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An Overview: Framework for a Post-Kyoto Climate Change Agreement

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AN OVERVIEW OF THIS ISSUE:

FRAMEWORK FOR A POST-KYOTO CLIMATE CHANGE AGREEMENT¹

by Mohamed T. El-Ashry*

INTRODUCTION

Climate change is one of humanity's most pressing and difficult challenges. Without urgent and concerted action, climate change will seriously affect the way of life in all countries, damage fragile ecosystems and threaten global security through migratory pressures and resource conflicts. Since climate change is a long-term problem, it cannot be addressed successfully through short-term, country-based actions alone. Resolving the climate crisis will require international cooperation at all levels—from bilateral to regional to global.

Climate change, its causes, and its adverse impacts are closely linked to economic development, the alleviation of poverty, and energy security. While solutions will require harmonization of economic growth and poverty alleviation with

ambitious emissions reductions, they also present tremendous opportunities for innovation and technological development, especially in the energy field.

A future global agreement, negotiated under the auspices of the United Nations Framework Convention on Climate Change (“UNFCCC”) must have a long-term target to stabilize the “greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous interference with the climate system.”² Parties must agree on four pathways for negotiation that address mitigation, adaptation, technology, and finance. Any agreement must be comprehensive, including all countries, all sectors, all sources and sinks, and mitigation as well as adaptation. The cost of taking action now is small—about one percent of global gross domestic product, according to the Stern Review—and the benefits are large compared with the much heavier penalties of postponing action.³ The costs of both mitigation and adaptation will rise substantially with delay. A new agreement, however, will be successful only if it is perceived by all participating countries to be equitable.

MITIGATION

Mitigating emissions sufficiently to protect the Earth's climate will require vast international cooperation. A post-2012 agreement under the auspices of the UNFCCC should recognize the differentiated responsibilities underpinning the UNFCCC, specifically that “developed countries should take the lead in combating climate change.”⁴ However, “dangerous anthropogenic interference” cannot be avoided by developed countries acting alone. Even an eighty percent reduction of greenhouse gas (“GHG”) emissions in all developed countries by 2050 would not achieve this objective without emissions reductions by rapidly industrializing and developing countries. All countries should commit to reduce collectively global emissions by at least sixty percent below the 1990 level by 2050 to avoid the most serious impacts of climate change.

As a first step, developed countries should reduce their collective emissions by thirty percent by 2020. Rapidly industrializing countries on the other hand should commit to reduce their energy intensity by thirty percent by 2020, an average of four percent per year, and agree to emissions reduction targets afterwards. Other developing countries should commit to an energy

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intensity target differentiated by their responsibilities and capabilities. The international community should develop a monitoring and review system and clear criteria for determining when and how various categories of countries should assume stronger climate commitments.

A comprehensive emissions-based agreement sends a clear signal to the market and offers countries flexibility to implement emissions reduction strategies that are most appropriate to their national circumstances. Smaller, targeted agreements, on the other hand, offer the potential of early action by countries that are not ready to accept emissions limits and could be incorporated into a comprehensive climate change agreement. The objective should be to make the comprehensive agreement and smaller targeted agreements mutually supportive and complementary.

Country-based agreements among the top-emitting countries in the world, or alternatively between smaller geographic groups, may offer a simpler negotiating process and the potential

to address a large fraction of the world's emissions. Sector-based targeted agreements should be encouraged; such agreements can avoid competitiveness concerns by setting emissions targets for particular industries—e.g., power, transportation, aluminum, steel, cement, appliances, buildings, and forestry—including those located in developing countries. Policy-based agreements could require harmonized carbon taxes or reductions in emissions intensity, for example, or support clean technology dissemination. Measures-based agreements could involve specific emission reduction strategies—e.g., energy efficiency, renewable energy, and land-use regulation.

Energy security and climate security are intertwined and should be addressed at the same time. Renewable energy and energy efficiency can contribute to such a strategy. Renewable energy is a win-win proposition for all countries as it (1) provides opportunities for poverty alleviation and for satisfying the energy needs in rural and remote areas; (2) helps generate employment and creates local economic opportunities; (3) helps curb climate change and contributes to the protection of human health caused by air pollution; and (4) enhances energy security through reliance on domestic energy sources. The technical and economic potentials of improving energy efficiency, including building efficiency, are also enormous and should be pursued as aggressively as new supply. In addition, technological innovations can cost-effectively reduce the risk of large-scale impacts of energy supply disruptions, especially in the electricity sector.

To reduce the emissions of carbon dioxide cost-effectively, a full range of interventions to create and maintain biological sinks of carbon should be included in a post-2012 climate change regime in order to capture the many co-benefits of sustainable

livelihoods, land management, forestry, and biodiversity conservation. Land-use changes, mainly deforestation, account for more than twenty percent of global emissions, a share greater than either the global transport or industrial sectors. With increasing emphasis on growing biofuels for transport, there will be increasing pressure to convert remaining forests to other uses. Both Article 3.3 of the Framework Convention and the history of Kyoto Protocol negotiations point to the need to include GHG sinks in any agreement. Difficulties in monitoring and verifying both above ground and below-ground stocks of carbon need to be overcome. Because not all forests are alike in their capacity to sequester carbon dioxide (“CO₂”), additional research is needed to account for their differences.

Because of the size of the forest resource, credits for avoided deforestation must be coupled with sharply reduced emissions targets or they could destabilize carbon markets. Reducing deforestation presents an opportunity to sequester CO₂ in the

atmosphere with additional benefits—the conservation of biodiversity, the provision of ecosystem goods and services, especially water resources, and the improvement of livelihoods for neighboring communities. In this regard, the carbon market offers an opportunity to change forest management and improve livelihoods in rural areas of developing countries.

Markets should be organized to have a reasonable

promise of achieving the policy goals of carbon reductions in an efficient manner. Most economists agree that to achieve the greatest climate benefits efficiently and effectively, a carbon price should be set through carbon taxes or trading. Carbon taxes are easier to implement than cap-and-trade schemes, are economically efficient, and would generate significant financial resources. A system of harmonized, universal carbon taxes should be agreed by the international community.

Recognizing that many in industry prefer a cap-and-trade system, there is a need for well functioning and financially linked carbon markets to be developed across the globe, incorporating various national and regional cap-and-trade programs. In general, emissions allowances should be auctioned, thus raising resources that can be allocated by national governments for other purposes, such as clean energy development and adaptation.

ADAPTATION

Adaptation is a key component of an effective strategy to address climate change. Adaptation is not simply a matter of designing projects or putting together lists of measures to reduce the impacts of climate change. A national policy response would increase resilience to climate vulnerability and change and should be anchored in a country's framework for economic growth and sustainable development and integrated in its poverty reduc-

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anthropogenic interference
cannot be avoided by
developed countries
acting alone.*

tion strategies. Responses to climate change need to encompass several levels including access to clean energy for vulnerable populations, crop and farm-level adaptations, national level agricultural and supporting policies and investments.

Businesses and international financial institutions also need to integrate climate change into their activities and make their investments less susceptible to climate change. International technical and financial assistance should be strengthened and made more coherent in order to respond at the requisite scale to the needs of least developed countries. The United Nations has a pivotal role to play in building institutional, public policy, and human capacity in support of effective programs of adaptation.

Because the costs of adaptation were thought to provide largely local benefits, were difficult to distinguish from “regular” development, were suspected to be large, and smacked of compensation awarded for damages, developed countries have been reluctant to agree to substantial amounts of funds for adaptation. Nevertheless, since climate change will impede development efforts, increase risks to public health, frustrate poverty alleviation programs, and exacerbate migrations from waterlogged, water-scarce or food-scarce regions, there is an important role for official development assistance in financing adaptation measures, including human and institutional capacity building, and in reducing vulnerability of agriculture, forests, and water resources. Effective adaptation will require broader planning capacity in all relevant departments and ministries in developing countries. Local scientists should be supported for monitoring and research on climate impacts on various sectors in their own countries. In addition, all countries should cooperate in identifying a package of reliable funding to help countries build resilience to climate risks. Such funding could include public and private finance and the carbon market. Development agencies should integrate climate change effects into their projects and programs.

TECHNOLOGY DEVELOPMENT AND COOPERATION

If the world continues on its current energy path, dominated by fossil fuels, energy-related CO₂ emissions in 2050 will be two-and-a-half times their current levels.⁵ According to the International Energy Agency, these emissions can be returned to their current levels by 2050 through a combination of the following actions undertaken in all countries: (1) strong energy efficiency gains in transport, industry and buildings sectors; (2) increasing decarbonization of the electric power generation sector through increased deployment of renewables, nuclear, natural gas, and coal with CO₂ capture and storage; and (3) increased use of bio-fuels for road transport. However, reducing global emissions by at least sixty percent at acceptable costs will require a science and technology revolution, at least as large as those in the space and telecommunication sectors, to make clean energy technolo-

gies more efficient and affordable. Unfortunately, investments in both public- and private-sector energy research and development programs have been declining for the last two decades. These declines need to be halted and reversed.

Market-based mechanisms are good at identifying the cheapest mitigation opportunities amongst existing options, and spurring innovations that have immediate cost reductions, but are less helpful in encouraging the development of new low-emission technologies. Innovation targets to bring new, more efficient, and less costly technologies to market could be very helpful. Incentives could be provided to countries (and businesses) that beat these targets in the form of credits against their future emission targets.

In addition, the formation of a Consultative Group on Clean Energy Research, as suggested by the International Task Force on Global Public Goods, could facilitate international col-

laboration on the development of low-cost, zero-carbon technologies and the exchange of information about clean energy technologies.

Sustainable development is not possible without making energy systems more sustainable. All developing countries, especially rapidly industrializing countries, should have access to clean energy technologies on preferential terms.

The barriers that hamper the dissemination of such technologies in developing countries, such as intellectual property rights and competitive rules, should be overcome.

FINANCE

Both public and private finance are essential for adaptation, for technology transfer to developing countries, and to implement successfully any comprehensive and long-term strategy to combat climate change. Climate-friendly investments need to be multiplied through national and international frameworks, and the current international carbon market needs to be enhanced in order to scale up private flows. However, external funding must be additional to national resources obtained through domestic savings and taxation. Governments have an obligation to establish a supportive framework for private investment. Local capital markets should facilitate long-term investments in adaptation measures. Carbon taxes or the auctioning of emissions allowances can also raise resources that can be used for this or other purposes.

The Clean Development Mechanism (“CDM”) was created under the Kyoto Protocol to support low-carbon investments in developing countries. For the developed countries, the purpose of the CDM is to lower the cost of emission reductions and provide an element of flexibility in carrying out their national obligations. From the developing countries’ perspective, the purpose of the CDM is to promote their sustainable development and contribute to the stabilization of GHGs in the atmosphere. The CDM has encountered administrative and technical hurdles.

*Renewable energy is a
win-win proposition for
all countries.*

Initial projects have been limited to a few countries and a few gases and have been plagued by bureaucratic procedures, and with little contribution to sustainable development.

The CDM should be reformed in order to deliver its full potential during the 2008–2012 commitment period, and in the post-2012 regime an additional market mechanism should support sectoral approaches capable of transforming whole sectors of rapidly industrializing countries at a speed commensurate with the challenge of taking emissions reductions to global scale. The CDM's weaknesses exist because it was created as a project-based instrument; however, the Executive Board recently approved the inclusion of "programmes of activities" in the CDM. In order to promote policy reform, underwrite technology development, and stimulate investment flows at a scale that is truly transformational, an additional market mechanism must take a sectoral approach. The fundamental distinction between the sectoral approach and the project-based or programmatic approach is that a developing country could set sector-wide baselines for carbon-intensive sectors at levels that coincide with its economic interest while meeting commitments to reduce the energy intensity of its growth.

Public finance also has an important role, especially in demonstrating new approaches for building human and institutional capacity and for mitigation and adaptation in developing countries. However, the existing funding sources for these purposes (for example, the Global Environment Facility ("GEF") and the multilateral development banks ("MDBs")) are too small for the scale of assistance required. They should be strengthened and their resources enhanced so that they can play a bigger role in leveraging private finance for mitigation and adaptation and in assisting developing countries to set appropriate framework conditions for private investment.

Finance is a critical element of any strategy to address climate change effectively. Funds will be required for increased assistance to developing countries for the adoption of energy efficiency and clean energy technologies, and for avoided deforestation. Funds will be required for greening power sectors, for adaptation, and for increased R&D and deployment in all coun-

tries, focusing especially on technologies that are technically viable but not yet financially competitive.


A climate fund of additional resources, starting at U.S. \$10 billion and growing to U.S. \$50 billion per year, should be established to support climate change activities in developing countries (adaptation, avoided deforestation, and clean energy development and deployment) and should include both public and private resources. It should have an innovative structure and governance that is transparent and inclusive. In addition, existing mechanisms, such as the GEF and the MDBs, should be strengthened and their resources enhanced to continue their important work in demonstrating new approaches, building human and institutional capacity, and leveraging private finance.

Finance is a critical element of any strategy to address climate change effectively.

CONCLUSION

With its limited time frame, participation, and inadequate provisions for monitoring, the Kyoto Protocol was never seen as a solution to the climate problem. It was meant to be a first step, preparing for the broader engagement that will be necessary and establishing the legal, technical and institutional groundwork for future regimes. As we embark upon a more comprehensive and inclusive agreement, we need to build on the experience gained from Kyoto, particularly in international emissions trading.

We also need to build on the experience of cities, states, communities, businesses, and individuals who have voluntarily undertaken important steps to address climate change. As they have shown, determined action presents substantial opportunities for economic growth and job creation, based on the development and deployment of clean energy technologies. In addition, public advocacy and information programs can play an important role in enhancing awareness of the impacts of personal behavior and lifestyle.

Above all, we need to build trust between North and South and establish an equitable basis and new modalities for genuine international cooperation to address the linked challenges of energy and climate security. For an issue this important to the future of the planet, there must be no more broken promises. 

Endnotes: Framework for a Post-Kyoto Climate Change Agreement

¹ This Article is based on GLOBAL LEADERSHIP FOR CLIMATE ACTION, FRAMEWORK FOR A POST-2012 AGREEMENT ON CLIMATE CHANGE (2007).

² Framework Convention on Climate Change, art. 2, May 9, 1992, 31 I.L.M. 849, available at <http://unfccc.int> (last visited Mar. 23, 2008) [hereinafter UNFCCC].

³ STERN REVIEW, THE ECONOMICS OF CLIMATE CHANGE, 212, available at http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm (last visited Mar. 14, 2008).

⁴ UNFCCC, *supra* note 2, art. 3 ¶1

⁵ INTERNATIONAL ENERGY AGENCY, ENERGY TECHNOLOGY PERSPECTIVES—SCENARIOS AND STRATEGIES TO 2050 (2006).