

## **G8 and MEF Opportunities for Demonstrating Leadership on Climate Change**

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### *Background: Urgency of Action*

Today we are experiencing the effects of greenhouse gases emitted by developed countries over the past century. Global average surface temperature has increased about 0.7°C, and we are already seeing disturbing changes in Arctic summer sea ice, increased methane releases related to thawing permafrost, increasing intensity of precipitation and storms, increased forest fires and die back, changes in mountain snow pack/glaciers, incidence of diseases and pests in new areas, and accelerating sea level rise, among other changes. Some of these impacts are “feedback” effects that could further accelerate climate change.

Even if the emissions of greenhouse gases and aerosols were stopped today, the climate system would continue to respond due to the thermal inertia of the oceans and ice sheets: at constant year 2000 concentrations, global average surface temperatures would increase another 0.3-0.9°C above the 1980-1999 average. But far from ceasing, emissions are increasing and are measured at the top or above the range considered in emissions scenarios of the Intergovernmental Panel on Climate Change (IPCC). The IPCC projects up to an additional 6.4°C increase in global average surface temperature relative to the 1980-1999 average for this high emissions scenario.

Many scientists and governments have identified 2°C in global average surface temperature increase relative to preindustrial conditions as a threshold of climate change that becomes dangerous or unmanageable. Studies have been done to correlate projected temperature increase with projected impacts. Even at the 2°C level, impacts will be substantial, and the costs of adaptation to these effects could become a significant drag on economic growth if realized primarily as disaster recovery instead of investments in resilience. At higher levels of change, the probability of catastrophic impacts increases. Nothing in this body of research necessarily points to 2°C as a “safe” level of warming, and an increasing number of voices are being raised in support of even lower targets. To some extent, “what is safe” depends on your perspective: to those living in highly vulnerable developing countries or small island states, 2°C of warming and its associated impacts pose an existential threat at a high likelihood.

Achieving a 2°C target with reasonable probability (75%) requires that emissions be held to a cumulative total of 190GtC between now and 2050 (staying below 2°C at 50% probability allows 310 GtC cumulative emissions to 2050). This is a daunting task given that emissions today are about 9GtC/year and rising and that per capita emissions in developing countries (which are far lower than those in developed countries) will increase to accommodate economic development without policy intervention to accelerate development and diffusion of low emitting technologies.

The IPCC has analyzed different scenarios, and its mitigation working group concluded that as a block, Annex I (developed) countries need to cut emissions by 25-40% by 2020 (relative to 1990) and by around 80% by 2050 to meet this target. Even with these deep reductions, developing countries will also have to make substantial emissions cuts to achieve the 2°C target. One of the key sticking points in the international negotiations is the divide between developed and developing countries over what each group should be expected to contribute to a global climate deal.

### *Relationship to Economic Stimulus and Recovery*

The economy, environment, and society are linked and interdependent. The current economic crisis is a significant challenge – and also a potential opportunity – for policymakers to simultaneously address economic stability, job creation, and investments in energy sources and economic activities that have a low greenhouse gas emissions profile. But it is not necessarily a given that investments in green energy technology will create jobs and produce economic growth. The long-term impact of these policies on the environment and economy depends on many important individual and institutional decisions. The economics literature itself points in several directions. Attempts to promote use of renewable energy and more efficient products can lead to price effects that stimulate additional demand for fossil fuels. Can investments in green energy technologies be made in a timely enough fashion to provide the desired economic stimulus? What are the economic multipliers of these expenditures? Will the policies actually deliver the desired reduction in emissions when implemented on a large scale?

In practice this year, the stimulus plans of a number of countries include some investments in green energy technologies. Potentially the most effective short-term proposals are in the areas of energy efficiency investment, intelligent transportation network improvements, development of a 21<sup>st</sup> Century electricity distribution system, and deployment of low-carbon, renewable energy resources. The G-N should explore opportunities for sharing lessons, coordinating, and making these investments more effective.

There is a sense in the current official dialogue that it would be risky to incorporate the transition to low emitting technologies into policies to stimulate economic recovery. It is barely mentioned during official communications, if at all. But failure to incorporate the transition to clean energy technologies will lead to large investments in infrastructure and technological systems that will have to be retired prematurely as the impacts of climate change are more clearly felt and the need to reduce emissions becomes a higher societal priority. If properly conceptualized and implemented, investing in clean energy technologies can serve to stimulate economic growth and job creation. Climate change criteria, including both clean energy technology and adaptation to the impacts of climate change, should be an important criterion for prioritizing stimulus spending.

#### *Broader Economic Conditions to Achieve a Low Carbon Economy*

Though providing a step forward, economic stimulus is not sufficient to create a low-carbon economy. Several additional elements of economic policy are needed to make a successful transition to a green economy: a) the elimination of perverse incentives and the addition of carbon pricing in the marketplace; b) public investment in emerging technologies; and c) private innovation and investment in development and management of low- and no-carbon assets which would be stimulated in part by establishment of a carbon price, and potentially through additional tax and fiscal policies.

The current global markets for coal, oil, and other fossil fuels are often artificially lowered by explicit or implicit subsidies. Moreover, they do not reflect key externalities, namely the costs of the damage to humans or the planet from burning them. Recognizing this, one critical approach to reducing emissions is an accurate price signal. An accurate and reliable price signal would begin to resolve a key market failure and allow the private sector to determine how best to incorporate the cost of GHG emissions reductions into their investment decisions.

A price signal for carbon can be best achieved by establishing a “cap” or a tax on GHG emissions. By restricting overall GHG emissions, a cap allows free markets to determine the price of carbon, driving

adoption of the most cost-effective emission reduction products and services. In Europe, the cap-and-trade allowances of the European Trading Scheme (ETS) were given away freely, which has contributed to erratic pricing for carbon. In the United States, Congressional debate includes a focus on how to allocate permits. Some (perhaps most) permits are likely to be auctioned, with estimated revenues of greater than \$30B annually used to help lower-income taxpayers with short-term energy cost increases, to improve national carbon accounting, and to invest in the infrastructure, research, and development needed to support the transition to clean energy technologies. An alternative use of the auction revenues is to return them to taxpayers in the form of a revenue neutral rebate or dividend. If this approach is followed, sustainable sources of funding for adaptation and mitigation will have to be found elsewhere.

Experience with the emissions trading system in the European Union shows that establishing a price on carbon will not, by itself, quickly promote deployment of low or zero emissions technologies. Complementary policies are necessary to help the world transition to a low-carbon economy. Working towards an aggressive carbon emission reduction goal will require incentives and standards at the national, state/province, and local levels to address energy production, transportation and land-use planning, and to increase private investment in a low-carbon economy.

#### *Climate Change Treaty Negotiations and the G-8 Process*

Climate change requires a global solution, and the politics around the negotiations are currently an impediment to achieving an effective international agreement. During the most recent UNFCCC negotiating session (COP-14 Poznan, Poland December 2008), developing countries brought forward constructive proposals for ambitious domestic climate plans. For example:

- Mexico—a 50% emissions reduction by 2050, and a proactive finance proposal
- South Africa—a peak/decline date and analysis of long-term emissions trajectories
- Brazil—70% reduction in deforestation by 2018
- China—several ambitious targets including 20% efficiency improvement by 2010, 20% renewable energy target by 2020, as well as a technology proposal with the G77.

But by the end of the COP, a sense of stalemate and disappointment enveloped the negotiations as industrialized countries failed to respond to these initiatives with any corresponding commitments on emissions reductions, adaptation, finance, or technology. The G8 and associated meetings, including the Major Economies Forum (MEF) are a crucial opportunity to alter the dynamics from stalemate to constructive engagement.

The Obama Administration is attempting to change the tenor of discussions in several international fora, including the G8 and the climate change negotiations. In the G8, the Administration is worried about accountability for past promises and is seeking to reduce the length of the declaration, maximize the number of commitments, and create greater accountability. In climate, they are seeking to make progress both in the formal negotiations and in bi- or multi-lateral “big wins,” for example cooperation agreements on technologies or measures that will be needed to achieve emissions reduction commitments that are negotiated.

#### *Recommendations for the G-8 and Major Economies Forum (MEF) process*

We recommend a limited number of specific actions that could reinvigorate the preparatory negotiations leading up to Copenhagen and set the stage for a successful outcome. These recommendations can be implemented in the context of the G8, the G8+n, and the MEF and include:

### 1. Commitment to a level of ambition for emissions reductions consistent with the science.

The G8 declaration should provide a focused statement of intent on the part of the industrialized nations to take serious measures to confront climate change. All of the heads of state at the conference should unite behind a high level of ambition for emissions reductions, committing to a peak and decline of their emissions by 2020 as a down payment on the long-term deep emissions reductions required by mid-century. It is critical for world leaders to recognize that there remains a limited atmospheric carbon budget and that in support of global equity, most of it must be allocated to the developing world based on the principles of past responsibility (i.e, polluter pays) and current capacity for actions to reduce emissions and finance mitigation and adaptation globally.

In addition, the G-N should commit to making climate change an important criterion in prioritizing stimulus spending—with investments in clean energy and adaptation given prominence.

### 2. Immediate adaptation funding for National Adaptation Plans of Action.

Developed countries have a special moral responsibility with respect to adaptation measures in vulnerable countries because most of the atmospheric burden of greenhouse gases originated in developed countries. Adaptation measures must include those designed to enhance the resilience of economic, social, and environmental systems to climate change, and insurance-like mechanisms to cover costs of recovery from climate-change related disasters.

G8 leaders should announce that they will provide approximately \$2 billion in funding *this year* for the National Adaptation Plans of Action (NAPAs) that have been completed by the most vulnerable developing countries in the UNFCCC process. The funds could be provided through the 5<sup>th</sup> GEF replenishment and would be spent out in the next year to 18 months. The developing countries completed the NAPAs in good faith, and while pledges have been made, funding has not yet been delivered. Failure to act is fostering deep distrust; delivering this sorely-needed funding is a first step towards restoring the trust needed for successful negotiations.

Adaptation should be seen as part of sustainable development and strategies to alleviate poverty. It is estimated that sustainable financing for adaptation (both disaster recovery/mitigation and long-term diversification and resilience building) on the order of \$9-86 billion/year (current range of estimates in the literature) will be required in addition to current ODA. The MEF process should develop proposals for generating this funding in a way that produces sustained, predictable flows, while negotiations about the management of these funds should proceed in the UNFCCC with the full participation of developing countries.

### 3. Technology Action Programs for Strategically Important Technologies.

The MEF process should explore accelerating development and diffusion of key technologies for mitigation and should strive to announce several international programs designed to produce breakthroughs in these areas. The process should include a focus on technologies that can play a key role in developing country low-carbon energy strategies. Each of the technology action plans should also explore options for dealing with issues around intellectual property rights to protect and share new technology and providing incentives for future innovation. Energy efficiency is an area that seems to be especially promising for collaborative action. The G-N should develop a pledge and review process through an existing mechanism such as the International Energy Agency for improving energy efficiency performance in transportation, buildings, industry, and energy supply. In addition technology action plans for renewable energy, carbon capture and storage, electrification of transport, and technologies

for sharply reducing emissions of black carbon should also be explored. Black carbon is often overlooked but is a major contributor to climate change that has a short atmospheric residence time. Reducing these emissions would have major health and other co-benefits.

#### 4. Financial Architecture to Implement Clean Energy Development.

The MEF should explore and identify the features of an effective climate finance architecture, thus signaling to all developing countries that their efforts to reduce their emissions will be supported. This is important because many of the low-emitting technologies are more expensive than the current fossil fuel technologies. Financing for low-carbon development will need to be provided in a 'measurable, reportable, and verifiable' manner, as stipulated by the UNFCCC Bali Action Plan. Finance ministers should be involved in these discussions, either in the G8 process or in the MEF. A key issue to explore is the mobilization of public and private sector funding and investment, including facilitation of carbon-friendly investment choices. Low carbon development should be incorporated into economic programs designed to promote recovery from the current recession. Failure to do so will result in wasted investment and stranded assets, as the need to sharply reduce emissions is realized in climate change legislation.

#### Conclusion.

Addressing climate change is an urgent priority that must be integrated into economic recovery efforts. The G-8 and associated meetings offer a unique and crucial opportunity for the governments of the developed countries to demonstrate leadership that can change the tone of international climate change negotiations and increase the prospects for success.