International Climate Change Cooperation and Sustainable Economic Growth: Summary

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1.0 Setting the Context

1. The passage of time brings us ever more agreement on, and understanding of, the challenges posed by global climate change. The heads of the G8 governments, meeting in July 2005, called it a “serious and long-term challenge that has the potential to affect every part of the globe.” A group of global business leaders meeting in advance of the G8 argued that “climate change poses one of the most significant challenges of the 21st century.”

2. A changing climate will disrupt complex environmental, social and economic systems that have built up over centuries, and which can’t withstand rapid fundamental change. The IPCC’s Third Assessment Report warned that global warming even at 2001 levels had already affected important physical and biological systems. It predicted significant further impacts, including:
   - Increased risk of flooding for tens of millions of coastal dwellers worldwide;
   - Increased incidence of extreme weather events;
   - Reduced yields of the world’s food crops; and
   - Decreased water availability in many water-scarce regions.

3. The International Scientific Steering Committee, meeting four years later in Exeter, found that the evidence of threats had solidified, and explored scenarios that could trigger irreversible catastrophic events such as the melting of the Greenland icecap and the shutdown of the ocean current that warms North Atlantic countries. They cautioned that temperature rise above 3 C would likely have “serious risk of large scale, irreversible system disruption.” At that point climate change becomes a global security issue.

4. The speed and scale of the socio-economic transformation needed to avoid the risk of serious harm is unprecedented. Many have suggested avoiding the 3 C scenarios by limiting temperature rise to 2 C. But even cutting 22 billion tonnes of CO₂ emissions by 2050 only gives us a one in sixteen chance of achieving this target. To put this in perspective, that kind of reduction would require an effort that displaces 2 billion conventional cars for hydrogen vehicles, sequesters carbon from 1,400 1-GW coal-fired power plants, and increases the world’s current nuclear capacity by a factor of 10.

5. If we fail to achieve these kinds of fundamental changes in the next 20 years, we will have foreclosed our options by entering a world we cannot leave by any effort—one at serious risk of major systemic changes. Of course, the longer action is delayed, the tougher will be the economic challenge. As such, while long-term solutions such as new technologies are fundamentally important, we will also need to focus on effective action in the short term.

6. Neither track will be easy: in the coming decades the world expects to see substantial economic development including, by 2030, $16 trillion investment in energy infrastructure. Much of this will be in developing countries as they strive for the standard of living of today’s industrialized countries. In both industrialized and developing countries, a critical element of the “next 20 years” challenge is therefore ensuring that these investments use the best available technology.

7. This is a challenge that will require international cooperation on a scale with few precedents. How can we pursue the deep cuts necessary to avoid serious harm, without compromising our pursuit of development and economic prosperity? Fortunately, many elements of the transformation can be achieved in ways that contribute to broad development goals as well, for example by providing clean energy to the poor. Many others are good investments, avoiding the high costs of inaction. Approached in this way the challenge becomes less a costly pursuit of environmental protection, and more a broad effort to reorient our economies and societies toward sustainable development.
2.0 Approaches to a Successful Regime

8. What are the critical design features in a regime that would come into effect after the first commitment period of the Kyoto Protocol (post-2012) that achieves deep emissions reductions while fostering growth and development?

9. **Broad participation:** The broader the participation, the stronger the regime. The final impacts of broad participation, however, depend on the depth of the commitments, particularly from the key countries that are the largest emitters. The value of broadening must be balanced against the difficulty of negotiating a strong agreement that will find broad consensus.

10. **Consideration of National Circumstances:** Broad participation does not imply a one-size-fits-all approach, and would need to respect the principle of *common but differentiated responsibilities*. Commitments can be of various types, from binding emission reduction targets to policy-based obligations, and can be differentiated on the basis of national characteristics.

11. **Environmental Effectiveness:** Any post-2012 international regime on climate change must contribute to the basic objective of the UNFCCC: stabilizing greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous human-caused interference with the climate system.

12. **Cost Effectiveness:** We should seek to achieve the necessary environmental results at least cost. The use of market mechanisms can contribute powerfully to achieving cost-effectiveness, and the timing of actions will also be key. An approach covering multiple greenhouse gases (GHGs) will be far more cost-effective than one that covers a limited set of GHGs. Similarly, any approach would ideally cover a broad variety of types of mitigation—for example covering land use, land use change and forestry (LULUCF) activities, which are some 25% of global emissions.

13. **Flexibility:** A successful post-2012 regime should be open to revision in light of new scientific knowledge and/or changes in political will for action, with mechanisms for continuous improvement. It should also be flexible enough that actions taken at various levels—from sub-national efforts to industry-led efforts to the efforts of sub-sets of UNFCCC Parties—are achieved in harmony.

14. **Simplicity:** Other things being equal, the simpler the regime the more likely it is to be successful in pursuing its objectives.

15. **Complementarity:** A successful regime of actions will involve strengthening the linkages between mitigation efforts and the achievement of such related goals as poverty alleviation, energy security, protecting human health, reducing pollution and maintaining biodiversity.

16. **Long-Term Framework:** It is not possible to prescribe many actions and policies in the long-term, but the international regime should nevertheless be long-term in character, creating the framework within which countries can agree to pursue climate change objectives over time.

17. **Political Acceptability:** At the end of the day, negotiators must take the results of their work back to their respective domestic audiences, where it will face the critical test of political acceptability.

3.0 Elements of a Successful Regime

18. What are the most viable options for a post-2012 international approach to climate change? This section considers three themes: how to simultaneously pursue mitigation and economic prosperity; how to time those efforts; and how to improve information and communications related to climate change.
3.1. Climate Change Mitigation and Economic Prosperity

19. A central challenge for climate change actions post-2012 is to elaborate a regime of actions that achieves both climate change mitigation and economic prosperity. It is a challenge that is relevant in countries at all levels of development.

20. The approaches described below would have varied strengths and weaknesses in the pursuit of that challenge. They are not mutually exclusive; indeed the discussion makes it clear that most are incomplete as stand-alone options. Rather, they constitute a menu of possible elements for a broader constellation of complementary efforts.

21. **Quantitative commitments**: Three of the most commonly discussed types of commitments are fixed national emissions targets (as in the current regime), dynamic intensity targets (e.g., a ratio of emissions to GDP) and per-capita emissions targets. Emissions targets offer more certainty about final reductions, but are inflexible in the face of potentially high costs of action. Intensity targets, conversely, are more sensitive to cost factors, but offer little certainty about final reductions. Per-capita targets are appealing on equity grounds, and allow greater space for growth in developing countries, but they do not respect the principle of differentiated national circumstances and in practice there are many anomalies.

22. Commitments could be binding or non-binding, long-term or short-term. Safety valves in the form of capped prices for emission allowances could help address the problem of price uncertainty of emissions targets, and trading systems for emissions and credits could provide cost effectiveness. Targets could be part of a hybrid approach that had differentiated approaches to commitments.

23. **Market mechanisms**: Specific emphasis has been given to those that market mechanisms that create an international carbon market. The main advantage of such policies is that they allow for environmental goals to be achieved at the lowest cost, and mobilize finance for needed major infrastructure developments. As well, they offer some continuity with the Kyoto mechanisms. For a carbon market to work, at least some countries have to take on commitments that give value to carbon, as does the Kyoto regime.

24. **Technology agreements**: These would spell out coordinated international approaches to supporting R&D, market development, regulatory reform and demonstration projects in high-potential sectors. Another approach would see countries commit to technology-related sectoral targets (e.g., zero emission power generation). A technology approach that harnesses the transformative power of innovation has the potential for truly large-scale emissions reductions, but focuses heavily on the long-term. As well, it is unable to easily deliver predictable emissions reductions. As such, this approach is a good complement to short-term efforts to achieve reductions with greater certainty.

25. **Sectoral approaches**: Most technology agreements involve a sectoral approach. Another type of sectoral approach would be to identify the sectors of concern and assign them fixed (emission-based) or dynamic (intensity-based) targets, differentiated according to national circumstance. Another approach would be policy-based, with pledges by countries to implement GHG-reducing policies in the covered sectors. A global approach is also possible, involving governments negotiating with given sectors. Sectoral approaches have the advantage of being able to deliver a reasonably predictable environmental outcome, and allow countries to focus on their key sectors. But they are by definition not comprehensive, and therefore may be too costly as a stand-alone approach.

26. **Policies and measures**: This approach would involve pledges by national governments to implement certain types of GHG-reducing policies and measures. Ideally these would be part of broader commitments that would yield both climate-related and environment and development benefits, yielding a mainstreaming of climate-related objectives in key national development policies. This approach is usually discussed as applying only to developing countries, constituting all or part of their involvement in a broader regime. In another variation, a mechanism might generate credits for GHG reductions resulting from policies and measures.
27. **Selected assistance:** It will be particularly difficult for some countries to ensure economic prosperity in the face of international and domestic action to combat climate change. Countries that fit this mould may need targeted assistance to help diversify or restructure their economies.

28. **Adaptation:** Even if the global community succeeds in the sort of ambitious actions contemplated above, there will still be adverse impacts from climate change. Some of the most severe will fall on those countries least able to cope, and with the lowest GHG emissions. Any international policy framework must work to help countries—particularly but not exclusively the least developed among them—reduce vulnerability and lessen adverse impacts.

3.2. **Timing Considerations**

29. Determining an appropriate policy response to the threat of climate change is extremely challenging. The basic problem is that while climate change and its related impacts will unfold over the coming centuries, it requires a policy response that is largely guided by current political realities.

30. One of the key tensions arises because early action is inherently costly, as it misses the chance to exploit the next generation of technologies. But deferring the burden of action to further into the future also has risks: if we decide over time that stronger measures are needed, hindsight may show early action to have been less costly. As well, early action may induce technological change, bringing cost-saving technologies more quickly into the mainstream.

31. Clearly we do not face a stark choice between early and later actions. One of the lessons highlighted in the survey of options was the opportunity for a mix of efforts that can bring together the best timing of efforts and results. Another guiding principle should be the need to take explicit account of the economic realities in the affected sectors; there are significant economic implications to forcing an early turnover of capital stock, particularly where investments are long-lived. As well, flexibilities in how emissions trading and allowance banking work can provide timing alternatives that help to reduce costs that might otherwise occur if actions are forced—in location and time. Finally, it is critically important to send early signals about the shape of any future climate regime; the result will be a better mesh of the short-term nature of negotiations with the long-term nature of investment planning.

3.3. **Information and Communication**

32. How might we better assess, communicate and take into account the economic and social risks of a changing climate, the cost to sustainable growth of not taking aggressive action and the many non-climate-related environment and development benefits to be achieved by appropriate action?

33. Better assessment calls for either increased funding to the pursuit of climate-related science, or more efficient use of existing funding (or both).

34. Better communication is a challenge at two levels: communicating to policy makers, and communicating to the public at large. Public awareness of climate change is key to enabling political action. The challenge is to reach a broad audience cost-effectively with a complex message. Youth represent a key audience for this kind of education. Useful lessons might be drawn from the rich expertise of the advertising industry.

35. Communicating to decision makers is a separate challenge: how can they be provided with the knowledge and tools they need to better integrate the climate change imperative into public policies? This kind of integration will help determine the ultimate success of climate change efforts, climate change being so intimately tied to objectives in broader government policy-making. Those that have successfully established institutions of communication and integration might pool their experience.

4.0 **Questions for Consideration**

36. A number of questions will need to be considered in the process of elaborating a post-2012 regime for international action on climate change.
What is the ideal mix of approaches, given the need for fundamental innovation in some sectors over the next 50 years, the simultaneous need for even more short-term emission reductions and the importance of addressing the long-term emission consequences of near-term investments?

How should the international community differentiate the participation of nation states in a post-2012 regime?

What are the implications of the various post-2012 options for the nature and process of the negotiations? The various options would dictate important differences in approach.

How can we more effectively engage the private sector in meeting the challenges?

How can we ensure that countries with special challenges are assisted in their struggle to adapt to a carbon-constrained global economy?

How can we give private investors the greatest possible degree of long-term predictability?

How can we better communicate, to both decision makers and the general public, the urgency of the challenges presented by climate change?