Tax Issues Relating to Trading In Carbon Emissions Rights

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As part of global efforts to reduce emissions of greenhouse gasses, several governments either have already adopted or are considering adopting a system of tradable permits for carbon dioxide emissions, and many observers anticipate Congress will give serious consideration to adopting a similar system in the United States. "Green trading" in carbon dioxide emissions rights or other environmental attributes poses significant technical tax issues both for U.S. taxpayers who participate in existing programs and for policymakers contemplating the design of a U.S.-based trading system. This report describes the developing spectrum of green tradables and outlines some of the most significant tax issues that should be addressed both to facilitate existing trading systems and to ensure that tax concerns do not impede the environmental policy objectives of proposed trading systems.

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In recent years, there has been increased global attention to the issues presented by climate change. As part of the effort to reduce emissions of greenhouse gasses (GhG), several governments either have already adopted or are considering adopting a system of tradable permits for carbon dioxide emissions, frequently known as "cap-and-trade" or "carbon trading." Because President-elect Obama and most key members of the Democratic Congressional leadership team now publicly support cap-and-trade legislation, many observers anticipate Congress will give serious consideration to such legislation in 2009.

While the science and environmental policy behind carbon trading have been hotly debated, few policymakers have focused on the technical tax issues presented by existing environmental trading systems or the need to consider tax issues when designing carbon trading or other green trading systems for potential future implementation.[1] The discussion below seeks to highlight a number of tax issues that must be resolved to ensure that

[1]As an alternative to cap-and-trade programs, many economists have recommended implementing a direct tax on carbon emissions or fuels that contain carbon, arguing that a tax can achieve comparable environmental outcomes while providing greater stability in the "carbon price" than a trading system does. Several European countries and two Canadian provinces have implemented carbon taxes. *See* Carbon Tax Act of 2008, Statutes of British Columbia, Chapter 40 (May 29, 2008); Sidhartha Banerjee, "Quebec Starts Green Tax," *The Toronto Star* (Oct. 2, 2007); EPA National Center for Environmental Economics, "Economic Incentives for Pollution Control," *available at* http://yosemite.epa.gov/ee/epa/eed.nsf/Webpages/EconomicIncentivesPollutionControl.html (summarizing carbon taxes imposed in Finland, Denmark, the Netherlands, Norway, Poland, and Sweden).

tax issues do not impede or distort the environmental policies underlying either existing or proposed cap-and-trade systems.[2]

I. Origins of 'Cap-and-Trade'

Carbon credits are only one portion of an emerging spectrum of ''green tradables,'' and, indeed, they are not even the first such instrument. By putting a market price on pollution emissions or other environmental harm, ''green trading'' schemes aim to force market participants to factor into private decision-making costs that previously were passed off to society as economic externalities.

Under the Clean Air Act Amendments of 1991, the Environmental Protection Agency (EPA) developed a program of tradable permits for sulfur dioxide (SOx) and nitrogen oxide (NOx) intended to control acid rain pollution. Effective in 1995, the Acid Rain Program created a number of air basins in which overall emissions of SOx and NOx were subject to a regulatory cap. The EPA issues allowances to utilities within each air basin to emit a certain number of tons of SOx or NOx. Those allowances may be traded, with the intention of minimizing the private sector cost of achieving emissions reduction targets.

Example: Utility A and Utility B both operate in the Los Angeles air basin. Utility A can reduce its SOx emissions at a cost of $80 per ton. Utility B also can reduce its SOx emissions, but at a cost of $120 per ton. Under traditional ''command and control'' regulation, if Utility A and Utility B each were required to reduce emissions by a ton, the aggregate cost of compliance would be $200. Under the Acid Rain trading program, it is possible for Utility A to reduce its emissions by two tons and sell its excess allowance to Utility B. In this case, the aggregate cost of compliance would be reduced by 20 percent to $160.

The cap-and-trade mechanism in the Acid Rain Program is widely regarded as successful in reducing the costs of pollution control. In fact, the Government Accountability Office has estimated that cost of pollution control under the Acid Rain Program was cut in half by using a trading mechanism rather than command and control regulation.[3]

II. Greenhouse Gas Reduction Efforts

In 1992, 166 nations signed the United Nations Framework Convention on Climate Change (UNFCCC) with the stated objective of stabilizing greenhouse gas concentrations in the atmosphere at a level that would prevent ''dangerous anthropogenic interference'' with the climate system.[4] The UNFCCC was the first international treaty to focus on the harmful environmental effects of GhGs, including carbon dioxide (CO_2). Binding limits on GhG emissions were adopted in the Kyoto Protocol to the UNFCCC. As of October 16, 2008, 182 countries have ratified or otherwise adopted the Kyoto Protocol. Of the initial signatories, only the United States and Kazakhstan have not yet ratified the protocol.[5]

The Kyoto Protocol entered into force on February 16, 2005, and its first binding commitment period for GhG reductions started on January 1, 2008, and ends on December 31, 2012. It is the first multilateral agreement to impose binding obligations on certain ratifying countries to limit (and, in most instances, actually reduce) their GhG emissions. The Kyoto Protocol covers emissions of six GhGs — CO_2, methane, nitrous oxide, hyrdofluorocarbons, perfluorocarbons, and sulfur hexafluoride — and establishes reduction commitments for each.

The Kyoto Protocol distinguishes between ''Annex I'' parties (typically, developed nations) and other parties (typically, developing nations). Under the Kyoto Protocol, Annex I signatories have agreed to binding reduction targets for GhGs that generally are intended to reduce emissions so that by 2012 their annual emissions are no more than 95 percent of those emissions in 1990. In contrast, other parties do not face binding GhG reduction targets but may be incentivized to participate in the UN's ''Clean Development Mechanism'' (as described in more detail below).

The Kyoto Protocol effectively fixes the amounts of GhGs to be emitted by each Annex I party between 2008 and 2012. Although the Kyoto Protocol covers six GhGs, measurement and trading is based on metric tons of CO_2-equivalent emissions. The Kyoto Protocol contemplates that these national allocations of ''assigned allowance units'' will be suballocated by each ratifying Annex I country to private businesses operating within its borders in certain economic sectors, including agriculture, utilities, manufacturing, energy, and transportation. A private business that has been allocated or otherwise obtained emissions units (for example, through trading) must surrender units to the relevant national government agency for cancellation in amounts equal to its emissions. A private emitter's failure to meet required emissions levels is expected to result in a fine for the amount of pollution emitted in excess of the emissions credits the party surrenders.

Additional units can be created through three mechanisms. Removal units are created by actions of Annex I governments, such as reforestation projects, and cannot be traded in private markets. Emission reduction units (ERUs) are created through ''Joint Implementation'' (JI) projects that either reduce or absorb GhG emissions in Annex I countries. Certified emission reduction units

[2]For an overview of those issues from an academic commentator, see Jonathan R. Nash, ''Taxes and the Success of Non-Tax Market-Based Environmental Regulatory Regimes,'' University of Chicago John M. Olin Law & Economics Working Paper No. 412 (2d Series) (July 2008).

[3]*See, e.g.*, General Accounting Office, ''Overview and Issues on Emissions Allowance Trading Programs,'' GAO/T-RCED-97-183 (July 1997). This agency has been renamed the Government Accountability Office.

[4]United Nations Framework Convention on Climate Change, Article 2 (New York, May 9, 1992).

[5]For a complete list of signatories to the Kyoto Protocol, including both Annex I and non-Annex I countries, see http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php.

(CERs) are issued only in connection with a Clean Development Mechanism (CDM) project under which an Annex I party finances activities of non-Annex I parties. CDM projects typically are financed by private parties in countries such as China, India, and Vietnam; the CERs generated in those projects can be used to meet a portion of a company's compliance obligations in an Annex I country. JI projects are similar but typically take place in Eastern European countries.

The Kyoto Protocol specifically allows a signatory country to transfer or acquire emissions credits from another signatory country.[6] Thus, Annex I parties can meet their emissions reductions requirements by obtaining additional emissions rights through (1) emissions trading by countries or private sector emitters that determine it is more cost-effective to purchase additional rights to emit GhGs rather than to reduce emissions by modifying behavior, (2) financing CDM projects, or (3) financing JI projects.

The Marrakesh Accords, adopted in 2001, established three registries that are required to log trading in emissions allowances.[7] The registries operate at the following levels: (1) each Annex I party is required to establish a registry at the national level that tracks units held by the Annex I party as well as those held by private parties; (2) a registry that is maintained by the United Nations regarding the issuance and distribution of CERs in connection with CDM projects; and (3) the International Transactions Log, which is to be maintained by the UNFCCC once finalized, and will trace the issuance, cancellation, or registration of Kyoto emissions allowances in any registry, as well as the acquisition or transfer of those units between registries.

III. Carbon Trading Programs

In response to the Kyoto Protocol, a market for carbon emissions rights (carbon credits) has developed under a number of programs sponsored by national governments and arising out of voluntary efforts to reduce GhG emissions. Increasingly, U.S.-based corporations and investment funds are trading both in the European markets and in parallel U.S. markets in five major types of carbon credits (see table in next column).

Existing Types of Carbon Credits	
EUAs	Issued or auctioned by EU governments to EU-resident GhG emitters.
CERs	Created by implementation of GhG reduction initiatives in developing countries and certified by the UN.
ERUs	Similar to CERs but created under a different Kyoto Protocol program.
VERs	Created through the implementation of GhG reduction initiatives and "certified" by a non-governmental standard setter; *not* usable to meet regulatory requirements.
RGGI	Credits issued by consortium of U.S. Northeastern and mid-Atlantic states under a mandatory carbon cap-and-trade program for utilities.

A. European Union Allowances

The European Union decided to meet its obligations under the Kyoto Protocol collectively, and, in fact, "early adopted" emissions trading with the implementation of its Emissions Trading Scheme (EU-ETS) between 2005 and 2007.[8] The EU-ETS is an EU-wide cap-and-trade program that requires each member state to adopt a national allocation plan for distributing its allocation of European Union allowances (EUAs) among all businesses in some industries operating within its borders. Like their counterparts under the Kyoto Protocol, EUAs can be viewed as a permit, right, or allowance to emit, free of penalty, one ton of CO_2 or its equivalent.

During Phase I, approximately 12,000 utilities and large industrial GhG emitters were granted by each EU member state an initial allocation of specific rights to emit EUAs based on prior emissions and governmental pollution reduction goals. In Phase II of the EU-ETS, which began in 2008, GhG emitters in some industries were required to bid for EUAs at auction, and the overall cap on EUAs has been reduced.[9] In other significant respects, however, the EU-ETS trading mechanism is expected to remain unchanged until the currently slated expiration of the Kyoto Protocol in 2012.

The EU-ETS is backstopped with a penalty tax on the extent the measured emissions of a regulated emitter exceed its EUAs. In Phase I, the penalty tax for each ton of CO_2 or its equivalent emitted without a corresponding surrender of an EUA was €40; in Phase II, the penalty tax is €100 per ton of excess emissions.

The EU-ETS contemplates that a regulated business may avoid penalties either by engaging in the reduction of emissions to an amount not exceeding its allotment of EUAs, or by purchasing (directly or indirectly) additional allowances from other regulated businesses that have excess allowances or financial intermediaries (brokers and investors). Thus, if a regulated business is able to abate its own pollution and has excess EUAs as a result, it may sell any surplus EUAs to another person. The EU-ETS contemplates and permits such trading.

When the market price for EUAs is higher than the cost of pollution reduction, a regulated business may be expected to incur the cost of abating its emissions, and recouping the same with a profit, by selling its resulting surplus of EUAs. Conversely, where the cost of abating emissions for a particular business exceeds the market price of EUAs, that business may be expected to forgo abatement, and instead simply incur the cost of purchasing additional EUAs as necessary to negate the imposition of a fine. To avoid the imposition of a fine, a

[6]Kyoto Protocol, Article 6(1).

[7]The full text of the Marrakesh Accords may be found on the UNFCCC's Web site *available at* http://unfccc.int/cop7/documents/accords_draft.pdf.

[8]*See* http://ec.europa.eu/environment/climat/emission/emission_plans.htm.

[9]*See generally* http://ec.europa.eu/environment/climat/emission/2nd_phase_ep.htm. In implementing Phase II, the EU Commission has exercised its authority to reduce national caps proposed by member states.

regulated business must surrender EUAs representing the amount of its measured emissions for the relevant period. The imposition of fines and the possibility that some emitters may be able to abate their level of emissions at a lower marginal cost than the per-ton level of fines has led to active trading in EUAs.

B. Credits From Developing Countries

Although developing countries have no binding GhG emission reduction targets under the Kyoto Protocol, they may participate in the CDM under which governments and companies in developed countries help finance GhG emissions reduction projects that can be certified as achieving measured levels of emissions reductions (CERs). Another of the Protocol's flexible mechanisms involves JI programs, typically in Eastern Europe, that can be issued certificates for successful implementations (known as ERUs).

Importantly, CERs and ERUs may be used to meet a specified percentage of an EU emitter's need for carbon credits and also may be used in other non-EU jurisdictions. (Although this percentage varies, it typically falls between 10 percent and 15 percent in most EU member states.) This creates an opportunity for EU GhG emitters to import credits associated with developing country projects and provides financial incentives for both GhG emitters and third-party project developers to manage and fund CDM projects.

C. Verified Emissions Reductions

Projects that are not certified by either the EU or the UN may meet the certification criteria set by some nongovernmental organizations as verified emissions reductions (VERs). However, VERs cannot be used to meet compliance obligations outlined in the Kyoto Protocol or the EU-ETS.

There is no official registry system for VERs to track ownership, but there are new initiatives to establish such a system. Also, a wide variety of organizations either have, or are currently developing, standards for the issuance of VERs. For example, ''voluntary carbon units'' (VCUs) certified under the International Emissions Trading Association's Voluntary Carbon Standard[10] have emerged as a market standard for trading in VERs. Another emerging standard is the WWF's Gold Standard.[11] If a project fulfils the requirements of a particular standard setter, a certificate may be granted.

For current participants in the VER market, the primary economic motivations appear to be either an intangible benefit to their corporate images as taking action to address environmental issues (that is, achieving carbon neutrality) or an anticipation that current participants in the voluntary markets may be rewarded with allocations of carbon credits in an eventual U.S. cap-and-trade system (''precompliance'' investors).

D. Regional Greenhouse Gas Initiative

On September 25, 2008, the first U.S. auction of carbon emissions rights was conducted by the Regional Greenhouse Gas Initiative (RGGI). Under RGGI, utilities in 10 Northeastern and mid-Atlantic states will be required to submit allowances sufficient to cover their CO_2 emissions beginning in 2009.[12] The September RGGI auction raised a total of $38.5 million for the participating states, as 59 bidders participated in the auction.[13] RGGI reports that approximately 80 percent of the bidders at the September auction were ''compliance entities,'' that is, utilities and other facilities subject to RGGI compliance requirements and that demand for allowances exceeded the auctioned supply by a ratio of four-to-one.[14]

Numerous other programs are under development at the state, regional, and international levels. Of particular interest to U.S.-based companies, California's Global Warming Solutions Act of 2006 (also known as ''Assembly Bill 32'' or ''AB 32'') permits California's Air Resources Board (CARB) to adopt a mandatory, statewide cap-and-trade system for CO_2.[15] In October, 2008, CARB issued a report outlining its scoping plan for implementing AB 32, including adoption of a cap-and-trade system that would begin in 2012.[16] That system would be integrated with the broader Western Climate Initiative that also is scheduled to launch in 2012.[17] Similarly, the Midwestern Greenhouse Gas Reduction Accord calls for the establishment of a regional cap-and-trade program in several Midwestern states and Canadian provinces.[18]

At the national level, New Zealand is in the process of implementing a mandatory cap-and-trade system for CO_2, and Australia plans to adopt a similar system beginning in 2010.[19]

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[10]The International Emissions Trading Association is a nonprofit organization composed of 175 member companies that seeks to establish an international framework for trading in GhG emissions reductions. *See* http://www.ieta.org/ieta/www/pages/index.php?IdSitePage=1152.

[11]The Gold Standard Foundation is an outgrowth of efforts by the WWF (formerly known as the World Wildlife Federation) to facilitate voluntary GhG emissions reductions. *See* http://www.cdmgoldstandard.org/index.php.

[12]The 10 participating states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

[13]*See* Timothy B. Wheeler, ''Emissions Auction Runs Smoothly,'' *The Baltimore Sun* (Sept. 30, 2008), *accessible at* http://www.baltimoresun.com/news/local/bay_environment/bal-md.auction30sep30,0,2887416.story.

[14]*See* http://www.rggi.org/docs/Auction_1_PostSettlement_Report_from_Market_Monitor.pdf.

[15]California Global Warming Solutions Act of 2006, Calif. Health & Safety Code Division 25.5.

[16]CARB, ''Climate Change Proposed Scoping Plan'' (Oct. 2008) at 30, *available at* http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm.

[17]The Western Climate Initiative encompasses seven U.S. states — Arizona, California, Montana, New Mexico, Oregon, Utah, and Washington — and four Canadian provinces — British Columbia, Manitoba, Ontario, and Quebec. *See* http://www.westernclimateinitiative.org.

[18]Illinois, Iowa, Kansas, Manitoba, Michigan, Minnesota, and Wisconsin are participating in this effort. Three additional states — Indiana, Ohio, and South Dakota — are ''observers'' in the process. *See* http://www.midwesternaccord.org/index.html.

[19]*See* Barry Critchley, ''Australia's Cap-and-Trade Plan,'' *Financial Post* (Nov. 6, 2008); *available at* http://www.

(Footnote continued on next page.)

IV. The Emerging Spectrum of 'Green Tradables'

Carbon credits are only one portion of an emerging spectrum of ''green tradables.'' The genie is out of the bottle on applying market mechanisms to environmental policy issues, and this may be one of the most fertile grounds for the development of new financial instruments and products over the next decade, as illustrated by the following catalog of existing green tradables, each of which are currently tradable or monetizable:

- **Renewable Energy Certificates (RECs).** More than half the states now have ''renewable portfolio standards,'' requiring that a designated portion of the state's total electricity generation come from renewable sources.[20] In some states, electric utilities can buy tradable RECs from developers of renewable energy projects to comply with the renewable portfolio standards. A recent report from the Department of Energy stated that an estimated 10.5 billion kilowatt-hours of renewable energy was sold through RECs in 2007.[21]
- **Energy Efficiency Certificates (EECs).** Connecticut, Pennsylvania, and Nevada now require energy efficiency efforts as part of their renewable portfolio standard and permit a secondary market in EECs generated by those projects.[22] Pennsylvania allows utilities to buy EECs for projects done outside the state but in the Pennsylvania-New Jersey-Maryland transmission area; Connecticut allows utilities to use EECs only for in-state projects. Some market observers expect that a national market for EECs eventually will develop.
- **Water.** Although water rights are not widely traded at present, many environmental observers believe an active market in water rights will develop in the coming years, particularly in the West.[23]
- **Biodiversity and Forestry.** Demonstrating the potential reach and scope of green trading concepts, an Australian-based investment management company, New Forests Pty., recently entered into a venture with the Malaysian state of Sabah to establish a ''biobank.'' New Forests manages ''eco funds'' designed to earn competitive returns through unlocking the value of the ecosystem services provided by forests.[24] Under the biobank plan, public and private capital will be put to use to preserve a Malaysian forest habitat for orangutans and rhinos. New Forests will be compensated through its ability to sell biodiversity credits to other users of forest assets, such as palm oil producers.[25]

V. Secondary Markets for Carbon Credits

Many industrial companies and investment funds have begun trading in EUAs. In 2008, market research firm Point Carbon estimated that trading volume under the EU-ETS would reach $68 billion in 2008 and that the overall global carbon market would grow by 56 percent in 2008.[26] A recent World Bank study found that carbon trading volume doubled between 2006 and 2007.[27] CERs, ERUs, and even VERs also trade in secondary markets. (Because VERs are not standardized or useful for compliance, the value of VERs is usually significantly lower than the value of CERs or EUAs.)

Carbon trading now occurs through a number of exchanges and bilateral contracts in both the United States and Europe, detailed below.

A. European Exchanges

The largest carbon trading exchanges in Europe are the London-based European Climate Exchange (ECX), the Leipzig-based European Energy Exchange and Oslo-based NordPool.[28] The ECX offers futures contracts in

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climatechange.govt.nz. For a useful summary of existing and proposed emissions trading schemes worldwide, see http://www.climatechange.govt.nz/emissions-trading-scheme/international-examples.html. Although beyond the scope of this article, a valuable discussion of the Australian tax issues arising from the implementation of a cap-and-trade system is contained in chapter 11 of the Australian government's recent ''Green Paper'' on its carbon pollution reduction plan. That publication can be accessed at http://www.climatechange.gov.au.

[20]A useful summary of state renewable portfolio standards may be found at the ''Database of State Incentives for Renewables & Efficiency,'' which is maintained by the North Carolina Solar Center at North Carolina State University. *See* http://www.dsireusa.org/documents/SummaryMaps/RPS_Map.ppt.

[21]Lori Bird, Claire Kreycik, and Barry Friedman, ''Green Power Marketing in the United States: A Status Report,'' National Renewable Energy Laboratory, U.S. Department of Energy (Oct. 2008), at 19. One market participant has estimated the value of such trading as exceeding $250 million in 2007. *See* Andrew Ertel, president and CEO of Evolution Markets LLC, ''Global Overview of Emissions & Renewable Trading,'' PowerPoint presentation for the 2008 Wall Street Green Trading Summit (Apr. 2, 2008).

[22]For more information about EECs, *see* Sterling Planet's description of its proprietary ''White Tags'' program *available at* http://www.sterlingplanet.com/upload/File/Sterling_Planet_White_Tags_Fact_Sheet.pdf.

[23]For a brief description of the arguments in favor of tradable water rights, see Michael Greenstone, ''Tradable Water Rights,'' *Democracy: A Journal of Ideas* (Spring 2008), reprinted at http://www.brookings.edu/articles/2008/spring_water_rights_greenstone.aspx.

[24]*See generally* http://www.newforests.com.au.

[25]*See* ''New Forests in Sabah Conservation Deal,'' *The Australian* (Nov. 28, 2007), *accessible at* http://www.theaustralian.news.com.au/story/0,25197,22836267-20142,00.html.

[26]Keith Johnson, ''Market Making: Carbon Keeps Growing,'' *Wall Street Journal Environmental Capital Blog*, Feb. 26, 2008: http://blogs.wsj.com/environmentalcapital/2008/02/26/market-making-carbon-keeps-growing/trackback/.

[27]World Bank, ''State and Trends of the Carbon Market — 2008,'' May 2008, *accessible at* http://carbonfinance.org/docs/State___Trends — formatted_06_May_10pm.pdf. *See also* Fiona Harvey, ''World Carbon Trading Value Doubles,'' *Financial Times* (May 8, 2008) at p. 27.

[28]*See* http://www.europeanclimateexchange.com and http://www.nordpool.com. The ECX (ECX)/International Climate Exchange (ICE) is a member of the Climate Exchange group of companies. ECX manages the product development and marketing for ECX Carbon Financial Instruments listed and

(Footnote continued on next page.)

both EUAs and CERs. NordPool offers both spot and forward contracts in EUAs and forward contracts in CERs.

B. U.S. Exchanges

U.S.-based carbon trading occurs on three exchanges regulated by the Commodities Futures Trading Commission (CFTC):

- **Chicago Climate Exchange (CCX).** The CCX was launched in 2003 and describes itself as ''North America's only active voluntary, legally binding integrated trading system to reduce emissions of all six major greenhouse gases.''[29] The CCX now has over 300 members, including industrial companies that have pledged to make carbon emissions reductions and ''liquidity providers'' such as proprietary traders. Trading on the CCX includes the ''carbon financial instrument'' (CFI), which is a VER that meets certain common market standards. The CCX is regulated as an exempt contract market by the CFTC; it is subject to less restrictive regulation than a retail-oriented designated contract market but available for trading only to predetermined members, rather than to the broader public.
- **Chicago Climate Futures Exchange (CCFE).** The CCFE is a wholly owned subsidiary of the CCX that offers standardized futures and options contracts over emissions allowances and other environmental products, including CFIs.[30] The CCFE is regulated as a designated contract market by the CFTC.
- **The Green Exchange.** The Green Exchange is a joint venture of NYMEX, Evolution Markets, and a number of other financial institutions. It opened for trading on March 17, 2008, as a members-only exchange but currently is being certified as a retail-oriented designated contract market under CFTC rules.[31] The Green Exchange hosts trading in EUAs and CERs. However, it plans to add trading in VERs in the future.[32]

C. Other Trading Platforms

The Environmental Resources Trust operates the EcoRegistry trading platform in the United States, which is intended to encourage transactions in VERs and to develop market liquidity in these instruments.[33] The EcoRegistry has approximately 30 corporate members. It is not a CFTC-regulated exchange.

D. Bilateral Contracts

In addition to exchange trades, transactions in all types of carbon credits, including total return swaps over carbon credits, may occur via bilateral transactions that take place off an exchange or other market mechanism. Several companies now facilitate over-the-counter transactions in EUAs.[34]

VI. EU Precedents

Despite the EU's head start in implementing carbon trading, there is relatively little harmonized guidance within Europe regarding the appropriate income tax treatment of carbon credits. For example, while the United Kingdom has provided guidance allowing carbon trading to occur under the U.K.'s ''investment manager exemption'' (a concept similar to the U.S. trading safe harbor of section 864(b)(2)),[35] other income tax issues are resolved by analogies to principles of established tax law or by reference to accounting treatments, which are, themselves evolving and subject to significant uncertainty.[36] In other EU jurisdictions, guidance has been similarly piecemeal or reliant on accounting treatment.[37]

In contrast, the European Commission has moved relatively quickly to ensure consistency of VAT treatment to facilitate cross-border trading within the EU. Under this guidance, transactions in EUAs are treated as the provision of a service within the meaning of the EU VAT Directive.[38] As a result, non-EU businesses engaged in carbon trading with EU businesses generally should not incur VAT, while EU-based recipients of EUAs self-assess VAT and then recover it on their VAT returns.

VII. U.S. Tax Analogies for Green Trading

The taxation of carbon credits and other green tradables presents a number of novel issues. Existing precedents provide some useful analogies but may be hard to generalize across the spectrum. As is the case with many efforts to characterize new financial instruments using the existing tax cubbyholes, the technical result that seems most persuasive may depend on the starting analogy.

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admitted to trading on the ICE Futures electronic platform, which is a European energy exchange for futures and options. The Chicago Climate Exchange (discussed below) is also a member of the Climate Exchange group of companies, and enables its members to buy and sell credits for emission reductions. *See* http://www.chicagoclimateexchange.com.

[29]*See* http://www.chicagoclimateexchange.com/about/pdf/CCX_Overview_Brochure.pdf. *See generally* http://www.chicagoclimateexchange.com.

[30]*See* http://www.ccfe.com/about_ccfe/products/cfi/CCFE_CFI_Overview.pdf.

[31]*See* http://www.greenfutures.com.

[32]It is likely that the Green Exchange's standards for VERs will closely resemble those for VCUs (VERs certified under the Voluntary Carbon Standard, *supra* note 9). VCUs currently trade only via principal-to-principal contracts.

[33]*See* http://www.ert.net and http://www.ecoregistry.org/.

[34]For an example of one such company, see Natsource LLC's Web site at http://www.natsource.com.

[35]*See* Her Majesty's Revenue & Customs Statement of Practice SP1/01. An explanation for this change to the applicable U.K. regulations can be found in the 2007 U.K. Budget. *See* http://www.hmrc.gov.uk/budget2007/bn47.htm.

[36]*See* Iain Calton, Helen Devenney, and Sarah Nolleth, ''Accounting and Taxation,'' *Climate Change: A Guide to Carbon Law and Practice* (2008) at 143-156.

[37]For a good summary of tax treatment across EU jurisdictions, see the PricewaterhouseCoopers report, ''Taxation of emissions trading within the EU: From (non)existing regulation to daily practice and opportunities,'' *available at* http://www.pwc.com/extweb/pwcpublications.nsf/docid/F2F77C97055F980E85256F3F006808AE/$File/Emission%20Tax_200406.pdf.

[38]*See* http://ec.europa.eu/environment/climat/pdf/vat_guidelines.pdf (summarizing TAXUD/1625/04).

A. SOx and NOx Permits

As noted above, under the EPA's Acid Rain Program, both utilities and financial investors trade SOx and NOx permits. The IRS has accommodated this program through administrative guidance. In Rev. Proc. 92-91,[39] the IRS concluded that the costs of acquiring allowances must be capitalized. Those costs constitute the utility's basis in its allowances. A utility will generally recover its basis in an emission allowance in one of two ways. If the allowance is applied against emissions in a particular year, the utility in most cases will deduct the basis in that year. If the allowance is sold or exchanged, the utility will realize capital gain or loss to the extent of the difference between the amount realized in the transaction and the utility's basis in the allowance. Under Rev. Proc. 92-91, allowances are *not* subject to depreciation, because "an emission allowance has no ascertainable useful life over which it could be depreciated." However, Rev. Proc. 92-91 interpreted a prior version of reg. section 1.167(a)-3 and also predates the enactment of section 197. Amendments to reg. section 1.167(a)-3 in 2003 created a safe harbor for certain intangible assets that permits 15-year amortization in many circumstances.[40]

Also, Rev. Rul. 92-16[41] holds that a utility's receipt of allocated allowances will not be treated as gross income within the meaning of section 61. As a result, those allowances receive a zero basis and income is recognized when they are sold. This ruling, however, contains no legal analysis supporting the reasons for this treatment.

While the Acid Rain Program guidance may provide a starting point for evaluating the treatment of other green tradables, it is unclear whether that guidance may be generalized beyond the program and industry for which it was issued. In particular, it is difficult to apply this guidance to VERs, which typically need not be surrendered to any governmental or nongovernmental organization and, indeed, may be resold in the secondary market. Moreover, the absence of analysis in Rev. Rul. 92-16 suggests its issuance may be best viewed as a policy accommodation to another federal agency, that is, the EPA.[42] It is unclear whether the same policy considerations apply to non-U.S. green trading programs.

B. Treatment as an Intangible

On June 20, 2008, the IRS released its first private letter ruling on carbon trading issues. In LTR 200825009,[43] the IRS considered a situation in which a taxpayer's EU affiliate was granted allowances under the EU-ETS and sold off its surplus allowances. The IRS ruled that the taxpayer need not treat the income from those sales as current subpart F inclusions on the grounds that the allowances were "intangible property held for use in a trade or business" rather than property held to generate passive income. The ruling also notes, however, that the IRS is currently studying whether it may be appropriate to treat emissions allowances as commodities, leaving open the possibility that they may be so characterized either under subpart F or other provisions of the code.

Similarly, it may be appropriate to treat purchases of VERs or voluntary purchases of RECs as creating a marketing intangible relating to the purchaser's environmental branding and image.

C. Treatment as a Commodity

Because many types of carbon credits trade on commodities markets, it may be possible to characterize their tax treatment by reference to existing authorities. In Rev. Rul. 73-158,[44] the Service held that even bilateral transactions in property that could be traded on an organized commodities exchange (in that case, sugar) could qualify for the "trading safe harbor" of section 864(b)(2). The U.S. trading safe harbor excludes trading and investing in stocks, securities, or regulated commodities for one's own account from the definition of a "trade or business within the United States." More specifically, section 864(b)(2)(B)(ii) provides a safe harbor for trading in commodities for the taxpayer's own account, whether by the taxpayer or his employees or through a resident broker, commission agent, custodian, or other agent, and whether or not any such employee or agent has discretionary authority to make decisions in effecting the transactions. This commodities trading safe harbor is premised, however, on the relevant commodities being the type of commodities that are "of a kind customarily dealt in on an organized commodity exchange" and only if the commodities transactions are "of a kind customarily consummated at such place."[45]

Although the application of the trading safe harbor to carbon trading is unclear, there are compelling arguments that carbon emissions rights should be treated as "commodities" for purposes of the U.S. trading safe harbor and other provisions of the code. Chief among these is that a CFTC-regulated market has arisen for carbon credits in the United States and that treating carbon credits like other commodities or securities would facilitate depth and liquidity in the carbon markets.

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[39]1992-2 C.B. 503.

[40]*Compare* reg. section 1.197-2(c)(13) (generally excluding from treatment as a section 197 intangible "any license, permit, or other right granted by a governmental unit" if the right has either a fixed duration of less than 15 years or a fixed amount of value); reg. section 1.197-14(c)(2) and (3) (providing cost recovery rules for items described in reg. section 1.197-2(c)(13)).

[41]1992-1 C.B. 15.

[42]The IRS has made similar accommodations to other governmental agencies. For example, in Rev. Proc. 2002-49, 2002-2 C.B. 172, *Doc 2002-15494, 2002 TNT 126-7*, modified and superseded by Rev. Proc. 2005-62, 2005-2 C.B. 507, *Doc 2005-17797, 2005 TNT 165-4*, the IRS ruled that utilities undergoing deregulation need not treat as gross income the receipt of a statutory property right to recover "stranded costs" of capital expenditures through rate surcharges even though that right could be immediately securitized. Similarly, GCM 39606 (Feb. 8, 1987) concludes that an airline's initial acquisition of an airport landing slot from the Federal Aviation Administration, whether

(Footnote continued in next column.)

through grandfathering privileges, lottery, or some other method does not result in the realization of gross income, despite the general principles of section 61 and *Commissioner v. Glenshaw Glass Co.*, 348 U.S. 426 (1955).

[43]LTR 200825009 (Mar. 7, 2008), *Doc 2008-13707, 2008 TNT 121-32*.

[44]1973-1 C.B. 337.

[45]*See* section 864(b)(2)(B)(iii).

Commodities treatment also would open the possibility of allowing traders in these emerging markets to make a mark-to-market election under section 475(f), so that their carbon books could be treated similarly to their positions in other market-traded assets.

The commodities analogy, however, may be more difficult to square with the language of reg. section 1.954-2(f)(2)(i), which defines a commodity as consisting of ''tangible personal property.''

D. Treatment as an Expense

In some cases, it may be appropriate to analogize the costs of acquiring carbon credits (particularly VERs) to other section 162 expenses. For example, in Rev. Rul. 2000-4,[46] the IRS addressed the tax treatment of costs incurred by companies to obtain, maintain, and renew certification under ISO 9000, a series of international standards for quality management systems. While ISO 9000 certification is often a contractual requirement for doing business with many organizations, it is nevertheless voluntary (that is, not required by any governmental authority). The IRS concluded that the costs related to ISO 9000 certification, except to the extent they create an asset with a useful life substantially beyond the current tax year (for example, a quality manual), can be deducted in the year incurred, reasoning that ''the benefits derived from ISO 9000 certification are akin to the current benefits derived from advertising, training, and similar expenditures incurred in . . . improving the overall quality or attractiveness of the taxpayer's business operations.'' Similar arguments can be made regarding the purchase of VERs. Depending on the nature of the underlying VER project or issuer, it also may be possible to analogize the purchase of a VER to a charitable contribution that is deductible under section 170.

E. Treatment for Special Entities

The current-law treatment of carbon credits in the hands of certain special entities under the code also is unclear. For example, if an environmentally oriented tax-exempt organization undertakes a project within its exempt purpose that also generates carbon credits, it is unclear whether the sale of those credits may give rise to unrelated business taxable income. Similarly, although the IRS has shown some flexibility in defining the term ''real property'' for real estate investment trust testing purposes, it is unclear whether carbon credits qualify as ''real property'' for purposes of applying the 75 percent asset test applicable to REITs under section 856(c)(3).[47]

VIII. Conclusion

Even in the absence of U.S. federal climate change legislation, many U.S.-based companies and investors have crossed the green frontier into trading in both compliance-oriented and voluntary carbon markets. These activities raise a host of federal income tax issues that are difficult for clients and their advisers to resolve at strong levels of comfort under existing authorities. While the issuance of PLR 200825009 represents a useful start by the IRS in coming to grips with carbon trading, more guidance will be required to facilitate both U.S.-based carbon trading and the participation of U.S.-based firms in existing cap-and-trade systems.

Looking ahead, because President-elect Obama and many leaders in Congress have publicly supported cap-and-trade legislation, many observers anticipate Congress will give serious consideration to such legislation soon. A review of existing cap-and-trade programs suggests a variety of tax policy issues that must be considered both to adapt the code to deal with the emerging markets in green tradables and to facilitate the potential implementation of additional federal policies in this area. Also, as policymakers move toward globally linked cap-and-trade systems, it may be advisable for the OECD or other multilateral bodies to provide guidance on developing the tax rules applicable to such trading systems so that differences in national tax treatment do not hinder efficient carbon trading.

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[46]2000-1 C.B. 331, *Doc 2000-1084, 2000 TNT 5-3*.

[47]For example, in LTR 200813009 (Mar. 28, 2008), *Doc 2008-6844, 2008 TNT 62-35*, the IRS ruled that when a resort hotel's intangibles such as its trade names, brand names, and goodwill were ''inextricably linked'' with the real estate so that those intangibles could be treated as ''real estate assets'' and the license fees from those intangibles would qualify as ''rents from real property'' for purposes of section 856(c). However, no similar guidance has been issued regarding carbon credits.