

On the Design of the International Climate Policy Regime

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Abstract

As a consequence of the increasing awareness of anthropogenic climate change and its impacts, the international community agreed to take action to mitigate greenhouse gas emissions. This action is organised through the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. Though a number of implementation rules as for example the Marrakech Accords exist, there are still a lot of open questions that need to be answered. Against this background this dissertation thesis focuses on selected issues which all involve the concept of emissions trading.

Regarding projects under the so-called Clean Development Mechanism (CDM) it is analysed how the required baseline should be set and how the investment additionality concept must be applied in order not to provide undesirable incentives for renewable energy project developers to invest at unattractive sites. Such an investment behaviour would result in an inefficient climate policy regime from the macro-economic perspective. It is proposed to calculate emission reductions on the basis of physical electricity grids, regardless of their geographical extension, and not on the basis of any national emission data. Furthermore, a fuzzy investment additionality threshold is introduced which can weaken the undesirable incentives mentioned above.

These CDM-projects can be undertaken in developing countries, which, unlike industrialised countries, do not have a binding emission target. However, in order to meet the long-term target of a stabilisation of the atmospheric greenhouse gas concentration as defined in Art. 2 of the UNFCCC, sooner or later all countries must accept such a target. This is why a global burden sharing rule regarding the allocation of greenhouse gas emission (GHG) entitlements is proposed that combines the two justice principles “responsibility” and “equity of rights”. The new approach also allows for flexibility regarding the timing of accepting an absolute emission target. Such flexibility may help to increase the acceptance of a global burden sharing scheme by Parties which are currently hesitant with respect to the ratification of a global climate agreement. As burden sharing is not only an issue between developing and industrialised countries, different rules and their implications are studied for the member states of the enlarged European Union, too. It turns out that, with regard to the four different options studied, much is at stake single member, especially for Eastern European countries. This may complicate the negotiations on the burden sharing after 2012 in Brussels. As GHG emissions from international maritime transportation are currently also uncapped, options for limiting emissions from this sector are also studied. A “wet-CDM” is proposed as an initial step to cost-efficiently curb these emissions.

Finally, the implications of different methods of allocating emission entitlements free of charge in multi-period emissions trading schemes are analysed. The electricity sector, which is a major source of GHG emissions, is studied as an example. It turns out that the implications strongly depend on the fuel used and the price of emission allowances on the market.

The results of this study are of interest for different stakeholders involved in climate policy such as researchers, policy makers, environmental NGOs and industry which is often direct subject of environmental legislation.