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The liability rules under international GHG emissions trading

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Abstract

Article 17 of the Kyoto Protocol authorizes emissions trading, but the rules governing emissions trading have been deferred to subsequent conferences. In designing and implementing an international greenhouse gas (GHG) emissions trading scheme, assigning liability rules has been considered to be one of the most challenging issues. In general, a seller-beware liability works well in a strong enforcement environment. In the Kyoto Protocol, however, it may not always work. By contrast, a buyer-beware liability could be an effective deterrent to non-compliance, but the costs of imposing it are expected to be very high. To strike a middle ground, we suggest a combination of preventive measures with strong but feasible end-of-period punishments to ensure compliance with the Kyoto emissions commitments. Such measures aim to maximize efficiency gains from emissions trading and at the same time, to minimize over-selling risks. © 2001 Elsevier Science Ltd. All rights reserved.

Keywords: Emissions trading; Greenhouse gases; Seller-beware liability; Buyer- beware liability; Kyoto Protocol

1. Introduction

Emissions trading under Article 17 of the Kyoto Protocol would promote buyers' compliance with their emission limitation and reduction commitments by reducing their costs of compliance. Because selling parts of assigned amounts is likely to prove highly profitable, trading would also provide an economic incentive for Parties to sell their assigned amount units (AAUs) that are ultimately needed at the end of the commitment period for their own compliance purposes and would thus create the possibility that a Party could find itself in a situation of non-compliance as a result of its own excessive over-selling. Over-selling could occur unintentionally, wilfully or inadvertently (Nordhaus *et al.*, 2000). Although the exceptions to compliance rules could be made for unintentional over-selling that could occur if emissions increased late in the commitment period as a result of unpredictable events or events beyond the control of the government concerned, no exceptions should be allowed for both wilful over-selling and inadvertent over-selling.[1] The question then arises of which Party — the buyer, the seller or both — is liable for non-compliance by the seller who either inadvertently or wilfully over-sells its permits and then fails to comply with its commitment. This problem of over-selling is one of the most challenging issues in designing a workable international emissions trading scheme. Given the fact that Article 12 of the Kyoto Protocol (UNFCCC, 1997) authorizes Annex I countries to acquire the certified credits obtained from the Clean Development Mechanism (CDM) projects with non-Annex I countries,[2] the issue of liability for the

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[1] Wilful over-selling would occur where a Party transfers AAUs calculating that the gains of such transfers are likely to outweigh the consequences of its own non-compliance, and inadvertent over-selling would occur where a Party fails to anticipate correctly how much of assigned amounts will be needed ultimately to meet its own compliance needs.

[2] On 24 April 1998 in Washington, DC, President José Figueres of Costa Rica received a certificate for more than 1 million tons of carbon sequestered via the protection and conservation of forest areas in Costa Rica. This certification was issued by the Société Genérale de Surveillance (SGS), an independent inspection and verification organisation which verifies the carbon sequestration of 530,000 ha Costa Rican forest protection projects aimed at sequestering 15.6 million tons of carbon equivalent (Gorbitz and Trines, 1998). The carbon sequestered will be issued by Costa Rica as certified tradable offsets (CTO), which will be sold to investors. Although the above certification process guarantees that each CTO is covered by real and verified carbon sequestration, it is not yet clear to what extent these CTO can be used by Annex I Party investors to fulfil their commitments under the Kyoto Protocol. One reason is that it is not clear whether sink projects are eligible under the CDM. Secondly, whether these CTO will be recognised as certified emission reductions under the CDM depends on decisions on how and who will conduct the certification function, which have to be taken by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol.

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validity of the credits is of less concern in the CDM case when the credits have been certified.[3] Thus, some Party[4] suggests that the transfers of AAUs in an international emissions trading scheme could be envisioned along this line. Each year, any excess AAUs to be sold first have to be verified and certified prior to trading. Although the so-called post-verification trading model eliminates the risk of over-selling, there is no guarantee that the Parties who comply until the end of the fourth year of the commitment period will be in compliance with their commitments at the end of the commitment period because they could sell more than their remaining AAUs available in the last, namely, fifth year of the commitment period. Other Party[5] even suggests that in order to ensure that Parties only sell those assigned amounts surplus to their compliance requirements, any excess AAUs are allowed to be sold only after compliance has been established. This would increase the environmental performance of the scheme by reducing uncertainty surrounding the validity of acquired permits. In the mean time, however, it would restrict legitimate trading activities during the commitment period. This could significantly increase the costs of participating in emissions trading and thus reduce the volume of trades. Moreover, it still does not eliminate the risk of over-selling, since the surplus assigned amounts from the first commitment period might be needed by the seller during the subsequent commitment periods. Thus, rules that address the risk more effectively and allow trading during the first commitment period need to be established. They are essential to the success of emissions trading (Environmental Defense Fund, 1998). By providing some new insights, this article aims to contribute to the in-depth discussion on the liability rules that are intended to define clearly where the responsibility lies for a Party in case it is out of compliance because of over-selling its AAUs, thus contributing to the design and implementation of an international GHG emissions trading scheme.

It should be pointed out that a Party could be in non-compliance with its commitments, whether or not it trades. Non-compliance could also occur because a Party fails to undertake sufficient domestic abatement policies and measures or to purchase enough AAUs or certified credits from the Kyoto mechanisms. Here we focus on the risk of over-selling just because it arises from emissions trading. It is by no means that over-selling deserves greater punishment than other reasons for non-compliance. Indeed, from the atmosphere's perspective, no matter how a Party is out of compliance, the damages to the atmosphere are the same. This suggests that all the reasons for non-compliance should be treated equally.

2. Seller-beware liability

Because Article 3 of the Kyoto Protocol refers to the transfers of allowable emissions from one nation to another without suggesting that transfers could be invalidated, some observers think that Article 17 implicitly means that trading rests on the so-called seller-only liability or seller-beware liability (Rolfe, 1998). Under a seller-beware regime, any permits acquired by the buyer are valid regardless of whether the seller is in compliance with its commitments under the Protocol, and all permits would be worth the same no matter where they originated. Because buyers bear no risk under the seller-beware liability, they are more likely to become active in the market. This would stimulate the development of a more robust trading market. This is essential to the successful function of emissions trading, particularly in the initial start-up stage when few potential buyers, if any, have any trading experiences.

Seller-beware works well in domestic emissions trading scheme, such as the US SO_2 allowance trading program mandated in Title IV of the 1990 Clean Air Act Amendments whose built-in effective enforcement mechanisms make non-compliance very expensive and unattractive (Ellerman *et al.*, 1997). However, in an international trading scheme, the efficacy of seller-beware liability depends heavily on the non-compliance regime under Article 18 of the Kyoto Protocol. Unless financial penalties are much higher than the potential gains from over-selling AAUs, there is an economic incentive for sellers to sell AAUs not surplus to their compliance needs. If, as past experience has suggested that enforcement at the international level often proves to be more

[3] If the credits were to be used in advance of certification, most analysts advocate that buyers should be primarily held liable for the compliance of CDM projects, because buyers in Annex I countries have their domestic emissions limitation commitments, and have the direct access to information and the leverage necessary for project oversight. In comparison with sellers, buyers have a financial stake in CDM projects (Kerr, 1998).

[4] Switzerland has proposed for a post-verification trading model on an annual basis (UNFCCC, 1999). The proposal works as follows. Each Party that wishes to undertake transfers under Article 17 shall allocate its total assigned amounts among the 5 years of the commitment period and notify the UNFCCC secretariat of these annual allocations prior to the start of the commitment period. The assigned amount allocation to any single year should not exceed $\pm 20\%$ of the total assigned amounts divided by 5. Excess AAUs for a given year shall equal cumulative assigned amount allocation from the beginning of the commitment period through the given year less cumulative emissions from the beginning of the commitment period through the given year less the amount of the excess AAUs certificates issued for previous years of the commitment period and cumulative emission reduction units transferred under Article 6. The secretariat shall verify the availability of excess AAUs and issue certificates for them. All issued certificates shall be valid on the market without any liability or trade-specific compliance rules.

[5] India (UNFCCC, 2000), supported by the Group of 77 and China, has put forward the proposal for the surplus units trading. The proposal would confine trading to excess reductions surplus to sellers' own compliance needs at the end of the commitment period.