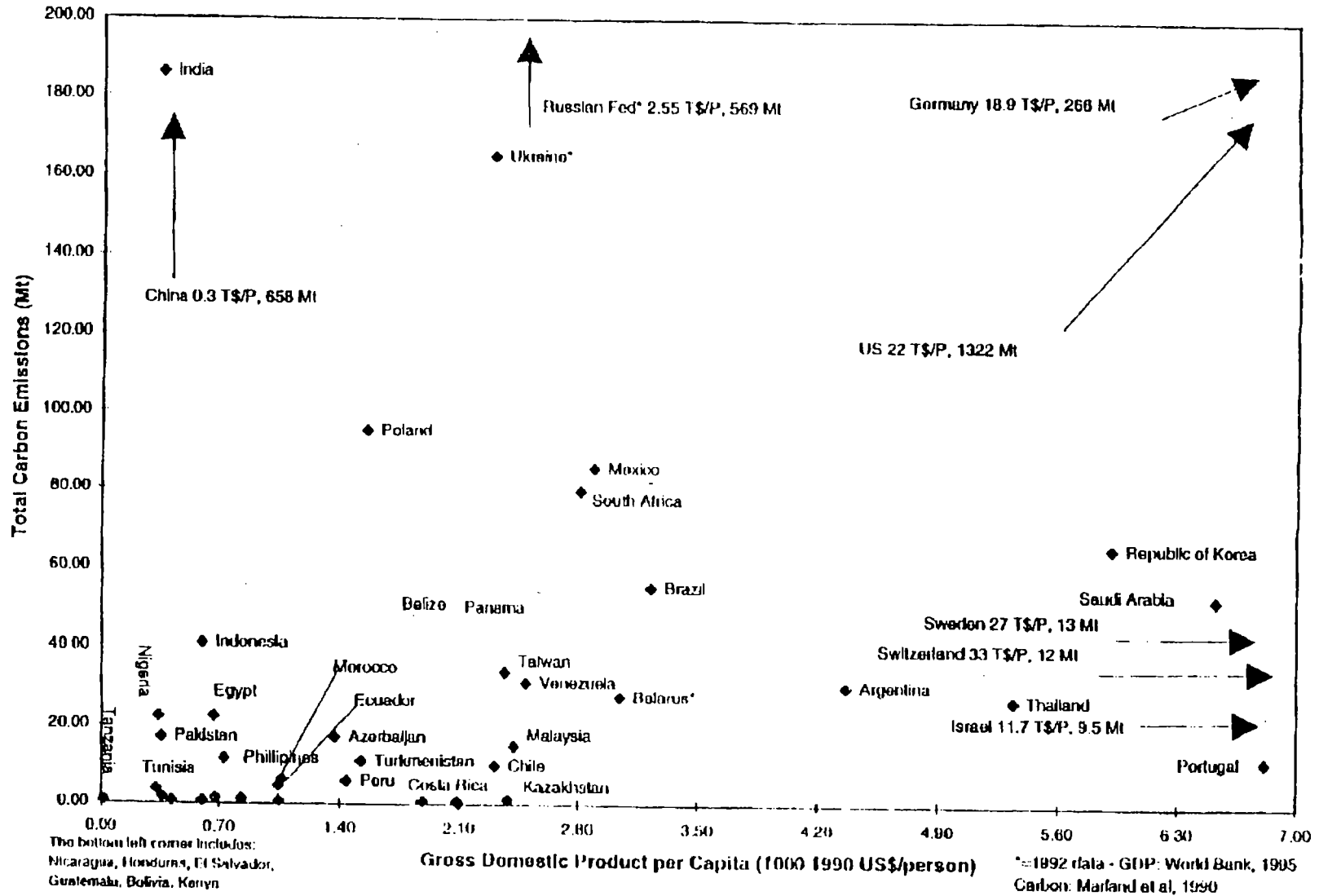
Additionally, the potential for carbon leakage – emission reductions in one place or program -- are offset by emission increases elsewhere -- may be exacerbated under a sectoral approach. Investment and emission reductions in one sector might be offset by emission increases in other sectors. Alternatively, industrial emission controls in one country may lead to increased production in the same industry within other countries in the region.

Next Steps

In conclusion, a combination of carbon efficiency and sectoral targets provides a workable framework for further analysis and development of developing country growth targets. The overall US strategy should guide decisions as to whether these targets should be pursued as uniform for all developing countries, differentiated by classes of developing countries, or on a case by case basis.

Technical issues which need to be further analyzed and addressed include:

- availability of accurate data;
- carbon leakage;
- cross-comparability of indicators or proxies for emissions and economic development;
- implications for costs; and
- implications for GHG trading .

CC: JF
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AMGross Domestic Product Per Capita vs. Total Carbon Emissions (1990)
DRAFT

EPA paper - discussion draft

Contact: Sharon Saile

CC: JF
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1/28/98 AM

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A fixed quantity growth target may be appropriate for the most developed of the non-Annex I countries (i.e. Singapore) because the stability of their economic growth would be comparable to Annex I countries. While a fixed quantity growth target might be negotiated for a few countries, this options paper will focus primarily on the following two options that: 1) allow for emissions growth; and 2) are structured to accommodate uncertainties in economic development.

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- implications for costs; and
- implications for GHG trading .



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U.S. AGENCY FOR
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MEMORANDUM FOR DISTRIBUTION

TO: Melinda Kimble, AAS OES
David Sandalow, CEQ

FROM: David F. Hales, DAA
Jeff Seabright, G/ENV/EET

SUBJECT: USAID's Programs and Activities that Support the USG
Developing Country Strategy

Summary

This memo provides a brief summary of USAID's current and prospective climate change programs. USAID's activities complement the broader USG diplomatic strategy for achieving "meaningful participation" from developing countries, and are consistent with the types of activities that would need to be undertaken by developing countries under a "growth baseline" scenario. We will continue to keep you informed of new climate change programs and activities in order to take advantage of the synergies many of our programs bring to the diplomatic process.

Background

USAID's climate change policy goals are closely related to the United States' policy of engaging developing countries in the pursuit of sustainable development. They are:

- Decreasing the rate of growth in net greenhouse gas emissions by decreasing greenhouse gas sources and maintaining or increasing greenhouse sinks;
- Increasing developing and transition country success ("meaningful participation") in achieving the goals of the United Nations Framework Convention on Climate Change (FCCC); and
- Decreasing developing country vulnerability to the threats posed by climate change.

As a critical element of the U.S. development assistance effort, USAID's bilateral assistance program provides developing countries with the institutional, regulatory and technical assistance they need to address climate change. USAID's contribution falls into two broad categories: bilateral programs and global activities. Our bilateral programs are guided by the Action Plan developed in response to the President's Global Climate Change Initiative for developing countries. This Initiative, designed in consultation with the State Department and relevant domestic agencies, focuses on "win-win" opportunities to promote sustainable energy, urban and forest management practices, and reliance on market forces -- activities that offer climate change benefits while promoting other sustainable development and environmental objectives. This approach has helped build and maintain support for U.S. policies among members of the business and NGO communities in developing countries even when their official policy stances are directly contrary. They represent a valuable asset in USG effort to affect "meaningful participation" by developing countries.

USAID's Climate Change Initiative will focus its programs and activities in key developing nations and regions with a relatively large potential to mitigate or sequester greenhouse gas emissions. Our key countries include: Mexico, Brazil, Central America (regional), India, Indonesia, Philippines, Russia, Ukraine, Central Asia (regional), Poland, South Africa and Central Africa (regional). In all but China, where USAID is prohibited from working, USAID's key countries are consistent with the focus the State Department has taken in its diplomatic efforts to affect "meaningful participation" from developing countries.

USAID's Climate Change Programs and Activities

As Agencies begin to implement their obligations under the FY 1998 Budget, and plan for future budgets, an effort should be made to coordinate and leverage the efforts of the USG. As resources grow scarcer, an effort to develop an interagency consultative process to develop and synchronize programs grows more critical.

The following is a short summary of USAID's current activities and programs in the area of climate change, as well as some potential activities for your consideration. For a complete description of our current climate change activities, we invite your review of USAID's Climate Change Initiative which has detailed sectoral and country specific descriptions.

USAID's Environment Center in Washington maintains a range of technical and policy programs in such areas as coastal zone management, energy, urban and infrastructure planning,

biodiversity, forestry, land use planning, transportation, and water that support USAID field missions in their climate change work. With expert support from universities, consulting firms, NGOs, multilateral development banks, think tanks, and trade associations, USAID provides assistance for policy development, regulatory reform and sector restructuring, training, private sector partnerships, research, and information management.

Current Activities

USAID's Climate Change Initiative is the framework for most of the Agency's long term climate change activities and is designed to help developing countries plot a "climate friendly" path to development. The primary component of the Initiative will be a five-year minimum of at least \$150 million per year in bilateral foreign assistance for climate change-related programs. In addition, USAID has the potential to use development credits to leverage at least \$250 million over five years in additional funds dedicated to "climate friendly" investment projects.

* **"Win-Win" Workshops** -- USAID is planning workshops in several key countries (TBD) on the threats posed by climate change and the opportunities to reap other benefits by taking action to combat climate change. These workshops offer an opportunity to engage key country leaders and policy makers in focussed dialogue well before COP-4. Preliminary planning on three workshops began last year.

* **Economic Development and Climate Change** -- USAID is working with the Harvard Institute for International Development on economic growth and climate change issues. A workshop for senior policy makers from developing countries, including senior UN diplomats, is scheduled to take place at Harvard, July 6-17, and represents an excellent opportunity to target key decision makers and key issues.

* **Technology Cooperation Agreements** -- USAID, together with other U.S. agencies and the U.S. Country Studies Program, initiated a pilot project in August 1997 to develop frameworks for climate change technology cooperation with developing countries. These pilot projects are designed to evaluate the potential efficacy of an approach toward developing bilateral and multilateral agreements for technology cooperation to reduce greenhouse gas emissions. A November kick-off workshop, attended by participants from several key developing countries, the International Energy Agency, the Donor Assistance Committee and the European Union, has generated a high level of interest and enthusiasm on the part of participating countries, international donors and the private sector investment community. An informal session at Kyoto highlighted initial pilot projects in Indonesia, Brazil and Kazakstan.

* **Vulnerability Analyses** -- USAID is about to undertake a series of studies to identify geographic areas and sectors in which developing countries will be particularly vulnerable to the threats posed by climate change. USAID will convene experts and commission studies that help specify the vulnerabilities developing nations face as well as key strategies for adaptation. These reports initially will focus on threats to coastal zones, food security, public health and biodiversity. They will be complemented by assessments of the importance of early warning systems, disaster preparedness and surveillance.

* **Partnership Program with the Private Sector** -- USAID will expand its private sector partnerships to include an industrial partnership program in the hopes of demonstrating to the U.S. business community and developing countries the benefits of private sector investment in meeting the climate challenge. A "summit" of the 36 USAID-funded international utility partnerships will be held in Houston on September 10-11 (as part of the World Energy Congress) and will involve over 200 developing country participants.

* **Research on Sinks and Developing Countries** -- USAID also is continuing its funding of research on the linkages between sinks and developing country issues, following up on the Winrock research on carbon sequestration analysis.

* **Southeast Asia Climate Prediction Program** -- In cooperation with NOAA and State, USAID is working to promote the development of an early warning and response system for major weather-related anomalies in SE Asia.

Proposed Activities

* **"Growth Baselines" Analytical Work** -- USAID is exploring the concept of Growth Baselines in conjunction with other agencies. Under this approach, developing country emissions would not be capped in absolute terms, but countries would have to ensure that their GHG emissions grew at a slower rate than their economic output -- in other words growth would not be restrained but countries would commit to improving the carbon efficiency of this growth. EPA began funding this important work last year, and we have received proposals for follow-on activities. We will coordinate with EPA and State to assure that our follow-on support for this work is appropriately targeted. One possible approach would be an effort focused on piloting the application of alternative growth baselines in one or two countries.

* **Analytical Work on Emissions Projections** -- USAID has been asked by the State Department to provide data on projected greenhouse gas emissions (especially the non-CO2 gases) in developing countries for use in the negotiation of future

commitment targets. USAID, in consultation with Lawrence Berkeley National Laboratory, has begun initial work in this area, some of which was used as the appendix to our policy paper on "meaningful participation".

*** Emissions Trading** -- Making the umbrella a reality will require extensive work with Russia and Ukraine to develop a basic understanding of the concept of emissions trading in order to enable them to collaborate in its realization. Embassies and USAID missions in Moscow and Kiev are interested in supporting this activity. We will be sure that it is fully coordinated with OECD/IEA efforts along the same lines to avoid duplication and leverage both investments.

*** Clean Development Mechanism Building Blocks** -- USAID, taking its lead from the State Department, will focus specific attention on the potential for hemispheric collaboration on climate change. The US-Brazil "Common Agenda" meeting in March and the Santiago Hemispheric Summit of the Americas in April are being discussed as fora for the advancement of USG policies, with a special emphasis on market mechanisms. Relevant USAID research includes analysis of the potential volume of CDM transactions in LAC or key countries to demonstrate the benefits of CDM to developing countries and give the USG a better grasp of the potential scale of credits that might be exchanged through this mechanism.

*** Carbon Backcasting Study Follow-up** -- USAID plans to continue work with the World Bank on its global overlays program, carbon pricing and the Carbon Fund. USAID funded the scoping work on the Bank's carbon backcasting study and we are in discussions with the Bank on follow-on options that will focus on developing practical methodologies for calculating positive and negative externalities in Bank decisions prior to funding commitments.

*** GCC focus for CGIAR Annual Meeting** -- USAID is working with the World Bank to help sharpen the focus of the CGIAR system on links between agriculture and climate change. In support of this effort, USAID is supporting an analysis of the relevance of the current CGIAR research portfolio to climate change sequestration and adaptation that will lead to recommendations for new research directions.

*** International Conference on Urbanization and Climate Change** -- Today's investments in urban and transportation infrastructure and buildings may determine patterns of energy use for the next century. Most investments have a lock-in effect of two to four decades. USAID is scheduling a conference later this year to detail the problem, and develop specific action and policy recommendations for key decision makers.

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* **International Donor Conference on Technology and Developing Countries** -- At the suggestion of the State Department, USAID is considering the prospect of convening a senior policy-maker level donor/ MDB conference on technology transfer and developing countries. There has been a lack of systematic donor coordination on the subject and discussions in Kyoto suggest that this might be an excellent way to initiate a larger donor collaborative effort on climate change.

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February 12, 1998

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FROM: USAID/G/ENV/DAA, David F. Hales

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Attached is a copy of memo on above subject.

Attachment: A/S