

Emissions Trading (including RGGI)

Questions & Answers

October 2008

The following is an attempt to organize some of the relevant information regarding greenhouse gas emission trading into a user-friendly and integrated compilation. The following is not intended to be a comprehensive treatment of the subject matter, nor is it intended to be a legal treatise or to offer legal advice.

This compilation uses a question and answer format in hopes that it will achieve the objectives of a) verbal brevity, b) clarity, c) relevance, and d) accessibility. The standard applied in selecting the contents of this compilation is to include definitions, objective data and concepts that are relevant generally to formulation of a carbon emissions trading and monetization strategy.

Any discussion of accounting principles contained in this compilation is not intended to be accounting advice, and Brown Rudnick specifically disclaims any qualifications to render advice on accounting matters.

Q: What is Greenhouse Gas (GHG) Emissions Trading?

A: GHG Emissions Trading or simply, Emissions Trading, arises from a system that imposes restrictions on the aggregate amount of greenhouse gas pollutants that a party (e.g. owner of coal-fired power plant) may emit from its facility. It is a mechanism through which emitters buy emissions reduction units from or sell emission reduction units to other emitters or third parties. The buyers and sellers under this system may be buying or selling for compliance purposes (*i.e.*, because they are emitters who are “short” or “long” credits) or may be buying or selling for financial speculation.

The type of emissions trading that is primarily dealt with in this Q&A is the cap-and-trade system such as the one proposed under the Kyoto Protocol. Under this system, an aggregate cap on certain pollutants is imposed on a group of emitters. Such cap is usually determined as a percentage of the historic emissions from those sources. An emitter who emits less than its allowed cap is able to sell its “long” position under an emissions trading system to another emitter who may have exceeded its cap and, therefore, is in a “short” position. However, this Q&A will also deal with certain “Flexible Mechanisms” that are alternative ways to “create” carbon credits, and the linkages between these various regimes that expand the universe of tradeable credits.

Q: What is the difference between Emissions Trading and Carbon Trading?

A: Colloquially, these terms are used interchangeably to mean the trading of allowances or emission credits.

Q: How did the Kyoto Protocol specifically deal with greenhouse gas emissions?

A: The Kyoto Protocol imposes targets on each developed country ratifying the protocol to reduce greenhouse gas emissions during the period 2008 through 2012, using emission levels in the base year of 1990.

Q: What was required in order for the Kyoto Protocol to go into effect?

A: There were two requirements: First, at least 55 countries had to become signatories. This was achieved in 2002. Second, signatories responsible for at least 55 percent of 1990 GHG emissions had to become signatories. This target was achieved in February 2005, when Russia ratified the Protocol.

Q: Which large developed world countries have not ratified the Kyoto Protocol?

A: The United States and Australia have not to date ratified the Protocol.

Q: Does this mean that US companies will not be affected by the Kyoto Protocol or the emissions trading activities that are resulting from the Kyoto Protocol?

A: No. US companies that do business either as emitters or as sellers of emission-reducing products in countries that have ratified the Kyoto Protocol will be affected by it. Also, a cap-and-trade carbon emission trading system is being organized by a number of northeastern US states (Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont) known as the Regional Greenhouse Gas Initiative (RGGI), and another similar regime is being considered by California, Washington and Oregon. As a result of these regional initiatives, it is possible that despite the US not being a party to the Kyoto Protocol, a *de facto* “ratification” by a significant number of states may occur through these regional compacts. Although it cannot be predicted how these regional compacts will interface with one another or with the carbon trading activities of ratifying countries, it is possible that through linkage protocols with the EU Emissions Trading Scheme and the CDM and JI mechanisms, the US will become a participant in the global carbon markets. In addition, the US Supreme Court has determined that the Environmental Protection Agency (EPA) must consider carbon dioxide emissions a pollutant under the Clean Air Act, and that could have far reaching implications on businesses involved in activities that emit carbon.

Q: How can developed world countries which ratified the Kyoto Protocol meet their targets for reducing greenhouse gas emissions?

A: Countries can meet their targets either through actual domestic emissions reductions or through the use of “Flexible Mechanisms,” which include three basic types: (i) emissions trading; (ii) Joint Implementation (JI); and (iii) Clean Development Mechanisms (CDM).

Q: What does Joint Implementation (JI) refer to?

A: Joint Implementation refers to the process by which a country listed in Annex 1 to the UN Framework Convention on Climate Change may receive emission credits (known as Emission Reduction Units, or ERUs) for investment in a greenhouse gas reducing project in another Annex 1 country. Annex 1 countries include countries with developed economies which have emission targets of their own, such as Japan, Canada, Russia, Ukraine, Kazakhstan, Uzbekistan, and certain other former members of the Soviet Union.

Q: What does Clean Development Mechanisms (CDM) refer to?

A: Clean Development Mechanisms (CDM) refers to the process by which a country may receive emission credits (known as Certified Emission Reductions, or CERs) for investment in GHG reducing projects in developing countries (such as India, China and many countries in Latin America and Africa) which do not have their own emissions reduction targets.

Q: In what countries are most CDM projects being registered?

A: China has been the most common country with over 800 registered projects. India is a distant second with a little over 300 registered projects. Brazil and the Republic of Korea are the only other nations with over 100 registered projects. Other countries with several registered projects include: Mexico, Argentina, Chile, Indonesia and South Africa.

Q: What are AAUs?

A: AAUs stands for Assigned Amount Units, and the term refers to the quota of emissions allowances that each signatory country listed in Annex 1 to the UN Framework Convention on Climate Change will be allocated during the Kyoto compliance period of 2008-2012.

Q: What are the preconditions for utilizing CDM credits?

A: The projects in the host countries must result in real, measurable and long-term climate change benefits, which must be certified as Certified Emission Reductions (CERs) in CDM projects. Also, projects must clear the following hurdles:

- (i) “additionality” test (project must either be only marginally viable without the sale of carbon credits or significant barriers must exist to viability);
- (ii) baseline comparison test (must show how much carbon emission is being reduced through the investment);
- (iii) Designated National Authority (DNA) approval (project must be approved by DNA of host government); and
- (iv) for CDM projects only, the project and its methodology must be approved by the CDM Executive Board.

Q: What is the greenhouse gas reduction target for the period 2008-2012 under the Kyoto Protocol for the signatory states?

A: Switzerland, Central and East European states,
and the European Union -8%
Canada, Hungary, Japan and Poland -6%
Croatia. -5%
New Zealand, Russia, Ukraine. 0%
Norway. +1%
Iceland +10%

Q. How is the -8% Kyoto target for the 15 original members of the European Union apportioned among the member states?

A: The -8% Kyoto target was apportioned under a Burden Sharing Agreement, which allocated the GHG reduction burden as follows:

Austria.	-13%	Italy.	-6.5%
Belgium.	-7.5%	Luxembourg.	-28%
Denmark	-21%	Netherlands	-6%
Finland.	0.0%	Portugal.	+27%
France	0.0%	Spain.	+15%
Germany	-21%	Sweden.	+4%
Greece	+25%	UK.	-12.5%
Ireland.	+13%		

Q: What is the EU Emissions Trading Scheme?

A: The EU Emissions Trading Scheme (EU ETS) is a “cap-and-trade” regime covering the EU countries. The scheme commenced on January 1, 2005, and will run in two phases. Phase 1 will run from January 1, 2005 through December 31, 2007. Phase 2 will run from January 1, 2008 through December 31, 2012. Even if the Kyoto Protocol is not extended beyond 2012, it is anticipated that the EU ETS will be extended for additional five-year periods.

Q: How does the cap-and-trade scheme of the EU ETS work mechanically?

A: Each EU country adopts a National Allocation Plan (NAP) for each phase mentioned above. Each NAP specifies a total number of emissions allowances (EUAs) to be allocated and allocates them among the various installations within that country's jurisdiction. Each NAP must be approved by the European Commission.

The allowances are being allocated for free (i.e. at no cost to the emitter). However, if any installation holds insufficient allowances to cover its emissions, it must purchase additional allowances from other installations or other owners of allowances purchased in the secondary market. Conversely, if a given installation holds allowances which exceed its emissions, it will be able to sell those excess allowances to other parties.

At the end of each reporting year, each installation must surrender sufficient allowances to offset its carbon emissions for such year. Once surrendered, these allowances are cancelled. If an installation is unable to surrender sufficient allowances to cover its carbon emissions for that year, it is subjected to a penalty of €40 per ton of carbon emissions in the first phase (2005-2007) or €100 per ton of carbon emissions in the second phase (2008-2012).

In addition, installations that are short allowances will be required to purchase future allowances on the open market to meet their deficit.

Q: How volatile have the prices of carbon allowances been since the inception of the EU ETS?

A: In Phase I, prices were extremely volatile, ranging from under €7/TCO_{2e} to over €30/TCO_{2e}. Due to an over-allocation of allowances in Phase 1, the spot price for an EUA I for delivery dropped significantly (to less than €1/TCO_{2e}). Prices in Phase II have been more stable. Prices are available on Point Carbon's website at: <http://www.pointcarbon.com>.

Q: Where are EUAs traded?

A: Approximately 70% of the trade volume for EUAs occurs over the counter and the other 30% are traded in various exchanges. European Climate Exchange, the largest exchange for carbon emissions trading, accounts for 88% of exchange trade volume.

Q: What is the trend for the annual trade volume of EUAs?

A: Trade volume has been rising each year. For 2005, trade volume was under 400 M/t. The total volume more than doubled in 2006 with around 1,000 M/t traded, and in 2007, the total volume jumped up to 1,500 M/t.

Q: Are greenhouse gas allowances “bankable”?

A: Allowances under the EU ETS which are not required to be surrendered to cover carbon emissions for a given year may be retained for use in a subsequent year, but EUAs issued for Phase I of the EU ETS expired at the end of the 2005-2007 period and are not bankable for the next phase of 2008-2012. Allowances generated during the period 2008-2012 will be bankable for the 2013-2017 period.

Q: Are CER or ERU credits from CDM or JI projects, respectively, usable towards compliance under the EU ETS?

A: Under the Linking Directive, which went into force in September of 2004, CDM credits may be used for compliance from 2005 forward, and JI credits may be used for compliance from 2008 forward.

Q: Is there a price disparity between EUAs and CERs or ERUs, and if so, why?:

A: Yes. Generally, EUAs carry a higher forward price than CERs or ERUs. Because CERs must receive DNA approval as well as approval by the CDM Executive Board, there has been a lag time of as much as 18 months¹ between submission of a project design document and approval. In addition, CDM and JI credits are only available when the projects are complete and therefore their prices are discounted by the fact that there is project risk involved before CERs can be issued. The price may further be affected by political risk associated with the country in which CDM or JI projects are developed.

Finally, each country within the EU ETS has the right in its NAP to limit imports of CDM or JI credits by specifying a quota for CERs and JIs that are imported into the EU ETS. Consequently, because of the risks associated with the realization of CDM and JI credits if purchased on a forward-delivery basis, the prices for these credits are lower in comparison to the prices of EU allowances.

¹ This time lag has in recent months been significantly reduced.

Q: What is the outlook for post 2012?

A: The European Commission has proposed a plan for Phase III of the EU ETS that sets out ambitious goals, including a 20% reduction in emissions relative to 1990 level, a single, EU-wide cap on emissions (instead of the current 27 national caps), and qualitative and quantitative restrictions on credits from CDM/JI.

Q: What types of industry standard agreements are available to document EU emissions allowances trades?

A: Three different organizations have published forms of master agreements for use by market participants to document a sale and purchase of EU emissions allowances. These three organizations and their related forms of master agreements are:

(a) International Swaps and Derivatives Association (ISDA) – has published EU Emissions Allowance Transaction Documents, intended for use in privately negotiated transactions for the purchase and sale of an emissions product on a spot or forward basis. Options are also covered. ISDA has also published annexes to the Master Agreement to cover CFIs traded on the Chicago Climate Exchange as well as NOX, SOX or emissions credits created under a US state cap-and-trade program. These transaction documents supplement the generic form of ISDA Master Agreement that has been used extensively by banks and other financial institutions and the swaps dealer community;

(b) International Emissions Trading Association (IETA) – has published the Emissions Reduction Purchase Agreement (latest version 3, dated September 11, 2006) to facilitate the purchase and sale of CERs; and

(c) European Federation of Energy Traders (EFET) – republished the Allowances Appendix dated July 20, 2005. The Allowances Appendix modifies EFET's general agreement that is popular among energy industry participants.

All the above three bodies recognize that differences in documentation and terms have the potential to give rise to legal risk. Accordingly, all three organizations have worked closely together to bring their respective documents closer in line with each other to minimize the associated legal risks. This is not to say that these documents are interchangeable. In fact, they are not. It is essential prior to entering into an emissions allowance trade to determine which form of documentation would give an organization the most flexibility in light of the types of emissions product being purchased or sold, the types of businesses in which such organization is already involved or in which it desires to participate.

Q: How popular are these forms of agreements among market participants?

A: The first ever EU emissions allowance trade using the ISDA form of master agreement was completed in June 2004 between Dresdner Kleinwort Wasserstein and Fortis Bank. The ISDA swap documentation is popular and well-accepted among banks and other financial institutions and the volume as well as types of transactions documented using this form have increased since it first appeared in 2004. Larger energy companies also use this form of documentation when transacting with financial institution counterparties. The ISDA Emissions Trading Working Group continues to work on refining its documentation to facilitate greater liquidity in the emissions trading market.

Parties in the EU ETS have also used either the IETA or EFET form of agreements. The EFET form is generally used by the energy sector when trading energy commodities.

Q: What are the primary accounting issues for GHG emissions trading?

A: The accounting issues are complex and numerous. However, the most troubling accounting issue is the potential mismatch between assets and liabilities resulting from emissions and emissions allowances.

In December of 2004, the International Financial Reporting Interpretations Committee (IFRIC) issued guidance on emissions trading in the form of IFRIC 3.

However, in June 2005, the International Accounting Standards Board (IASB) decided to withdraw IFRIC 3, with the explanation that it created unsatisfactory accounting measurement and reporting mismatches. However, although it withdrew IFRIC 3, the IASB has nevertheless reaffirmed its view that IFRIC 3 is an appropriate interpretation of existing International Financial Reporting Standards. Thus, until a new IFRIC guidance is released, IFRIC 3 remains a primary source of guidance. It should be noted, however, that there are different methods used to account for emissions allowances in addition to IFRIC.

Under IFRIC 3, allowances are to be treated as intangible assets, and actual emissions are to be treated as liabilities. The assets are measured at cost or at the revalued amount, with changes in the value of allowances being reported as reserves without affecting income. Liabilities, on the other hand, are measured at the end of each compliance period at market value, and increases in liabilities are reported through reductions to the profit and loss account.

This is illustrated by the following example, cited by the International Emissions Trading Association (IETA):

A company has been granted allowances for one million tons of carbon at a time when the market price was €7/T. During the course of a year, the company records a profit in its P&L of €7 million. However, if that company produces one million tons of emissions, at year-end those emissions will be measured as a liability and valued at the year-end market price.

If the price for allowances has doubled, then the liability will be reported at €14 million. This will be reflected in the P&L as a €14 million expense which will be run through the P&L statement. Thus, the €7 million P&L from operations will be wiped out by €7 million of the €14 million liability, and the company will report a €7 million loss.

In other words, even if a company is holding enough emission allowances to cover its liability, it could still be left with a hole in its balance sheet if the price of emission allowances has gone up and thus the liability is carried on the balance sheet at a level greater than the assets originally granted to the company in the form of the emission allowances. The bottom line is that company profits may fluctuate as a result of changes in the price for EU allowances.

In September 2005, the IASB initiated work on new accounting rules for emissions trading. This project will be pursued in tandem with an effort to revise the existing standard on accounting for government grants and disclosure of government assistance (IAS 20). In conjunction with the September 2005 decision to develop new accounting rules for emissions trading, the IASB indicated that this project would focus on how allowances and credits will be accounted for and how changes in assets and liabilities from emissions trading schemes should be reported in the profit and loss statement. In February 2006, the IASB decided to defer work on this project, which is expected to resume towards the end of 2007.

Q: If a company acquires GHG allowances for no consideration through the country's NAP, how will the allowance be reflected on the company's balance sheet?

A: This will depend upon the accounting principles applied in the relevant jurisdiction. Under the historic cost method of accounting, which is applicable in many jurisdictions, including the UK, the acquisition of allowances at no cost would not result in recognition of any monetary amount for such asset on the balance sheet. An alternative treatment which may be adopted is to apply the rules applicable to accounting for tangible fixed assets received as gifts and donations by charities. Under these rules, the gifts or donations would be recognized on the balance sheet at the then current value of the asset on the debt received. The corresponding entry on the liability side of the balance sheet would be to credit the revaluation reserve. As stated above, it is expected that the IASB will address this issue as part of its tandem project to develop new accounting rules for emissions trading and government grants.

Q: What would be the accounting treatment for a company which purchases allowances either for payment of cash or cash equivalent?

A: Again under historic cost accounting, the company would reflect allowances on its balance sheet when purchased by debiting the balance sheet for the asset and crediting cash for the amount which was paid for the allowance in cash or cash equivalent.

Q: How does a company account for the sale of allowances?

A: The accounting treatment may depend on whether the allowance was being held for compliance or for trading purposes. Did the company receive the allowance through the NAP and was it holding it for possible redemption in exchange for carbon emission, or did the company acquire the allowance as part of its trading activities? If the former, then the company's ability to recognize gain on the sale of the allowance may depend on whether the allowance is surplus to the compliance requirements of the company. This would require an emitter to generate forecast emissions profiles to be used as a risk management support tool. In other words, the company would have to show through these tools that the allowance disposed of would truly be surplus; *i.e.*, not needed for the year in which it is disposed of and not anticipated to be needed in future years under the emissions reduction regime in effect.

On the other hand, allowances held for trading purposes should be accounted for in accordance with the company's general accounting policies with respect to its trading portfolio. Generally, a trading portfolio is required to be marked to market periodically, and therefore these balance sheet adjustments would have occurred at various intervals prior to the actual sale of the asset.

It is also possible that allowances acquired for one purpose can be converted to another. For example, allowances which are acquired for trading purposes may be subsequently identified as being required for compliance purposes. In those circumstances, the allowances are transferred from the company's "trading book" to the company's "compliance book." Generally, such transfer to the company's "compliance book" should be recorded at the market value at the time of transfer, although alternative treatments are possible and are being considered by the accounting industry.

Q: What is the proper accounting treatment for emissions, as distinguished from emission allowances?

A: Subject to new rules that may result from the IASB's project to propose new accounting rules for emissions trading, emissions that arise from a company's operations are generally required to be recognized as a liability. Thus, for every ton which the company emits, it will be required to debit its P&L account by the expected value of the obligation to surrender allowances under the applicable emissions trading scheme. Such obligation is usually valued at the latest price for such allowance on the spot market.

To the extent the company does not hold allowances, then it will be required to purchase additional allowances, thus requiring it to record that portion of the liability based on the current spot price for an allowance in the market. The liability for the excess emitted is generally required to be remeasured at the end of each month, with any adjustment to such liability (either an increase or a decrease) recorded in the P&L account for that period.

Q: What types of risks are inherent in an investment in an emissions reduction project?

A: As with all forms of project finance, there is a broad spectrum of risks. The carbon market presents its own unique challenges in addition to typical project risks. Some of the risks posed by investments in a carbon reduction project include:

- the difficulties of qualifying CDM/JI projects for emission credits
- project failure risk
- counterparty risks on emission reduction purchase agreements
- lack of global uniformity in emissions trading regimes
- liquidity and price risks
- non-participation in Kyoto Protocol by the US and Australia
- rationing of sale of credits by countries with surplus credits in order to regulate supply and increase price of credits (e.g., Russia) and other governmental actions that may affect carbon credit prices
- other credit, event and political risks

Q: What are the elements of a carbon risk management policy?

A: As stated previously, different accounting treatments result depending upon the purpose for which the allowances are held. Allowances held for compliance, or hedging, purposes are accounted for in one manner, whereas allowances purchased for trading, or speculative, purposes are accounted for in a different manner. Corporate management should, therefore, provide clarity regarding whether allowances are held for hedging or trading purposes, since not only the accounting treatment but also the risk profile of the company varies according to each.

Thus, a company must adopt a carbon risk management policy and must make available to its shareholders information in support of that policy. Some of the elements of a carbon risk management policy are:

- (i) the company's financial objectives;
- (ii) the predictability of production and, indirectly, emission production;
- (iii) risks to the financial objectives (including extent to which movements in allowance prices can be tolerated);
- (iv) extent to which effects of movements in allowance prices can be passed on to customers;
- (v) extent to which competitors are able to absorb price fluctuations or pass them on to customers;
- (vi) projected volatility of allowance prices; and
- (vii) ability of company to hedge exposure to price volatility of allowances.

A carbon risk management policy must also specifically delegate authority and impose a series of limits and guidance on corporate activities. Among examples of these limitations are: (i) limits on unhedged exposures within specified timeframes; (ii) length of time over which exposures should be forecast; (iii) frequency with which updates of forecasts should be undertaken; (iv) instruments and hedge strategies authorized to be used; (v) counterparty requirements; and (vi) reporting requirements on risk management activities.

Q: In running a carbon risk management program, how do companies know what emissions to include in their inventory?

A: The answer is not always clear. There are many instances where installations which are emitters are not directly owned or controlled by a single company. Under a GHG Protocol Accounting and Reporting Standard promulgated in March 2004 by the World Business Council for Sustainable Development and the World Resources Institute (the “Protocol”), two distinct approaches are discussed: the equity share and the control approaches. In case of wholly owned installations, the reporting will be the same regardless of which of these two approaches is used. However, for companies with joint operations, the reported emissions may differ depending on the approach used.

Under the equity share approach, a company accounts for its emissions according to its share of equity in the particular operation. Equity share is normally the same as the ownership percentage, provided that this may be overridden by the economic substance. Under the control approach, a company accounts for 100 percent of the emissions from operations over which it has control, and does not account for emissions from operations in which it may own an interest but over which it has no control.

“Control” can be determined on either a financial or operational basis. A company has financial control if it has the ability to direct the financial and operating policies of the operation with a view to gaining economic benefits from its activities. A company has operational control if it or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation. [Note: Having operational control does not mean that a company necessarily has authority to make all decisions concerning an operation. Example: Large capital investments usually require the approval of all partners.]

GHG reporting often serves multiple purposes, including government reporting requirements, emissions trading programs, or public reporting. It is possible where two or more companies hold interests in the same joint operation and use different consolidation methodologies (e.g., one company follows the equity share approach while the other uses the financial control approach), double counting of emissions can result. However, double counting should be avoided in connection with emission trading schemes and mandatory government reporting programs.

According to the Protocol, reporting on the basis of the equity share and financial control approaches is recommended as providing a more complete picture of the risk profile of the company. The Protocol endorses the equity share approach as most likely to result in the most comprehensive coverage of liability and risks. The Protocol also suggests that the equity share and financial control approaches will result in closer alignment between GHG accounting and financial accounting.

Q: Do companies have to account for emissions other than from sources owned or controlled by the company?

A: Under the Protocol, it is recommended that companies set up comprehensive operational boundaries to help the company better manage the full spectrum of GHG risks and opportunities which exist along its value chain. For this purpose, the Protocol discusses two categories: direct emissions and indirect emissions.

Direct emissions are emissions from sources which are owned or controlled by the company. Indirect emissions are emissions which are a consequence of the activities of the company but which occur at sources owned or controlled by another company. An example of indirect emissions is emissions from the generation of purchased electricity consumed by the company.

The Protocol sets up three scopes of emissions as follows:

Scope 1: Direct Emissions (which includes all emissions which occur from sources owned or controlled by the company but which excludes emissions not covered by the Kyoto Protocol; e.g., CFCs and NO_x);

Scope 2: Electricity Indirect GHG Emissions (which includes emissions from the generation of purchased electricity consumed by the company, and these emissions physically occur at the facility where the electricity is generated); and

Scope 3: Other Indirect GHG Emissions (which includes all other indirect emissions which are the consequence of the activities of the company but which occur from sources not owned or controlled by the company; e.g., transportation of purchased fuels, use of sold products and services).

Q: What types of derivatives or financial instruments have been traded in relation to emission reduction credits or allowances?

A: Most emission reduction credits or emission allowances are bought and sold in several forms:

(a) spot transactions - where the contract price is determined and delivery and payment occur within a short timeframe thereafter. This type of transaction is more typically employed in the trading of EUAs.

(b) forward transactions – where the price of the EUA, ERU or CER is fixed at the time of the contract but payment is contingent upon delivery of the EUA, ERU or CER at a future time (in some cases, several years in the future). In some forward transactions involving ERUs or CERs, the seller takes the risk of delivery of the unit and receives no payment if it is not able to deliver the unit. In some contracts, the seller may also be liable to pay all or a portion of any excess emissions penalty that the buyer may incur as a result of such failure of the seller to deliver the contracted unit.

(c) options – where the buyer or seller of the option has the right, but not the obligation, to enter into a certain contract to buy or sell EUAs, ERUs or CERs, as applicable, at a price and on dates determined when the option contract was entered into. The option buyer pays the option seller a premium for the flexibility contained in this financial instrument. Some exotic options such as straddles on EUAs have also been written.

In addition, futures and cash contracts for EU emission allowances are quoted and cleared on several exchanges such as the European Climate Exchange (ECX).

Q: Are sales of emission allowances subject to VAT?

A: The UK Revenue and Customs Authority (HM Revenue and Customs) has promulgated rules regarding the trading of emission allowances under the EU ETS. The sale of allowances by one UK person to another will generally be treated as a business activity for VAT purposes, and where the vendor is a taxable person (i.e., a person registered for VAT or liable to be registered), VAT should be accounted for at the standard rate (17.5%). Where the purchaser is VAT-registered, the VAT can be recovered to the extent that it relates to the making of taxable supplies. On the other hand, the sale of allowances by a business in one EU member state to a business in another EU member state is subject to different rules, and normally the business purchaser would account for VAT in his own member state under the “reverse charge mechanism.”

Q: Is the buying and selling of emission allowances subject to financial regulation?

A: This is a complicated question, the answer to which will depend upon the financial regulatory regimes, laws and regulations of the particular jurisdictions in which emissions allowances are bought and sold. In the UK, financial markets are generally regulated under the Financial Services And Markets Act 2000 by the Financial Services Authority (FSA). Without further clarification, there is no clear roadmap for these issues. Based on existing authority, there is some support for the proposition that trading for immediate (spot) delivery of emissions allowances will not require authorization by the FSA since under those circumstances the emission allowance is not a specified investment.

On the other hand, it has been suggested that trading for forward physical delivery (i.e., a contract under which delivery is to be made at a future date at a price currently agreed upon) can be treated as a specified investment and thus such trade may require authorization from the FSA. There is also authority suggesting that a contract for commercial and not investment purposes will not constitute a regulated activity. However, it is not clear where the line between commercial and investment activities is properly drawn.

Investment activities across the EU are governed by the Investment Services Directive 93/22/EEC. Emissions allowances and related derivative products do not fall within the definition of instruments covered by this Directive. However, the Markets and Financial Instruments Directive 2004/39/EC is expected to ultimately regulate these types of instruments.

Q: Are there any insurance products available that would assist a project developer or investor in mitigating the delivery risks associated with a CDM project?

A: One of the major risks in any CDM project is the failure of the project to deliver the certified emission reduction units. Certain insurance organizations such as Austrian Garant Insurance, French Global Sustainable Development Project and Swiss Re Greenhouse Gas Risk Solutions have launched the first carbon delivery guarantee insurance. This is an insurance product where the insurance company guarantees that if CERs are not delivered as contracted, the insurance company will pay a pre-agreed sum of money based upon a predetermined price of per unit CER to compensate (whether in whole or in part) the CER buyer for the loss suffered.

Unfortunately, this form of insurance guarantee does not offer complete protection to the buyer where the buyer requires the CERs for compliance purposes. The financial compensation, however, will assist the buyer or insured party in procuring other emission allowances or other qualifying emission reduction units in the open market in order to meet such compliance needs. Also, this type of product can be useful in a paradigm for the manufacturer's carbon trading program suggested below.

The International Finance Corporation (IFC), the investment arm of the World Bank, has also recently launched its carbon delivery guarantee product, where carbon credits will be delivered if the guarantee is called.

Q: What other types of insurance are relevant to the carbon market?

A: Insurance coverage may also include the following:

- (a) political risk insurance including host country insolvency, seller insolvency, political and country risk;
- (b) business interruption;
- (c) weather/catastrophic insurance.

Although not strictly related to the production of carbon or emission credits, certain eco-friendly insurance policies could be created with respect to property or engineering insurance. Such insurance would be coupled with an eco-package where in the event of loss of property, the insurance company will pay for the additional costs to upgrade the facilities to an environmentally friendly or energy saving technology. Most property insurance coverage now only pays for the cost of replacing the technology used up to the date of the damage or loss.

Q: What other types of financial derivatives might be relevant to investments in CDM projects?

A: Project developers that also invest in emission reduction projects or energy-efficient technology can potentially gain from the value attached to each unit of carbon emission reduction that is generated by that project or technology. Brown Rudnick is developing some financing structures that can be useful in this regard. These structures are described briefly below.

One way to mitigate price fluctuation risk involves a derivative that draws on credit derivative technology. Once a sufficiently diversified pool of emission reduction units from different projects can be aggregated, it is possible to structure a derivative which is settled either by the payment of a cash amount or physical delivery of the emission reduction units if the price of the emission reduction units fall below or rise above a pre-agreed level.

Q: What are some risks unique to a manufacturer of energy-generating equipment and related products (Manufacturer) that wishes to acquire GHG credits in partial payment for sales of products that reduce emissions?

A: The following matrix sets out two of the primary risks as well as some suggested mitigations:

Risk: Lack of qualifying CDM/JI projects.

Discussion: Substantial lead time in obtaining host country (DNA) approval of JI and CDM projects and requirement of CDM Executive Board approval of technology for CDM projects have significantly limited the supply of CERs and ERUs.

Risk Mitigant: The Manufacturer could either on its own or through outside consultants identify emission-reducing technologies already approved by the CDM Executive Board and match them to emission-reducing products manufactured by it to allow fast-tracking of CERs. The Manufacturer should also arrange a meeting with the CDM Executive Board to explore ways to expedite the review process for technologies involved in Manufacturer's products offerings not already approved. Brown Rudnick is in contact with consultants who have direct access to the CDM Executive Board and will be able to make relevant introductions in this regard.

Risk: CERs and ERUs purchased on a forward delivery basis will not materialize and consequently their value will be heavily discounted.

Discussion: The scarcity of creditworthy counterparties developing CDM and JI projects, with attendant risks of failed completion and thus failed delivery of the CERs and ERUs, has not only depressed the price of forward CER and ERU delivery contracts, but would also prevent the Manufacturer from booking such credits at the time of receipt of the forward purchase contracts at their anticipated values at the time of delivery.

If the Manufacturer gives price concessions for the CER and the ERU credits, the concessions will either be negligible if they correlate to the discounted value of the credits, and thus will have a negligible impact on sales, or if full credits are given based on the spot market price for allowances, then the Manufacturer takes the market price risk and will be unable to book the credits at full price in its P&L until the credits are actually delivered.

Thus, this risk poses both a financial and a financial reporting risk for the Manufacturer. This risk is further exacerbated by the volatility of carbon credit prices in the spot market. Thus, even if the failed delivery risk were removed and the CER or ERU credits could be run through the P&L account and reflected as an asset, they would still be subject to periodic mark-to-market valuation (if they were considered held for trading rather than compliance purposes), with the resulting impact on the P&L statement and the balance sheet of the Manufacturer.

Risk Mitigant: The Manufacturer may itself provide protection against failure-of-delivery risk if it has a business model that could potentially enable it to manage the project. For example, the manufacturer could provide turn-key installation contracts, warranty agreements and operation and maintenance agreements in conjunction with the sale and installation of its equipment.

Derivatives such as credit default and interest rate swaps are being used in increasing numbers and varieties to offload credit, interest rate and other event risks. These are discussed in more detail in a prior Q&A. Insurance wraps and other insurance products are also used for this purpose, as discussed previously.

These products, however, have not been developed to the point where they will cover all of the risks outlined in this section, although (as illustrated below) some of the carbon-related insurance products may have application here. Also, it may be possible to develop hedge and insurance products to more perfectly cover these risks. Derivatives and insurance products alone will not address all the issues identified above. However, used in conjunction with a financing structure designed to address these risks, they can be more useful.

A / B / CO₂TM Loan Structure:

One structure that Brown Rudnick has developed is the A / B / CO₂TM Loan Structure. Under this structure, in addition to the senior debt (which may or may not be tranching into a senior [A] and subordinate [B] tranche), an additional tranche is added, which is collateralized by the forward carbon credit delivery obligation. This structure can be effective in both helping the project developer realize the value of the carbon credits expected to be produced from the project and in helping the Manufacturer develop a more competitive pricing structure, which accounts for the potential carbon credits.

Further information on the A / B / CO₂TM Loan Structure and other products being developed by Brown Rudnick in the Emissions Trading area can be furnished upon request.

Q. What is the Regional Greenhouse Gas Initiative (RGGI)?

- A. RGGI is an agreement among 10 northeastern states (Connecticut, Delaware, Maine, Maryland, New Hampshire, New Jersey, New York, Vermont, Massachusetts and Rhode Island) to cap carbon dioxide emissions from power plants, and to require all power plants in the region to purchase or otherwise obtain a carbon allowance for each ton of carbon emitted by every affected facility. All non-biomass power plants over 25 megawatts in size are covered by the RGGI requirements. The program will begin in 2009, and at the end of three years, each power plant must demonstrate that it has purchased or obtained one allowance for every ton of carbon emitted. Allowances can be purchased at auction from the states (and some states may allocate a portion of the allowances without cost) and some allowances can be created through “offset” projects which reduce emissions of carbon dioxide into the atmosphere.

Q. How was the cap on carbon emissions established, and how will it limit emissions in the future?

- A. The RGGI stakeholders’ group looked at historic emissions for several years beginning in 2000, and determined an average amount. This was essentially a negotiated amount and was intended to represent a reduction in emissions, in part due to the fact that those years represented slower economic activity. However, changes in fuel use (less oil and more natural gas) have reduced emissions below the cap already. After the first three year compliance period, allowed emissions under the cap will be further reduced, with a 10% reduction in allowances being imposed gradually through 2020.

Q. What are “offset” projects and how do they work?

- A. Offset projects are a limited universe of projects which “create” new carbon allowances which can then be utilized by emitting facilities to comply with carbon cap limitations. Offset projects include methane capture at landfills, methane capture at farming operations, eliminating leaks in natural gas and propane systems, and certain forest plantings. Renewable energy projects, such as wind turbines, are not “offsets” under the RGGI program, as they do not directly eliminate carbon that would otherwise be emitted.

Q. How will the carbon allowances be distributed?

- A. Each state has been allocated a certain number of allowances. Under the model rules which the various states have developed to implement RGGI, states could allocate up to 75% of the state's allocation to affected facilities without cost, and require each facility to purchase the remainder. However, most states have decided to auction 100% of the allowances, based on an assumption that energy producers would include the value of a RGGI credit in the price of electricity even if it represented no cost to the power plant, and to avoid the possibility that a power plant might enjoy a windfall by selling unused credits. In addition, the auction of all of the credits is expected to generate significant revenues that the states have represented will be spent on energy efficiency and renewable energy programs.

Q. Will RGGI increase my electric bills?

- A. Electric generating facilities which utilize high carbon content fuels (coal plants, oil plants, and, to a lesser extent, natural gas plants) will need to purchase varying amounts of allowances to meet these regulatory requirements. High carbon power will therefore be more expensive. Since New England does not have an overabundance of electricity, and cannot just switch to low carbon generation, it will still be necessary to call upon coal, oil and gas plants to generate electricity on most days, and therefore the impact of RGGI will be to increase electricity prices.

Q. How will the auction process work?

- A. The first auction was September 2008, and all allowances were sold for \$3.07. Auctions will be held quarterly, and will be sealed-bid, fixed-priced, descending auctions – bidders submit bids for the maximum amount they will pay for a batch of allowances, and bids are ranked ordered from highest to lowest. Allowances are awarded to the highest bidders first, and when all allowances are awarded, the price bid by the entity that was the highest losing bidder establishes the clearing price that all winners pay. The states have set a minimum reserve price of \$1.86.

This Q&A discussion has been prepared by
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This team of attorneys has earned an
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