

# Linking U.S. and International Climate Change Strategies

## INTRODUCTION

In light of recent developments in climate change policy, it appears likely that for the foreseeable future efforts by industrialized countries will proceed on two tracks: most countries will ratify the Kyoto Protocol and begin implementing domestic measures aimed at meeting their binding emission targets; meanwhile, the United States will pursue a separate climate change strategy that, initially at least, has no links to the international regime.

For a number of reasons, it is important that these parallel efforts be linked and ultimately converge. Compatibility with the international regime should, therefore, be a key consideration in the design of a domestic U.S. climate strategy.

In the short term, linkage may be important because U.S. and other multinational firms subject to the Kyoto emission targets (because they have operations in developed countries that are party to the Protocol) may wish to take advantage of low-cost emission reduction opportunities in their U.S. operations. Linkage could be important in the medium term as well: If the United States adopts mandatory limits on greenhouse gas emissions, U.S. entities would want access to low-cost emission reduction opportunities in Kyoto Protocol parties.

Linkage is most critical, however, in the long term. Environmentally, the long-term emission reductions needed to achieve a stable climate can be ensured only through some form of agreement among major emitting countries. And economically, these reductions can be achieved most cost-effectively through an integrated, global greenhouse gas market. Hence, from both an environmental and an economic standpoint, the ultimate convergence of fragmented or parallel regimes is critical to the success of efforts to address climate change.

This paper identifies potential scenarios for the linkage of U.S. and international climate strategies; describes how emerging national and international emissions trading regimes will shape the context within which such linkages could take place; and examines issues that must be considered in the design of a U.S. climate strategy to ensure its compatibility with an international regime.

### Among the key findings:

- **The United States could, as a legal matter, decide to recognize Kyoto permits for purposes of compliance with U.S. emission reduction targets without needing the permission of the Kyoto Protocol parties (for example, via an amendment) and even if the two systems were not fully compatible.**
- **Sales of non-Kyoto emissions permits to the Kyoto system would require an amendment to the Protocol, which parties would be unlikely to consider unless they believed that the U.S. and Kyoto trading systems were generally compatible.**
- **In the long term, the more compatible U.S. and international climate policies are, the easier it will be to achieve convergence both politically and legally. Conversely, given the significant inertia in political and economic systems, the further U.S. and international climate policies travel down divergent roads, the more difficult it will be to bring them back together again in the future.**

## POTENTIAL LINKAGE SCENARIOS

Opportunities for linkage between U.S. and international climate regimes could arise under several different scenarios:

### **The United States does not adopt any mandatory climate policies, but Kyoto parties decide to recognize credits generated from emission reduction projects in non-parties such as the United States.**

It appears likely that, for the time being, U.S. policy will involve only voluntary measures rather than mandate any emission reductions. If so, the question will be whether Kyoto Protocol parties are willing to give any credit for voluntary emission reduction efforts in the United States (along the same lines that the Clean Development Mechanism (CDM) gives credit for emission reduction projects in developing countries). As discussed below, this would require an amendment to the Protocol. Such an amendment appears unlikely, at least in the near term, although the issue could potentially be addressed during the second budget period negotiations scheduled to begin in 2005.

### **The United States adopts mandatory domestic emission limits (such as a domestic cap-and-trade system) and decides to recognize Kyoto emission permits<sup>1</sup> for purposes of compliance with U.S. requirements.**

Under this scenario, U.S. multinationals could potentially make use of low-cost emission reductions from their operations in Kyoto Annex B<sup>2</sup> parties in order to meet U.S. emission targets. More generally, U.S. firms would have an incentive to buy Kyoto permits if the Kyoto permit price were below U.S. marginal compliance costs. If the United States decided to recognize Kyoto permits, nothing in the Protocol prevents Kyoto parties from selling permits to buyers in non-parties such as the United States.

### **The United States adopts a national cap-and-trade system and Kyoto parties decide to recognize U.S. permits for purposes of compliance with the Kyoto targets.**

As with the first scenario, this scenario would require an amendment to the Protocol, since currently the Protocol does not allow permits of non-parties to be used for compliance purposes. Such an amendment would be more likely if the U.S. emission trading programs were designed so as to be compatible with the international system, in which case a Kyoto Protocol amendment could simply recognize U.S. permits for Kyoto compliance purposes. In contrast, if a Kyoto amendment was needed to change the Kyoto emissions trading system in order to harmonize it with the U.S. system, this would represent an additional political obstacle to eventual linkage between the two programs.

### **The United States adopts a national emissions trading system. Kyoto parties do not recognize U.S. permits, but brokers facilitate trades across the two systems.**

Even if the U.S. and Kyoto systems were not formally linked, private entities could develop a clearinghouse between the two systems, whereby Kyoto permits held by U.S. companies would not be cancelled until the end of the commitment period, so that firms that wish to export U.S. permits to Kyoto parties could exchange them for Kyoto permits through the clearinghouse and then sell the Kyoto permits back into the Kyoto system. Such a clearinghouse system would effectively allow sales of U.S. permits to Kyoto buyers so long as these sales do not exceed purchases of Kyoto credits by U.S. buyers (that is, so long as the United States remains a net buyer).

This scenario is not considered further, because it does not involve direct trading or any formal linkages between the U.S. and international systems, and therefore would not depend on the two trading systems having common design elements. Instead, linkages between the systems would be informal, through the intermediation of private brokers who would be responsible for converting permits created under one trading system into those of the other.<sup>3</sup>

## THE CONTEXT FOR LINKAGE: EMERGING REGIMES

The Kyoto Protocol establishes a legal foundation for international emissions trading, and the Bonn Agreement and Marrakech Accords set forth general rules within which trading can occur. Legally, the Protocol permits trading among parties (i.e. countries) and, in addition, allows the parties to authorize private entities to participate in the trading system. A trade, therefore, could occur between parties, between a party and a private entity, or directly between private entities. It is widely anticipated that most trades will occur among private entities.

At least initially, the Kyoto Protocol is unlikely to produce a single, integrated emissions trading system. The more likely eventuality is the emergence of various national and/or regional trading systems, linked to varying degrees under the framework of Kyoto's emissions trading rules. Already, two Annex B parties have adopted national trading programs (Denmark and the United Kingdom) and several more are considering them (Australia, Canada, Finland, France, the Netherlands, New Zealand, Norway and Sweden). In addition, the European Union is developing a regional trading program based on industry caps, which beginning in 2005 will serve as an umbrella for trading among the national programs of EU member states.

Since the Kyoto Protocol allows but does not require international emissions trading, individual Kyoto parties may choose whether and how to link their national programs with those of other parties. For example, there are some indications that the European Union may decide initially to make its trading program purely internal and *not* to link it with those of other Annex B parties.

Trading between these national emissions trading programs will raise a host of legal, economic, and environmental issues. The Kyoto Protocol emissions trading rules address some but not all of these issues. For example, the Kyoto Protocol defines a common tradable commodity (a unit of assigned amount) and establishes a system for tracking trades in this commodity through national registries – the two essential elements for linking trading systems. But the Kyoto Protocol rules do not address which sectors are covered by national trading systems, which gases are included, or how permits are allocated. As a result, even among Kyoto Protocol parties, linking national trading programs will involve considerable challenges.

In this context, linking a U.S. emissions trading program with that of a Kyoto Protocol party would involve two sets of issues:

- Generic issues of linking Kyoto and non-Kyoto trading systems, and
- Specific issues of linking a U.S. program with a particular national trading program of a Kyoto party.

While the generic issues are critical, the possibility and means of linking U.S. and international trading systems will also depend to a significant degree on the national (or regional) emissions trading rules adopted by Kyoto Protocol parties.

## LEGAL ASPECTS OF BUYING VS. SELLING

Linkages between a U.S. trading program and the Kyoto Protocol could involve:

- U.S. companies buying Kyoto permits for purposes of compliance with U.S. targets and/or
- Kyoto Protocol parties (or their entities) buying U.S. permits for purposes of compliance with their Kyoto targets.

Whether the United States would be a net buyer or a net seller in relation to the Kyoto system would depend on the relative stringency of the U.S. and Kyoto targets, the marginal costs of reductions in the United States and Kyoto parties, and any restrictions on sales or purchases established by individual parties.

## Purchases of Kyoto Permits by U.S. Companies

From a legal standpoint, nothing in the Kyoto Protocol prevents a Kyoto party from selling its permits to a non-party such as the United States. Thus, if the United States decided to recognize Kyoto permits for purposes of compliance with U.S. climate policies, it would be up to each Kyoto Protocol party to decide whether to allow sales of permits from its registry to U.S. buyers. So long as any Protocol party allowed such trades, it could purchase permits from other Kyoto parties and then sell them to U.S. buyers, effectively circumventing restrictions by other Kyoto parties.

A party that decided to sell permits to the United States would put the permits into its "cancellation account," thereby taking them out of circulation in the Kyoto system.<sup>4</sup> This general approach has already been contemplated in connection with the proposed "open" trading system for emissions from civil aviation, which has been under discussion in the International Civil Aviation Organization (ICAO) for the past several years.<sup>5</sup> Under this system, ICAO entities could buy Kyoto permits for purposes of compliance with their ICAO emission targets. The Kyoto permits would go into a cancellation account in the party's registry, to prevent them from being used in the Kyoto system, and would then be transferred into the ICAO trading system.

If the Kyoto permit price were lower than the U.S. price, resulting in a net demand by U.S. buyers for Kyoto permits, Kyoto Protocol parties that are net sellers (such as Russia) would benefit, since this would increase the price of their permits. Although other Kyoto parties that are net buyers would face increased costs and thus have an interest in preventing sales of Kyoto permits to non-parties, the Kyoto Protocol (as noted above) does not give them authority to block sales by other parties.

## Sales of U.S. Permits to Kyoto Parties

The situation is quite different with respect to sales of U.S. permits to Kyoto parties. The Kyoto Protocol recognizes only emission allowances and credits created pursuant to its provisions, and does not allow parties to use non-Kyoto permits for purposes of compliance with their emissions targets. Thus, recognition of U.S. permits under the Kyoto Protocol would require an amendment to the Protocol. Such an amendment could be adopted by the COP/MOP<sup>6</sup> at any time after the Protocol's entry into force, but would be more likely to be considered as part of the second budget period negotiations.

The Kyoto Protocol allows joint implementation (JI) projects, in which one Annex B party undertakes emissions reductions in another Annex B party and receives credit for those reductions. In theory, Kyoto parties could allow such projects in the United States as a means of encouraging more climate-friendly practices in the United States and enticing the United States into the Kyoto system. Under this approach, U.S.-generated credits could be used in the Kyoto system even in the absence of a mandatory emissions target of the type contained in Kyoto Annex B. Instead, credits would result from emission reductions below a business-as-usual baseline. However, as a legal matter, this approach would require an amendment to the Protocol to allow non-parties to host joint implementation projects.<sup>7</sup>

## AN INTEGRATED EMISSIONS MARKET: CRITICAL DESIGN ELEMENTS

As discussed above, the compatibility of a U.S. emissions trading system with the international trading system and other national systems is important in the near to medium term to enable the sale of U.S.-generated allowances or credits to Kyoto parties. Compatibility is even more critical in the long term to enhance prospects for a fully integrated global emissions market.

Any trading system must address a number of design issues, for instance: What is the level of emissions limits? To whom do they apply? Are they mandatory or voluntary? What sectors are covered? How is the tradable commodity created and/or allocated? However, not all of these design issues are equally important for purposes of linking trading systems. Indeed, the Kyoto emissions trading rules themselves establish only the basic parameters for international emissions trading and allow countries considerable flexibility in the design of national trading systems.

Relatively few design elements *must* be coordinated in order to link national trading systems. These include:

- the tradable commodity (or commodities); and
- the system for tracking trades in this commodity between trading systems.

The Kyoto Protocol rules define several tradable commodities and establish a registry system to track trades in these commodities. For a non-party to link its national emissions trading program with the Kyoto system, it would need compatible rules on these core design elements.

Other design elements have important environmental, economic, and equity implications and are addressed by the Kyoto Protocol rules. These include:

- the stringency of emissions targets;
- the emissions monitoring and reporting system;
- the compliance system; and
- liability rules.

Although harmonization of these design elements is not absolutely essential in order to link trading systems, Kyoto Protocol parties would probably, as a political matter, require compatible rules as a precondition of recognizing allowances or credits generated by the climate policy of a non-party such as the United States.

Still other elements are not coordinated under the Kyoto trading rules and therefore do not appear essential to coordinate in order to gain agreement to link a non-party's trading system with Kyoto. These include:

- the point of regulation (upstream/downstream);
- the method of distributing domestic emission allowances; and
- coverage with respect to gases and sectors (although since coverage has important equity implications, some countries may attempt to coordinate coverage as a condition for linkage).

## A Common Tradable Commodity

The Kyoto Protocol rules define four tradable commodities:

- assigned amount units (AAUs) created by an Annex B party's target;
- emission reduction units (ERUs) created by a JI project in an Annex B party;
- certified emission reduction units (CERs) created by a CDM project in a developing country party; and
- removal units (RMUs) created by an Article 3.3 or 3.4 sink activity in an Annex B party.

Although these commodities are not fully interchangeable<sup>8</sup>, they are defined in the same way, as permits that allow emission of one ton of CO<sub>2</sub>-equivalent gases.

To link with the international trading system, a national trading system would need to define the same tradable commodity as Kyoto – i.e., a permit allowing emission of a ton of CO<sub>2</sub>-equivalent greenhouse gases. A variety of national climate policies could, in theory, create a tradable commodity that could be recognized under Kyoto:

- A national cap-and-trade system would create a tradable commodity in the same manner as Kyoto's Annex B targets – i.e., by means of an overall national emissions budget.
- A tradable commodity could also be created by emission reduction projects (as under JI or CDM) or through other climate policies that reduce emissions from sources or increase removals by sinks from an agreed baseline such as business-as-usual.

## **An Inter-Linked System For Tracking Trades**

The Kyoto rules require parties to establish inter-linked national registries to track assigned amounts, including transfers and acquisitions of AAUs, ERUs, CERs and RMUs through international emissions trading. The rules set forth detailed requirements for these national registries to ensure their compatibility.

For a U.S. national trading system to interact with the international system, it would need a compatible national registry that could be formally or informally linked to the registries of Kyoto Protocol parties.

## **Comparably Stringent Emissions Targets**

In theory, Kyoto parties could decide to amend the Protocol to allow JI - type projects in the United States as a means of encouraging more climate-friendly practices in the United States and enticing the United States into the international system. Under this approach, credits would result from emission reductions from a business-as-usual baseline, rather than from a mandatory emissions target of the type contained in Kyoto Annex B.

However, it is unlikely that the European Union, as a political matter, would be willing to recognize U.S. credits unless they resulted from a mandatory emissions target. Although any reduction in emissions from business-as-usual could be viewed as promoting environmental integrity (by leading to greater total emission reductions), equity and competitiveness concerns will likely motivate Kyoto parties to examine closely the stringency of the U.S. national emissions target in deciding whether to recognize U.S. emissions permits.

Apart from its stringency, Kyoto parties would also weigh the form of any U.S. target. Kyoto establishes absolute targets mandating specified reductions from a defined emissions baseline. Kyoto parties may be reluctant to recognize permits from a system that uses a different type of target – for instance, a greenhouse gas intensity target, which limits emissions relative to an indicator such as gross domestic product. Parties also may be reluctant to link to a system with a “safety valve,” which limits permit prices in order to cap overall compliance costs, because that would in effect create a safety valve for the entire Kyoto system.

## **A Reliable GHG Emissions Monitoring and Reporting System**

The Kyoto Protocol requires that each Annex B party have a "national system" to estimate its emissions of greenhouse gases (Article 5.1) and submit annual emissions inventories. The rules set forth detailed guidelines for these national systems and inventories. The rules also provide that, if a country does not have an adequate national system or does not submit a satisfactory report on its emissions inventory (as determined by the Compliance Committee on the advice of an expert review team), the country would lose its eligibility to use the Kyoto mechanisms, including emissions trading.

If trading with non-parties were eventually allowed under Kyoto, a non-party would presumably be required to have a comparable national system and inventory in order to be eligible to sell its permits into the Kyoto trading system.

## **A Credible Compliance System**

Although Kyoto does not impose specific requirements for national compliance systems, the Kyoto rules set forth detailed procedures and mechanisms for an international compliance system. One purpose of this international compliance system is to help ensure the integrity of the trading system by deterring overselling. At the Marrakech meeting, the parties decided to defer until the first COP/MOP the issue of whether this compliance system will include legally binding consequences.

Before allowing purchases from a non-party, the Kyoto parties would almost certainly require that the non-party demonstrate that it has a credible compliance system, which ensures that emission allowances sold by its firms represent surplus emission reductions that the firms will not need for compliance with their domestic targets.

## **Compatible Liability Rules**

It would be difficult (although perhaps not impossible) to integrate trading systems with different liability rules. For example, if the Kyoto system had a system of buyer liability but the United States followed seller liability, then in the event of overselling by an EU country to the United States, Kyoto would hold the U.S. buyer liable and rescind the transaction, while the United States would view the EU country as liable.

As a practical matter, however, this issue is unlikely to arise, since the Kyoto rules and the various national trading programs that have been adopted or are under consideration all provide for seller liability (in the case of the Kyoto rules, with restrictions on selling via the commitment period reserve).

## **Comparable Standards for Generating Credits**

The Kyoto Protocol sets forth two mechanisms for generating credits that can be used to offset emissions above a party's Annex B target: (a) sink activities under Articles 3.3 and 3.4; and (b) emission reduction projects in developing countries under the CDM.

If the national climate policy of a non-party allowed companies to generate credits – for example, through sink projects or emission reduction projects in developing countries – then this crediting system would need to be roughly comparable to the Kyoto system (for example, with respect to accounting modalities, baselines, monitoring and review), in order to provide an assurance to Kyoto parties that the credits represent real emission reductions and do not undermine the integrity of the non-party's emissions reduction target. If the United States sought to compete with Kyoto by developing a more streamlined, less bureaucratic CDM process, then Kyoto parties – whether justified or not – might refuse to recognize the resulting credits on the grounds that the U.S. program lacked the safeguards necessary to ensure the credits' integrity.

Kyoto parties might also refuse to allow linkage with a national system that allowed credits to be generated from emission reduction projects that are now ineligible for credit under Kyoto (for example, forest conservation and nuclear energy). Even if each credit included a notation identifying its source, this might not satisfy Kyoto parties. Although Kyoto parties could then limit their recognition of non-party credits to those generated by Kyoto-eligible projects (for example, afforestation projects, but not nuclear or forest conservation projects), given the fungibility of permits, sellers could simply exchange ineligible credits for other types of permits that are allowed under Kyoto, thus effectively circumventing Kyoto's project restrictions.

## Other Design Elements

With respect to other design elements, the Kyoto Protocol gives countries flexibility. For example, the Kyoto rules allow countries to decide:

- Whether the **point of regulation** is upstream or downstream or some combination of the two (e.g., depending on the sector). An upstream trading system would apply to producers and importers of fossil fuels. In contrast, the proposed EU trading system would operate downstream, applying to large fixed-point emission sources, as would most of the national trading programs under consideration.
- The **method of distributing emission allowances** – for example, by means of auction or grandfathering. Most of the national trading programs appear likely to involve grandfathering, although a few countries are considering an auction system.
- **Coverage** with respect to gases and sectors. Countries may wish to limit a trading system in order to shield certain sectors for competitiveness reasons. The proposed EU trading scheme would apply initially only to carbon dioxide emissions from certain sectors, including electricity and heat production. Similarly, the UK trading system applies only to particular sectors and does not include transportation, household use, or electric utilities. In contrast, some economists advocate economy-wide trading systems on efficiency grounds.

Because the Kyoto Protocol trading system can accommodate different resolutions of these design issues, U.S. decisions on these issues would not preclude potential linkage with the international system. However, if differences in allocation and coverage raise competitiveness concerns (because they provide a benefit to particular industries or sectors), they could become a political factor in the decision by Kyoto Protocol parties about whether to permit linkage with a non-party trading system.

Design Issue	Relevance to Linkage with Kyoto
Mandatory vs. Voluntary Targets	Yes
Stringency and Form of Targets	Yes
Registry Requirements	Yes
Monitoring and Reporting Requirements	Yes
Compliance System	Yes
Crediting System for Sinks and Emission Reduction Projects	Yes
Scope of System (Economy-wide vs. Sectoral)	No
Who is Required to Hold Permits? (e.g. Upstream vs. Downstream System)	No
Method of Allocating Permits (Auction, Grandfathering, etc.)	No



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<sup>1</sup> The term “permits” is used to include both budget-based emission allowances (such as the assigned amount units [AAUs] created by the Kyoto Protocol) as well as project-based emission credits (such as emission reduction units [ERUs] resulting from joint implementation projects and certified emission reductions [CERs] resulting from CDM projects).

<sup>2</sup> Annex B to the Protocol defines the specific emissions reduction target of each developed country party to the Protocol.

<sup>3</sup> In determining the appropriate conversion rates between permits originating in different trading systems, private brokers would presumably take into account the kinds of factors considered below.

<sup>4</sup> Alternatively, the credits could be placed initially in a clearinghouse, as described above, to be used as “currency” by U.S. entities that wish to sell to the Kyoto system.

<sup>5</sup> The Kyoto Protocol emissions targets do not apply to emissions from aviation and marine “bunker” fuels. (Article 3.2) Instead, the COP has requested that the issue of emissions from bunker fuels be addressed through the relevant international organizations: ICAO for aviation and the International Maritime Organization (IMO) for maritime transport.

<sup>6</sup> The COP/MOP is the Conference of the Parties to the UN Framework Convention on Climate Change meeting as the Parties to the Kyoto Protocol. The first COP/MOP will be held in conjunction with the first COP after the Protocol enters into force.

<sup>7</sup> Although a superficial reading of Article 6.1 of the Kyoto Protocol might suggest that any state included in Annex I of the Convention may engage in joint implementation projects, this reading is incorrect, since the reference in Article 6.1 to “any party to Annex I” must be read in conjunction with Article 1.6, which defines the term “party” to mean a party to the Kyoto Protocol, not a party to the Framework Convention. The requirement that states participating in joint implementation projects must be party to the Kyoto Protocol is also implied by Article 3.12, which requires that emission reduction units be subtracted from the assigned amount of the transferring state, a condition that would be impossible for a non-party to satisfy, since it would not have any assigned amount from which the ERUs could be subtracted.

<sup>8</sup> AAUs are fully bankable, while CERs and ERUs are only partially bankable and RMUs cannot be banked at all.

