International Emissions Trading

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Despite doubts over whether the Kyoto Protocol will ultimately be adopted on a global basis, it has undeniably changed both public- and private-sector attitudes and policies about emissions reductions and the potential for trade of those reductions. The Kyoto Protocol is already impacting the global economy.

Because there is significant political will in many countries to implement the Kyoto Protocol—even if it is never ratified by the United States—it will have a profound impact on the production and consumption of energy around the world.

International companies—including power developers headquartered in the United States—will have to meet the requirements of host countries that have begun to promulgate laws and regulations focused on the Kyoto Protocol.

One of the impacts the Kyoto Protocol has had is the development of carbon trading schemes and carbon investment funds in many countries. For the most part, these markets are being developed as a reaction to the Kyoto Protocol and as a way to meet its standards. But on a country level, these markets differ from each other, and it will be important to understand those differences.

DEVELOPMENT OF TRADABLE INSTRUMENTS

To provide incentives for developing countries to participate in global emissions reductions without actually compelling them to participate, "flexible" mechanisms were built into the Kyoto Protocol. These mechanisms include joint implementation, the trading of emissions reduction units between parties, and the so-called Clean Development

Mechanism ("CDM").

The CDM is one of the most contentious areas of the Kyoto Protocol because it allows the parties, known as Annex B countries, to comply with their requirements to reduce greenhouse gas emissions indirectly by participating in projects that reduce such emissions in non-Annex B countries—that is, developing countries.

Emissions reductions obtained through CDM projects would be classified as certified emissions reductions ("CERS") and could be applied towards an Annex B country's emissions reduction commitment and/or traded in a market based system.

The proportion of a country's emissions reduction commitments that could be satisfied through the use of CDM projects has not yet been decided. There is a fear that if too much reliance on CDM projects were allowed, developed countries would be able to avoid regulating their domestic industries. Some countries, such as France and Germany, see domestic regulation of the industry as one of the goals of the Kyoto Protocol.

The European Union ("EU") is seeking to establish a limit on how much of the allocation of emission rights can be satisfied by overseas reductions and favors a requirement that at least one half of a country's emissions reductions be achieved through domestic action. The United States has resisted setting such limits.

Still, there is wide support for allowing the trading of CERs among private and public entities as well as between governments. Based on the costs of emissions reductions required by compliance with the Kyoto Protocol, the market for CERs is estimated to be in the range of $3 billion to $16 billion.

While some parties remain skeptical that a CERs market will ever develop, the balance of opinion is in favor of trading CERs generated by CDM projects. The nature of the contract behind the instrument to be traded has yet to be determined. It is likely that it will be a form of derivative instrument such as options and/or futures.

Funds such as the Global Carbon Initiative of the World Bank are already developing prototype CERs instruments. The United Nations trade and development body has established the International Emissions Trading Association with the intention of developing full emissions trading back-up services, including Internet trades and certification. The International Petroleum Exchange in London is also establishing an emissions trading center.

BP/Amoco and Shell have developed internal mechanisms for emissions trading among their international divisions. Other smaller commercial enterprises such as the Environment Exchange—a U.K./Swedish partnership that recently opened in London to provide services to assist industry in complying with packaging waste regulations—have also expressed their intention to participate in the emissions trading market in the future.

The EU is considering guidelines on how emissions trading schemes should be set up in order to avoid market distortion. Both national and industry-based pilot schemes are expected to be developed over the next year. Many member states have not addressed this issue; however, the United Kingdom and Scandinavian countries are fairly advanced in their development.

In order for the market in CERs to be successful, a strong regulatory framework will need to be established and vigorously enforced to ensure a continued willingness to invest in certified or potentially certifiable projects. Although there are a number of uncertainties inherent in tradable CERs, a well-grounded market could either discount them, as it does with other negotiable instruments, or require guarantees or insurance to be provided by the CERs generator to offset the risks.

The tradability of CERs would allow project sponsors to benefit from sustainable development on two levels. First, through the project itself, which would generate revenues in the normal way; second, through the sale of the resultant CERs.

REGIONAL DEVELOPMENTS IN EMISSIONS TRADING

The United States, the United Kingdom, and Australia have emerged as key jurisdictions in the development of tradable CERs instruments to implement the Kyoto Protocol. Developments in these regions are being carefully observed by other jurisdictions intending to develop their own emissions trading markets.

United States

There has been considerable disagreement within the United States as to whether or not to ratify the Kyoto Protocol. In spite of that, the

United States is developing some initiatives to reduce greenhouse gases ("GHG"). For example, legislation has been introduced that would provide tax incentives for research and development into technologies intended to reduce or sequester GHGs.

Legislation has also been introduced that would provide credits for companies that reduce GHG emissions before they are legally obliged to do so. These credits could then be used against any future obligation to reduce GHG emissions, the idea being to encourage companies to take early action.

While the United States has not yet established a clear regulatory framework for the trade of GHG emission reduction credits, it has established pioneer frameworks for emissions trading, both at the federal and at state levels, in particular relating to efforts to deal with sulfur dioxide (SO_2) and nitrogen oxides.

As of this year, practically all electric utility units will be required to significantly reduce their SO_2 emissions. The scheme awards emission allowances of one ton of SO_2 per year to all affected sources. These allowances must cover actual emissions in the specific year.

Failure to have sufficient allowances results in penalties. The allowances are bankable and tradable, thus permitting affected companies to purchase and sell them according to their expected and actual emissions. The program is generally viewed worldwide as very successful; it achieved 100 percent compliance with SO_2 emission reduction requirements.

Other significant emission trading programs in the U.S. include the Regional Clear Air Incentives Market in California (which provides for regional trading in NO_x, volatile organic compounds, SO_x, particulate matter, and carbon monoxide) and the Ozone Transport Commission's NO_x trading scheme in 12 Northeastern states.

The Northeast States for Coordinated Air Use Management ("NESCAUM") has begun tabulating GHG emissions reductions achieved by utilities and industries in the Northeast region in order to develop a means of validating credits that could be used by the utilities and industries concerned against any future obligation to reduce emissions. The NESCAUM report indicates that the efforts undertaken so far have reduced emissions by nearly 2 million tons of cot equivalent and are expected to achieve a further reduction of 1.8 million tons by 2007.

The Greenhouse Gas Emission Trading Pilot ("GERT") was established in 1998 to provide a pilot trading scheme for use by government

and industry under which the emissions reductions achieved are reviewed by GERT to ensure they are measurable and verifiable. This scheme was originally due to be completed on December 31, 1999, but has recently been extended to December 31, 2001.

United Kingdom

The United Kingdom could produce the first fully developed carbon emission reduction trading system. Of particular significance is the emissions reductions trading pioneered by the Emissions Trading Group ("ETG").

The group's aim is to establish by April 2001 a U.K. trading market, whose CERs can be traded in any international market that emerges from the Kyoto Protocol. The participants in the trading system are intended to be U.K. companies, including U.K. subsidiaries of multinationals.

Companies will be given permits to emit a certain level of GHG. Each permit grants the right to emit one ton of CO_2 equivalent in a specific year. To the extent that they produce less than the permitted levels of GHG, the surplus permits may either be banked or sold to companies that have exceeded their permitted GHG emission allowance—much like the U.S. SO_2 trading regime.

Similarly, participants with specific emissions-saving projects will be allowed to sell the emissions reductions achieved, effectively in the form of permits to the companies who have exceeded their targets. Permits will be issued by the Emissions Trading Authority, not yet formally established but intended to be a regulated nonprofit organization.

The ETG has recognized that a strong compliance regime will be essential to the success of the trading scheme with equality of treatment between participants, and with penalties for noncompliance that are proportional to the extent of the noncompliance. It proposes that the penalties be imposed by the U.K. government but recommended by the authority. An example of a penalty that has been suggested is the enforced purchase at a premium of sufficient permits to make up the company's deficit.

The emissions trading scheme will have to be closely integrated with the provisions of a European Directive on integrated pollution, prevention, and control ("IPPC") being implemented in the United Kingdom under the Pollution Prevention and Control Bill.

Industrial installations involved in activities that affect air, water, or land will require an IPPC permit, and factors such as energy efficiency and control of waste will be integral to the grant of the permits. Special consideration will be given to the need to prevent or reduce environmental impact of emissions.

The ETG has recommended that the IPPC permitting scheme allow emissions reductions to be made either at the installation requiring the permit or by a negotiated agreement or by trading, in order to protect the liquidity of the emissions trading market.

The U.K. government also plans to impose a Climate Change Levy—effectively, an energy tax on U.K. companies. Like the emissions trading scheme, the levy is due to come into force in April 2001. The levy will be charged on energy supplied to industrial and commercial users and will be applied as a specific rate per nominal unit of energy.

In his November 1999 budget speech, the Chancellor of the Exchequer stated that the government intended this levy to be revenue neutral—at the same time as the levy is imposed, the business' National Insurance contributions are reduced. Of course, if a company is energy-intensive but has few employees, achieving this neutrality will be difficult.

A further proposal to encourage U.K. companies to reduce their GHG emission is the negotiation of agreements with energy-intensive industries to enter into binding commitments to reduce emissions in exchange for reductions in the levy's rate. Those companies entering into such commitments could then be entitled to participate in the Emissions Trading Scheme.

Australia

Australia's approach at Kyoto singled it out as one of the few countries unwilling to commit to a full reduction of its national GHG emission levels. However, Australia has now emerged as a leader in implementing measures and initiatives to reduce its national emissions, particularly in the private sector.

The Australian government has concluded a year-long review of a national emissions trading market—including GHG emissions, sectors of the economy to be covered, the issue of permits, the creation of credits, and market design. The Australian Greenhouse Office will then develop a model in accordance with the international frameworks that are being developed. The Australian government has also established a Renewable Energy Equity fund for investment in renewable energy

projects as well as pushed a range of voluntary initiatives aimed at encouraging corporations to reduce their GHG emission levels.

At the legislative level, the Australian government is in the process of finalizing the introduction of a national efficiency standard for power generation under which power companies will enter into a contract with the government to ensure a reduction in the GHG intensity of energy supply generation.

This measure will be combined with mandatory targets for updating renewable energy whereby all electricity retailers and other large buyers will be legally required to source an additional 2 percent of electricity from renewable or specified waste-product energy sources by 2010 (including sourcing through direct investment in alternative sources such as solar water heaters).

As part of this latter initiative, renewable energy certificates can be acquired from the renewable energy generator and then traded in a separate distinct market under the control of a dedicated regulator. The Australian government is considering the inclusion of a GHG trigger within its new environmental assessment processes. It would require any new projects to demonstrate that they do not have a significant impact in terms of GHG emissions.

In addition, measures to reduce GHG emission levels have also been introduced at the state level, especially within electricity markets. Both New South Wales and South Australia have imposed legally binding license conditions on electricity retailers and distributors that require them to limit growth in emissions levels and to develop strategies to reduce energy demand. New South Wales, some four years ago, also established the Sustainable Energy Development Authority solely for investment in renewable energy.

Most significant, however, New South Wales passed the Carbon Rights Legislation Amendment Act 1998, which gives legal recognition to the ownership of, and trade in, carbon sequestration rights from forests. This legislation was aimed at directly facilitating the launch in August 1999 of the world's first exchange-traded market for carbon sequestration credits by the Sydney Futures Exchange and State Forests of New South Wales.

Each credit unit will be electronically serialized and denominated in one metric ton of CO_2 equivalent. The intention is to have buyers purchase credits as a hedge in a future emissions trading market or bundle them with product sales to create emission-free products.

The combination of these national and state government initiatives puts Australia among the first countries in the development of some form of carbon emissions trading system. While the final system remains undeveloped, many private companies have already engaged in private trades.

For example, a number of Australian forestry companies have sold credits to buyers that include local power producers Delta and Pacific Power and Japan's Tokyo Electric Power Company. And the extent to which such credits will have any value within the local or overseas market for which they have been purchased remains to be seen.

Nonetheless, it is clear that where certified credits have been generated, there is a strong market of potential purchasers. Furthermore, where the potential for credits to be created in the future exists as a result of new projects, participants are ensuring that appropriate contractual provisions are in place to secure the ownership of such credits.

European Union

The member states of the European Union ("EU") plan to implement the Kyoto Protocol jointly. A burden-sharing agreement will be reached and guidelines set on implementation measures such as energy taxes and other regulatory issues.

However, the EU environment commissioner has warned that unless the EU reaches agreement on issues such as a European energy tax, it risks being unable to reach its emissions reduction targets. The commissioner has identified climate change as one of her "key priorities" and is drawing up a program that is due to be released in the near future.

Furthermore the EU has agreed to provide $77.5 million for the Altener program (which promotes renewable energy use) and $66.4 million to the SAVE program (designed to stimulate energy efficiency and conservation by domestic and industrial energy users).

The European electricity industry has taken the first steps towards a voluntary reduction program. The program will be open to electricity companies in Central and Eastern Europe as well as those in the EU. This program was set up despite the predictions of Eurelectric, the European industry body, that emissions could be only reduced by 1.5 percent below their 1990 levels by 2010 due to the increasing demand for electricity in Europe.

In the United Kingdom the 10 most energy-intensive industries have agreed to energy-efficiency targets set by the government—a re-

duction in carbon emissions of 2.5 million tons over the next 10 years. The agreement to reduce carbon emissions was reached in exchange for the industries receiving an 80 percent reduction in the UK's climate change levy.

Germany

In the EU, Germany is one of the leaders in developing mechanisms for GHG emission reductions and has seen a significant reduction in annual CO_2 emissions in recent years. Between 1990 and 1998 CO_2 emissions were reduced by 13 percent. In an ambitious effort, Germany undertook to reduce emissions by 21 percent for 2008-12 from 1990 levels.

In the mid-1990s, the country published a detailed list of 150 actions to be undertaken to reduce GHG emissions. These actions include such instruments as regulations demanding increases in energy efficiency in buildings, industrial processes, and automobiles; incentives to use renewable energies; increases in energy taxes; and voluntary efforts to conserve energy by industry and public entities.

Many of these instruments have since been implemented. In 1996, for example, several key German industry associations voluntarily committed to reduce CO_2 emissions by 20 percent by 2005. These industry efforts are independently monitored.

In 1999, Germany instituted "ecological tax" reform that increases the taxation of gasoline and provides further incentives for CO_2 emissions. But Germany has not implemented a national emission-trading regime and does not plan to do so in the near future.

The government appears to be skeptical that an appropriate trading regime for GHG emission reductions can be developed given the complexity the underlying problems and the limited international experience with emission trading. The recent announcement that the German government has established the elimination of all of the country's nuclear plants will place greater pressure on efforts to achieve the aggressive emissions goals.

PRIVATE INITIATIVES

General Motors, British Petroleum, and Monsanto have entered into an agreement with the World Resources Institute to monitor voluntarily their corporate CO_2 emissions. BP Amoco, in addition to its trad-

ing scheme across its business units, has set itself a target of cutting its GHQ emissions by 10 percent from 1990 levels by 2010. The reduction will be achieved by the use of new technology, energy efficiency, and elimination of flaring from oil and gas fields.

BP and Statoil, the largest integrated oil companies in Britain and Norway, have agreed to pool their technical resources. Together they will evaluate and implement ways of reducing their energy consumption and investigate new ways of safely disposing of CO_2. One of the major activities will be developing technology to separate CO_2 from gas turbine exhausts.

In an agreement with the Pew Center on Global Climate Change, 20 major U.S. companies: Air Products and Chemicals, American Electric Power, Baxter International, Boeing, BP America, CH2M HILL, DuPont, Enron, Holnam, Intercontinental Energy, Lockheed Martin, Maytag, The Sun Company, 3M, Toyota, United Technologies, PGE Generating, Weyerhaeuser, and Whirlpool, have agreed to promote actions to address GHG reductions. The Pew Center, one of the largest philanthropic groups United States, is conducting studies, launching public education efforts, and working with businesses to develop marketplace solutions to reduce GHG.

COMMERCIAL REALITY

Although the initial commitment to reduce GHQ emissions is a result of the Kyoto Protocol, the continued momentum for reductions in GHG emissions is to a large extent being generated by initiatives taken by the private sector, who appear to see emissions reduction not only as a matter of public policy, but also as a commercial investment opportunity.

As with many such opportunities, companies see early participation in the development of national and international trading systems as a key factor in ensuring the credibility of the markets that are being created.

The increasing refinement of the CDM criteria and the developing national emission trading markets could make an international trading market a commercial reality irrespective of whether the Kyoto Protocol ever becomes effective.

ABOUT THE AUTHOR

Jonathan W. Gottlieb is a partner in the Washington, DC office of Baker & McKenzie. Mr. Gottlieb's practice focuses on domestic and international energy project development and competitive market matters, representing utilities, utility subsidiaries, power marketers, industrial, mining, and paper companies, and independent power developers. Mr. Gottlieb has represented clients in the development, acquisition, or sale of almost 10,000 MW of electric generating facilities in the United States and 17 foreign countries. Mr. Gottlieb provides counsel to clients on project development issues, including construction, financing, licensing, and fuel contracting. He also provides strategic counsel regarding competitive utility markets, developing and monetizing industrial assets, and industry and corporate restructuring. He has been responsible for obtaining several of the leading precedents in the implementation of the EWG provisions of the Energy Policy Act of 1992, as well as precedents establishing power marketing affiliates for registered utility holding companies.

Mr. Gottlieb was formerly with the Office of the General Counsel of the Federal Energy Regulatory Commission, where he served as a trial and an advisory attorney. While with the FERC, Mr. Gottlieb was responsible for managing novel and complex issues including international trade, open access, take-or-pay, pipeline service discrimination, and corporate reorganization of regulated utility companies.

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