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Energy Policy 31 (2003) 879–886

ENERGY POLICY

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Emissions trading in transition economies: the link between international and domestic policy

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Abstract

International emissions trading has the potential to significantly lower carbon mitigation costs and to promote environmentally friendly investment in transition economies. The design of domestic systems to complement international emissions trading will likely play a major role in emissions trading's effectiveness. This paper examines the benefits and challenges of proposed domestic systems and the related flows of emissions trading revenue in seller nations. The overwhelming majority of emissions available for sale will come from transition economies, which is why this article considers these countries as a group. Governments in countries such as Russia and Poland are interested in the potentially significant revenue they would reap from emissions trading, and some in those governments feel the money would best be used as general revenue for the government. Others argue that emissions trading should involve the private sector and other emitters in order to provide maximum incentives to reduce emissions and generate additional emissions trading revenue (the rules for international emissions trading explicitly allow this). Still others feel that special carbon mitigation funds would allow the government to maintain control yet stimulate additional emission reductions. Each policy contains its own set of challenges: stimulating further emission reductions, credibly monitoring emissions and emission reductions, or applying adequate fiscal accounting to the money flows.

Keywords: Climate change; Emissions trading; Transition economies

1. Introduction

International emissions trading allows market-based incentives for environmental protection. The United Nations Framework Convention on Climate Change (FCCC), agreed to in Rio de Janeiro in 1992, encourages nations to reduce their greenhouse gas emissions to protect the global climate. The FCCC, however, does not require countries to reduce emissions below their 1990 levels. The Kyoto Protocol, agreed to in 1997, would require most industrialized nations to reduce emissions compared to their baseline year, typically 1990. The Kyoto Protocol also allows emissions trading to provide signatories flexibility in meeting their climate obligations. Signatories who have agreed to take on specific reduction commitments are permitted to trade emission allowances among themselves. These signatories, listed in Annex B to the Protocol, include most developed nations and countries in transition. The United States, under President Bush's administration, has announced that it does not plan to ratify the Kyoto Protocol, though the European Union, Japan, Russia and most other signatories have ratified the Protocol or are likely to do so in 2002.

The innovation of emissions trading is that it can allow the market to determine where it is cheapest to reduce emissions, which should significantly lower the cost of compliance globally (Edmonds et al., 1999). Lowering compliance costs in turn makes it feasible to set more stringent emission reduction requirements than would be possible under a less flexible or more prescriptive system.

Each Annex B country under the Kyoto Protocol would have an emission allocation[2] calculated according to its baseline emissions (usually 1990) and its commitment to reduce emissions. Poland, for example, had emissions of 459 Mt of carbon dioxide equivalent in its baseline year of 1988 and agreed to cut these emissions by 6% during the first Kyoto commitment period of

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[1] The author prepared the majority of this article at the Pacific Northwest National Laboratory.

[2] The terms emission credit and emission allocation are used interchangeably in this paper.

0301-4215/03/$ - see front matter
PII: S0301-4215(02)00131-3

2008–2012. Russia had emissions of 2999 Mt of carbon dioxide equivalent in 1990, its baseline year, and agreed to stabilize these emissions in the first commitment period. The countries must use the allocations to cover their actual domestic emissions during the commitment period, but if emissions are lower than necessary, they can sell the excess.

Transition economies are unique in that they are the only group of countries to have reduced greenhouse gas emissions since 1990, so the issue of domestic systems to handle the revenue from emissions trading is really an issue for transition economies. Nonetheless, it is important to recognize that each country has its own political and historical approach to energy and environmental issues, so the article provides specific examples focusing primarily on Russia and Poland, two of the largest transition economies with well-developed policies toward emissions trading.

Countries in transition are rich in carbon mitigation opportunities. Under the socialist economic systems of the past, energy users had few incentives to limit energy consumption because the state subsidized energy prices and most large energy users had no hard budget constraints. This led to high-energy intensity. Many of the low-cost opportunities for energy efficiency and other carbon mitigation strategies have yet to be tapped, which typically makes mitigation costs very low in transition economies. Financing is a significant barrier to realizing these opportunities because of the comparative scarcity and high cost of credit and capital in transition economies. Emissions trading could provide a source of financing for carbon mitigation measures, thus allowing the cost-effective opportunities to be implemented.

That said, the specific nature of carbon mitigation opportunities varies from country to country and this will likely impact the exact design of the domestic systems to complement emissions trading in each country. Countries that project significant emissions growth through 2012 are more likely to favor joint implementation or domestic systems that result in real additional emission reductions. For example, the Polish government is concerned that its emissions in 2012 may begin to approach the maximum levels allowed under the Kyoto Protocol, depending on how its economy develops in the next decade. Lithuania will see its emissions rise when it closes the Ignalina Nuclear Power Plant. Poland and Lithuania may thus be inclined to design domestic systems that encourage mitigation. Countries with very large volumes of emissions to trade, such as Russia, Ukraine and Poland, will likely face greater domestic political scrutiny of the systems they design. The potentially large sums of money may attract the interest of politicians without extensive climate backgrounds and who would see the value of using these funds as general revenue.

At the same time, the European Union accession states typically hold environmental views closer to those in Western Europe and thus they may be more interested in ensuring that revenue is spent on further emission reductions and not simply sold as "hot air". Russia, on the other hand, feels that its emission reductions are real and valid, gained as a result of hard economic decline. It is opposed to restrictions in its use of emission credits or the revenue from them, though many in the Russian Government are in favor of domestic systems, such as carbon funds or private sector trading, that would promote mitigation.

In addition, countries may develop unique policies on selling versus banking emission allocations based on future price expectations and national emission projections. One of the largest uncertainties regarding the price of carbon under the Kyoto regime is the extent to which Russia will decide to bank emissions, thus limiting supply in the short term.

In 2001, at the Conferences of Parties 6 bis and 7, the international community confirmed that legal entities could take part in emissions trading. Now Annex B countries must decide whether they want to allow legal entities in their jurisdiction to take part in international emissions trading. Moreover, they must decide what domestic systems they plan to establish to meet their emission reduction commitments and interface with the international emissions trading regime, regardless of whether legal entities participate.

This article focuses on the importance of designing domestic systems in transition economies to complement international emissions trading. A well-designed domestic system can tap significant mitigation opportunities, reducing the likelihood that emission reductions are sold as a one-time windfall.

2. Designing domestic systems to complement emissions trading

Countries will want to design domestic climate policies to limit their greenhouse gas emissions and ensure they are in compliance with their emission reduction commitments. Such policies might include policies to promote energy efficiency and industrial restructuring, codes and standards, carbon taxes, and tax credits for mitigation efforts. In addition to ensuring compliance, these policies could also help generate additional emission reductions that could then be traded.

Several options are available for designing domestic systems to complement international emissions trading. An element of the system that is particularly important is the flow of funds, as much of the system and policy design will follow from this choice. The following