

LINKING A U.S. FEDERAL CLIMATE PROGRAM WITH INTERNATIONAL AND SUB-FEDERAL CLIMATE PROGRAMS*

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Introduction

A key consideration in developing a federal mandatory greenhouse gas (GHG) reduction program is the compatibility of that program with: (1) climate programs in other countries and (2) with pre-existing U.S. local, state, or regional (hereinafter “sub-federal”) programs.

Promoting compatibility of a U.S. climate program with programs in other countries is critical for a number of reasons. In the near-term, establishing at least some links between a U.S. program and other countries’ programs could allow firms regulated in the U.S. to take advantage of a global emissions trading market. Numerous studies suggest global emissions trading would result in dramatic cost savings. In addition, program linkage could be particularly valuable for companies with facilities in many countries; such multi-national companies would benefit from compatible regulatory frameworks and the ability to shift emission reduction credits among their various entities.

Overall compatibility will be even more important over the long-term. No country acting alone will be able to achieve the emission reductions needed to

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meet the ultimate objective of stabilizing atmospheric concentrations of greenhouse gases at non-dangerous levels. Some cooperation among major emitters eventually will be necessary. If a U.S. program diverges substantially from other countries' programs from the beginning, it will be more difficult to achieve needed levels of cooperation over the long-term.

The importance of compatibility between a federal program and sub-federal programs comes from the fact that a number of sub-federal programs are in existence or under development. Designing a federal program in such a way as to integrate pre-existing sub-federal programs will lower overall compliance costs and increase political acceptability.

What follows is a review of emerging international and sub-federal climate programs and an analysis of key design considerations in integrating a US federal program with those programs. This paper assumes that the US program is based, at least in part, on an emissions trading system.

II. COMPATIBILITY WITH FOREIGN PROGRAMS

A. Existing and Emerging International Programs

Currently, most industrialized countries are preparing for compliance with the Kyoto Protocol. Canada and Japan are both working on domestic programs that are likely to involve emissions trading at least to some extent. In addition, the European Union has committed to the establishment of an EU-wide Emissions Trading System ("EU ETS"). The first phase of the program will run from 2005-2007 and cover five sectors, comprising 12-14,000 installations. The EU also is working on a directive authorizing regulated entities to use permits acquired from non-EU countries through the Kyoto "flexibility mechanisms" – i.e., Joint Implementation and the Clean Development Mechanism ("CDM").

Developing countries are not subject to emissions limits under the Kyoto Protocol. However, a number of developing country and Eastern European governments are preparing Joint Implementation and CDM projects.

The Kyoto Protocol cannot enter into force under international law without ratification by Russia. Currently, Russia's ratification is in doubt. Even if the Kyoto

Protocol fails to enter into force, however, it seems practically certain that many countries will move forward with climate programs. With or without the Protocol, linking the various national and regional programs with one another – and with a possible future U.S. program – will present significant policy challenges.

B. “Informal” Trading Between a US Program and Foreign Climate Programs

In their current forms, the Kyoto Protocol and the EU ETS are silent on trading with non-party countries. Assuming that, in the short-term, it is not likely that these programs will be amended in such a way as to formally integrate a U.S. program, are there nevertheless options for trading between these programs and a U.S. program?

Purchases of Foreign Reductions by U.S. Firms. Nothing in the Kyoto Protocol or in the EU Emissions Trading System prohibits sales of Kyoto or EU permits¹ to non-parties. A U.S. federal climate program could allow regulated firms to purchase permits from other countries and use them for compliance purposes in the U.S. program. Formal links with the other programs would not be necessary. If the U.S. program were more stringent than other programs or if mitigation costs were lower in other countries, U.S. firms could benefit from purchasing the rights to less expensive reductions outside our borders.

In addition, the U.S. program could have a mechanism that would certify and award permits for emission reduction projects financed by U.S. firms in countries not subject to emissions limits under the Kyoto or EU programs (i.e., developing countries and Eastern European countries.)

The U.S. program would have to address the risk of “double-counting,” i.e., the risk that the same permit would be used for compliance purposes in the U.S. program and in the foreign program from which it was acquired. To address this risk, the U.S. program could require evidence that the foreign permit has been “cancelled” in the other program. For example, under the Kyoto Protocol, a government or company could sell rights to some of its Kyoto permits to a U.S. firm by putting those permits into its “cancellation account” – thereby taking them out of circulation in the Kyoto system. The U.S. firm then could provide the U.S. government with evidence that it has acquired the rights to the cancelled Kyoto permits.

Sales of U.S. Permits to Foreign Firms. Some firms subject to a U.S. climate program will generate surplus permits and might want to sell those permits to foreign buyers. However, in their current form, neither the Kyoto Protocol nor the EU Emissions Trading System allows permits from non-Kyoto countries to be used for compliance.

Short of an amendment, are there ways in U.S. firms could sell their surplus permits to foreign buyers in programs that do not recognize U.S. permits? One option would be to establish a mechanism that would allow trades between the U.S. and foreign program, while ensuring that the net flow of permits from the foreign program to the U.S. is positive. An example of such a “gateway” can be found in the United Kingdom’s trading program. In the U.K. program, some firms are subject to a quantity-based emissions target (referred to an “Absolute” target) and some firms are subject to an intensity target (referred to as a “Relative” target.) Trades between the two sectors are regulated by the gateway. The gateway will not ‘open’ to a trade from the Relative to the Absolute Sector unless and until it is matched by at least an equivalent transfer going the other direction.

C. Linking National Programs Into an Integrated Global Market

The above informal strategies could be useful in the shorter term, during which amendments to the Kyoto Protocol or the EU Emissions Trading System might not be feasible. Over time, however, there could be more opportunity for and greater interest in designing national programs to promote formal linkages. A truly integrated global emissions trading market would offer far greater efficiencies than could be obtained through informal and relatively constrained cross-program trading.

As discussed in the Nordhaus/Danish paper, establishing a national emissions trading program involves quite a number of design issues. By contrast, relatively few design elements must be coordinated to link different emissions trading programs. These include: (1) commonly-defined permits and (2) compatible systems for tracking trades of the commodity between programs. For certain other design elements, coordination is not required but is likely to be desirable because of environmental, economic, and equity implications. These elements are: (1) comparably stringent emissions targets; (2) comparably rigorous emissions monitoring and reporting systems; and (3) comparably stringent compliance systems.²

- ***Commonly-defined permits.*** In order to have trading between one or more programs, it is necessary to have one or more commonly-defined permits. For example, the linked programs could transact in a permit that authorizes emission of one ton of carbon dioxide-equivalent greenhouse gases. By contrast, if Country A establishes permits in such “absolute” terms while Country B establishes permits in terms of emissions per unit output (i.e., an “intensity” or “indexed” target), the permits issued under the two programs would not be fully interchangeable.
- ***Compatible Systems for Tracking Trades.*** Another necessary element of an integrated international system is compatibility between each country’s registry for tracking holdings and transfers of permits. Inter-linked registries help avoid the problem of “double-counting” discussed above.
- ***Comparably Stringent Emissions Targets.*** In theory, so long as two countries have programs with commonly-defined permits and compatible tracking systems, there are no concrete obstacles to linkage. However, it is unlikely that Country A will support linkage with Country B if Country B’s program is substantially less stringent than that of Country A. One reason for reluctance could be concerns about environmental effectiveness. However, equity might also be concern. Linkage could result in a substantial outflow of funds from Country A to Country B as firms subject to Country A’s more stringent controls purchase surplus permits from firms that find themselves easily over-complying with Country B’s relatively less stringent program.
- ***Comparably Rigorous GHG Emissions Monitoring and Reporting Systems.*** Again, comparability of monitoring and reporting systems is not required for linkage. However, if Country A perceives Country B’s systems to be unreliable or inadequate, Country A might be reluctant to pursue integration.
- ***Comparably Stringent Compliance Systems.*** Similarly, Country A and Country B could have compatible systems and comparably stringent emissions targets – however, if Country A has a much stronger compliance regime than Country B, Country A might determine that integration is unjustified on environmental or equitable grounds.

III. Compatibility with Sub-Federal Programs

A. Existing and Emerging Sub-Federal Programs

A number of states, localities, and regions are developing their own climate policies. Many of these policies are taking the form of incentive programs or voluntary emissions reporting registries. However, in some cases, governments are developing mandatory reduction programs. For example, the states of Massachusetts, New Hampshire, Oregon, and the city of Seattle have established regulatory limits on carbon dioxide emissions by power plants. In addition, the State of California has passed a law directing its air regulatory agency to promulgate limits on carbon dioxide emissions by motor vehicles.

Work also has begun on a greenhouse gas cap-and-trade program for the Northeast. The governors of New York, Connecticut, Vermont, New Hampshire, Delaware, Maine, New Jersey, Pennsylvania, Massachusetts and Rhode Island have agreed to develop a regional program by April 2005.

These programs reflect a range of approaches to emissions targets, including both “absolute” or “quantity-based” targets and “indexed” or “intensity” targets.³ In addition, each of these regulatory programs also contemplates that regulated firms will be able to meet their obligations at least in part through emissions trading.

B. Integrating Sub-Federal Programs: Issues and Options

There are precedents for integrating a pre-existing sub-federal program into a federal program. One example is the Ozone Transport Commission program, which was developed by states in the Northeast and later folded into the federal NOx SIP Call program. In general, relatively seamless integration of pre-existing sub-federal programs into a federal program has the benefits of making the federal program more politically acceptable, lowering its administrative costs, and reducing its impact on the economy.

Possible integration policies include: (1) authorizing, if feasible, the use of banked permits from the sub-federal program in the federal program; (2) ensuring that firms that already have made reductions under the sub-federal program are not penalized under the new federal program; and (3) evaluating the possibility of awarding “credit for early action” to firms regulated under the sub-federal program. This is not an exhaustive list.

Use of Banked Sub-Federal Permits in Federal Program. Because most of the existing and emerging sub-federal programs contemplate emissions trading, one option would be to allow firms regulated under those programs to use their surplus permits in the federal program. Allowing use of sub-federal permits in the federal program would increase the political acceptability of the federal program to those firms. In addition, if the regulated firms have sufficient advance notice, they would be more likely to develop a cost-effective compliance plan.

This policy option raises some of the same issues discussed above in relation to the integration of different national programs, e.g., interchangeability of permits. If the federal program issues permits based on “absolute” targets, it might be infeasible for the program to recognize sub-federal permits based on “intensity” targets, absent the development of some acceptable conversion process.

In addition, policy-makers would have to take into account the relative stringency of the pre-existing program(s). If the new federal program were flooded with surplus permits from pre-existing program(s), the effect could be a deflation of the federal program’s emissions objective. In addition, the policy might be perceived inequitable; some might conclude that the policy actually affords firms regulated under the less stringent pre-existing program an unearned advantage.

Baseline Protection. An important integration consideration is ensuring that firms regulated under pre-existing programs are not penalized for implementing early reductions. This could happen if the federal program established a cap-and-trade system and allocated allowances to regulated firms on the basis of their emissions in a year after the year that the sub-federal program imposed emission limits. Under such a scenario, firms regulated under the sub-federal program would receive fewer allowances than they would have if they had not been subject to regulation.

There are number of means by which the federal program could avoid this result (and still incorporate emissions trading). First, it could set a baseline year that pre-dates the start of the pre-existing program. Second, it could set a different baseline just for the firms subject to the pre-existing program. Alternatively, it could allocate allowances by a method unrelated to historic emissions levels, e.g., through an auction.

Credit for Early Action. Another option for treatment of firms regulated under pre-existing sub-federal programs is not only to afford them baseline protection but also to provide them credit for their reductions. However, credit for early action is a concept usually discussed as a means of encouraging companies to undertake voluntary action – i.e., the credit is there to induce reductions that would not otherwise occur under business-as-usual circumstances.⁴ In this case, however, the firms would have implemented the reductions because they were required to do so.

Integrating Co-Existing Sub-Federal Programs. The above discussion focuses on the case of a sub-federal program that sunsets prior to the establishment of the federal program. Some states, however, might be interested in implementing a climate program that co-exists with the federal program, e.g., a state program that imposes deeper emission reduction requirements. If the state program regulates the same firms regulated by the federal program, and the federal program involves an emissions trading system, it is not likely that the state program could lead to additional emission reductions in the aggregate. The reason is that firms forced to achieve additional reductions under the state program would thereby generate additional allowances under the federal program. The firms could trade these allowances to firms in other states, allowing them to increase their emissions. On the other hand, if the state program regulates firms outside the coverage of the federal program, it might generate emissions reductions that would not otherwise occur under the federal program.

Endnotes

1. For purposes of convenience, the term “permits” is used hereafter to refer to the range of permits, allowances, credits, or other rights that could be established in a climate program.

2. Certain other elements are important in the design of a domestic emissions trading program, but need not be coordinated in order to link programs, including: (1) whether to regulate upstream or downstream; (2) allowance allocation methods; and (3) coverage respecting sectors and gases. Note, however, that a country’s choice of allowance allocation methods could create competitiveness issues that might present political obstacles to linkage – for example, if a country opted to use allowance allocations essentially to subsidize an industry that competes in a global market.

3. For example, both Massachusetts and New Hampshire have programs that limit CO₂ emissions by in-state power plants and allow trading. However, the target for the Massachusetts program is an indexed target (1800lbs CO₂/MWh), while the target for the New Hampshire program is an absolute or quantity-based target (return to 1990 emissions levels).

4. For an introduction to the concept of credit for early action and analysis of different options, see Robert R. Nordhaus and Stephen C. Fotis, "Early Action Crediting and Climate Change: an Analysis of Early Action Crediting Proposals," Pew Center on Global Climate Change (1999).