

Chapter 8

Climate Change: Global Warming Mitigation or Adaptation

ABSTRACT

Growing economies of less advanced countries carry part of the mitigation load of climate change. A logical framework analysis identifies the economic impact for mitigation of climate change in less industrialized economies where climate adaptation seems to offer better prospects of feasibility. Financial instruments are proposed within development of a strategic action plan in mitigation of climate change. An implementable policy matrix is formulated accompanied with a set of performance indicators that are coherent with the action plan. Challenges that are specific to growing economies are identified. Recommendations include lessons learned and limitations of alternative renewable energy sources.

INTRODUCTION

Climate change is threatening the survival of human civilization. The two common strategies to combat climate change is to reduce the emissions of greenhouse gases, which is known as mitigation of climate change; and to cope with the impacts of climate change, known as adaptation to climate change. In other words, “mitigation aims to avoid the unmanageable and adaptation aims to manage the unavoidable” (Laukkonen et al., 2009, p.288). Mitigation actions can be achieved in different contexts. These actions can take place at the international, regional, national, local and individual levels (Laukkonen et al., 2009).

BACKGROUND

Definition and Dilemmas of Climate Change Mitigation

The definition of climate change mitigation is provided by the IPCC in its 4th Assessment Report 2007, which states any: “technological change and substitution that reduces resource inputs and emissions per unit of output. Although several social, economic and technological policies would produce an emission reduction, with respect to climate change, mitigation means implementing policies to reduce GHG emissions and enhance sinks” Nationally Appropriate Mitigation Actions

(NAMAs) for developing countries are included under the post-Kyoto negotiations. Climate change negotiations process has evolved since Rio up to the current negotiations (mainly up to the Copenhagen Accord). Since its inception, the Kyoto Protocol was designed to be legally binding in emission reduction targets for the Annex I parties (DeCanio, 2009) with the option for flexible mechanisms. Non-Annex I parties can voluntarily lower their emissions through the participation in those flexible mechanisms, most notably the Clean Development Mechanism (CDM) which is stipulated in Article 12 of the Protocol. There are 4 main post-Kyoto architectures (Streimikiene and Girdzijauskas, 2009):

1. Targets and timetables;
2. Harmonized domestic policies and measures;
3. Resource transfer from developed countries to developing countries; and
4. Economic policies in developing countries.

Mitigation is clearly a global public good (Viguier, 2004) since its benefits accrue to all people and not only to a limited set of people. Therefore, it is categorized by being non-rivalry and non-excludability which is the nature of a public good. Mitigation strategies can have co-benefits. This is the case with linking climate change and air pollution. The reduction of CO₂ emissions can have favorable impacts in reducing other air pollutants through burning lesser fossil fuels (Barker, 2003). Annex I Parties (Industrialized countries) and Non-Annex I Parties (Developing countries) have refined their position towards mitigation since the start of the negotiations up to Copenhagen summit in 2009. Issues being negotiated under mitigation include NAMAs and potential consequences as well as institutional arrangements (Friedrich, 2013). Navigating international space allows comparison of positions for various interested parties including:

1. Gulf,
2. Levant,
3. Middle income countries, and
4. Industrialized countries.

Climate Change Negotiations

The negotiations should take into account the interplay between the international economic system versus the issue of equity and fairness (Sugiyama and Deshun, 2004). Hence, the current negotiations are trying to focus on positive co-benefits and spillover effects of mitigation actions from both Annex I and Non-Annex I parties. There is also special attention to the negative consequences of these actions. A development oriented approach to mitigation is a top priority to developing countries. That is why a wider set of actors need to be involved in mitigation (WINKLER, 2008).

Article 3 of the UNFCCC clearly emphasizes the necessity to avert dangerous anthropogenic climate change via the stabilization of greenhouse gases (GHGs). The debate focuses on two themes:

1. The cost-effectiveness of mitigating climate change through the reduction of emissions, and
2. The distribution of mitigation costs among developed and developing countries, i.e. the principle of equity with the right to sustain development (DeCanio, 2009).

The issue of equity is directly related to the principle of “common but differentiated responsibilities”, which has been enshrined in Principle 7 of the Rio Declaration on Environment and Development in 1992 as well as in the UNFCCC.

Although the principle of “common but differentiated responsibilities” have been embodied within the Convention, there are some developed countries that refuse to participate in the Kyoto Protocol unless there is meaningful participation

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