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## **Systems of Carbon Trading**

Dr. Bruno Zeller

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## SYSTEMS OF CARBON TRADING

*Dr. Bruno Zeller\**

*This Article discusses the current state of carbon trading and suggests a possible path forward. There is much commentary on the abatement of greenhouse gasses in response to the Kyoto Protocol. In essence, the Protocol suggests that a cap and trade program should be implemented by nations in order to reduce greenhouse gasses. This Article does not discuss the environmental aspect of the process and hence presents no views as to the policies of reducing greenhouse gasses.*

*This Article focuses on the last step in the process, namely the trade in carbon credits. This area of what may be termed the “commercial aspect” of cap and trade has not received the attention it deserves. The reason—it can be termed the commercial arm of greenhouse abatement—is that carbon credits can be traded and where there is trade there are profits to be made. However, only focusing on the profit aspect of trading overlooks the social aspect of reducing worldwide pollution as well as the need to assist polluters to cut costs in order to remain competitive and continue to reduce their greenhouse gasses.*

*The starting point is that reducing pollution comes at a cost to industry and to nations. In order to assist the necessary worldwide trade of carbon credits, the introduction of a cost effective and simple system arguably is an essential tool to assist the trade in carbon credits. Furthermore, the introduction of a uniform arbitration system ought to be part of such a discussion. This has not happened yet and many private firms have currently seen a possibility to engage in a profitable enterprise and are already trading in what may be called an “unregulated” market. In order to come to an understanding of how a possible trade can be regulated—privately or by govern-*

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*ments—an understanding of the mechanism of greenhouse gas reduction must be gained. This Article looks at the efforts of the leading group, namely the EU, with other examples from Australia and the United States.*

*The Kyoto Protocol introduced three possible trading schemes, namely a market-based flexible emission trading scheme, Joint Implementations (“JI”) and the Clean Development Mechanism (“CDM”). The market-based trading scheme focuses on markets within an economy. JI, on the other hand, takes advantage of efforts by companies wishing to expand into other countries in order to reduce their own target as well as assisting the host country with technology transfers. CDM projects are technology transfers into developing countries with no Kyoto targets. It is obvious that trade will cross borders affecting not only pricing but also current Free Trade Agreements and possibly World Trade Organization (“WTO”) obligations.*

*The purpose of this Article is to enliven and start a discussion of possible solutions in the creation of a viable carbon trading system, which will also assist in the reduction of greenhouse gasses. The lessons of the credit crisis should not be forgotten—nor the efforts of the past thirty years—in the creation of uniform international laws.*

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## SYSTEMS OF CARBON TRADING

### INTRODUCTION

Despite the financial crisis, the topic of climate change has never been far from headlines and many papers have devoted special information supplements to this discussion.<sup>1</sup> Most, if not all, of these discussions revolve around the question of what a business or household can do to reduce the carbon footprint while simultaneously reducing costs. Governments have devoted much time and energy towards tackling the problem of climate change by devising policies to cap the emissions and trade carbon credits. Indeed, “the carbon market is the most visible result” of efforts of individual governments and industries “to mitigate climate change.”<sup>2</sup> The problem, however, is that not much thought has been devoted to the actual legal framework once the cap and trade is in full swing. No doubt domestic contract law can always be used to resolve the trading aspect. However, it is argued that this is not the best nor the most cost effective method available. Lessons from the past twenty years should not be forgotten as the general move towards international uniform laws has proven to be advantageous.<sup>3</sup> Indeed, this current financial crisis has demon-

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<sup>1</sup> See, e.g., A CLIMATE FOR ACTION, THE GLOBE AND MAIL 1-6 (2008), [http://www.ipac.ca/documents/Globe%20and%20Mail%20\(6\)1.pdf](http://www.ipac.ca/documents/Globe%20and%20Mail%20(6)1.pdf).

<sup>2</sup> PHILIPPE AMBROSI & KARAN CAPOOR, STATE AND TRENDS OF THE CARBON MARKET 2008 1 (2008), [http://wbcarbonfinance.org/docs/state\\_trends\\_final.pdf](http://wbcarbonfinance.org/docs/state_trends_final.pdf).

<sup>3</sup> See, e.g., Ulrich G. Schroeter, *Vienna Sales Convention: Applicability to “Mixed Contracts” and Interaction with the 1968 Brussels Convention*, 5 VINDOBONA J. OF INT’L COM.

strated that solutions based on domestic policies and laws do not supply the best solutions. Joseph Stiglitz wrote in *TIME*: “As the global economy becomes more interconnected, we need better global oversight. It is unimaginable that America’s financial market could function effectively if we had to rely on 50 separate state regulators. But we are trying to do essentially that at the global level.”<sup>4</sup> The trade in carbon credits, which is a global problem and hence requires a global solution, is a prime candidate for inclusion into the uniform international law regime. Trade must be distinguished from the problem of capping emissions, as the latter task is a matter each country has to tackle individually. States are beholden to their constituencies, whether politically or economically, and hence will use their sovereign power to resolve this issue, hopefully within the parameters of future conventions.

Trade, on the other hand, has successfully taken off and is only regulated by individual agencies or private organizations such as brokering houses. A successful international uniform framework has not yet been devised nor seriously discussed. Another fact is obvious: a system of law dealing with carbon permits cannot be constructed unless major policy implications are taken into consideration. The policy process and purpose of the trading scheme is the framework and the legal model is the meat on the bone that makes the construction work. Against this international backdrop, the European Union (“EU”), in 2005, introduced a European Trading system

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L. & ARBITRATION 74 (2001).

<sup>4</sup> Joseph Stiglitz, *Nobel Laureate: How to Get Out of the Financial Crisis*, *TIME*, Oct. 17, 2008, available at <http://www.time.com/time/printout/0,8816,1851739,00.html>.

(“ETS”), which was noted as being “one of the most important instruments.”<sup>5</sup> However, it is not guaranteed other countries will adopt the EU system and hence the view expressed in this Article, to introduce an international system, has the advantage of being “neutral” in nature.

This Article examines EU and Australian policy frameworks. These two entities have signed the Kyoto Protocol. The views in relation to trade issues within the United States—the major country that has not yet signed the Protocol and accounts for 36.1% of world emission—are also of interest.<sup>6</sup> It is this Article’s contention that once the major frameworks are analyzed, a view should emerge of what system of laws and which legal model should govern the trade in carbon permits. This Article argues that the most cost effective solution is the use of international uniform trading laws. It goes without saying that having a system of trade is only one-half of the total framework. A creation of an international dispute resolution system completes the circle of trade.

## I. THE POLICY LEVEL

The backdrop is the Kyoto Protocol adopted in 1997. The Protocol is underpinned by and strengthens commitments made under the United Nations Framework Convention on Climate Change

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<sup>5</sup> *Proposal for a Directive of the European Parliament and of the Council Amending Directive 2003/87/EC so as to Improve and Extend the Greenhouse Gas Emission Allowance Trading System of the Community*, at 2, COM (2008) 16 final (Jan. 23, 2008), available at <http://www.europarl.europa.eu/document/activities/cont/200806/20080610ATT31234/20080610ATT31234EN.pdf>.

<sup>6</sup> Press Release, Climate Action Network (CAN), Europe, EU and its Member States Ratify the Kyoto Protocol (May 31, 2002), [http://www.climnet.org/EUenergy/ratification/31-5-02\\_EUratifiesKP.pdf](http://www.climnet.org/EUenergy/ratification/31-5-02_EUratifiesKP.pdf).

(“UNFCCC”). In the Seventh Conference of the parties to UNFCCC (“Marrakesh Accord”), flexible mechanisms to reduce greenhouse emissions were discussed and agreed upon.<sup>7</sup> Many countries, specifically the EU, have put in motion the aspirations of reducing greenhouse gases in the near future. “[T]he European Council reaffirmed that developed countries should collectively reduce their emissions by 60% to 80% by 2050 compared to 1990” levels.<sup>8</sup> Furthermore, the European Commission issued a communication in 2006 entitled “Building a global carbon market—Report pursuant to Article 30 of Directive 2003/87/EC.”<sup>9</sup>

The first point is that capping emissions and trade in permits should be separated and treated as two different problems. As already indicated, the former is a domestic problem whereas the latter should be resolved on a global level. It is notable that the allocation allowances are a separate problem and need to be addressed separately. It is obvious that each “Kyoto” country is required to cap their emissions. It follows that each country would have companies with shortfalls in carbon permits, while others would have an excess of tradable credits. From an ethnocentric point of view—that is cap and trade is domestic in nature only—an international scheme would not be warranted. However, the Marrakesh Accord also introduced the possibility of taking “advantage of opportunities to reduce green-

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<sup>7</sup> United Nations Framework Convention on Climate Change, *Guidelines under Articles 5, 7 and 8: Methodological Issues, Reporting, and Review under the Kyoto Protocol*, [http://unfccc.int/national\\_reports/accounting\\_reporting\\_and\\_review\\_under\\_the\\_kyoto\\_protocol/items/1029.php](http://unfccc.int/national_reports/accounting_reporting_and_review_under_the_kyoto_protocol/items/1029.php).

<sup>8</sup> COM (2008) 16 final, *supra* note 5, at 3.

<sup>9</sup> *Id.* at 2.



house gas emissions in other countries at lower cost than at home.”<sup>10</sup> The point is that permit trading is not restricted to geographical boundaries, but it is international in character. It follows that the EU’s example will create a variety of domestic frameworks. The problem is whether it is more conducive to trade by integrating these systems or by building a bridge between the various frameworks. From a “global environmental point of view, the place where the emission reduction takes place is of secondary importance provided that real emission reductions are achieved.”<sup>11</sup> This view alone arguably suggests a global system of trade should be introduced.

The Kyoto Protocol introduced three possible trading schemes, namely a market-based flexible emission trading scheme, Joint Implementation (“JI”) and the Clean Development Mechanism (“CDM”).<sup>12</sup> The three systems were developed in order to allow for flexibility in dealing with greenhouse gas emissions in all sectors. Simply put, the emission trading and JI systems allow trade between countries with emission targets. CDM, on the other hand, refers to projects in developing countries with no targets.<sup>13</sup> The outcome simply is that reductions are made where the costs are lowest. It is not important where the reduction takes place as long as it does take

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<sup>10</sup> *Commission Proposal for a Directive of the European Parliament and of the Council Amending the Directive Establishing a Scheme for Greenhouse Gas Emission Allowance Trading Within the Community, in Respect of the Kyoto Protocol’s Project Mechanisms*, at 2, COM (2003) 403 final (July 23, 2003) (EC).

<sup>11</sup> *Id.*

<sup>12</sup> United Nations Framework Convention on Climate Change, *Kyoto Protocol*, [http://unfccc.int/kyoto\\_protocol/items/2830.php](http://unfccc.int/kyoto_protocol/items/2830.php).

<sup>13</sup> United Nations Framework Convention on Climate Change, *Clean Development Mechanism* (CDM), [http://unfccc.int/kyoto\\_protocol/mechanisms/clean\\_development\\_mechanism/items/2718.php](http://unfccc.int/kyoto_protocol/mechanisms/clean_development_mechanism/items/2718.php).

place. However, a proviso must be added. This system may work in the short term, but if a country can see a flight of industry to lower cost economies it may introduce restrictions either at the importing side or allowances to exporters—a clear intersection with the World Trade Organization (“WTO”) regulations. The EU has recognized the factor of “carbon leakage,” the relocation of emitters to third countries, which inevitably increases global emission.<sup>14</sup> The Commission already is preparing for such an event by 2010. Through identifying possible energy intensive sectors that may be subject to carbon leakage, the Commission proposes to allocate up to 100 percent free allocations or introduce an effective carbon equalization system.<sup>15</sup> It is arguable that such schemes are the equivalent of tariff protection and could signal a new age of protectionism. Whether these schemes fall within the international obligations of the WTO and find favor with the least developed countries remains to be seen. It appears arguable that a 100 percent free allowance will reduce carbon leakage, but at the same time will stop technology transfers such as JI to less developed countries. Hence, this will not reduce global emissions to the fullest possible extent.

As the EU concluded in the first phase of ETS, it is of value to briefly analyze the trading schemes. The Commission states that it has

successfully established free trade of emission allowances across the EU [and has therefore] set up the necessary infrastructure for monitoring, reporting, verifi-

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<sup>14</sup> COM (2008) 16 final, *supra* note 5, at 7.

<sup>15</sup> *Id.* at 8.

cation including registries and has so far successfully concluded two compliance cycles. It developed into the world's largest single carbon market accounting for 67% in terms of volume and 81% in terms of value of the global carbon market and also worked as the driver of the global credit market and in that triggered investments in emission reduction projects today indirectly linking 147 countries to the EU ETS through JI/CDM projects.<sup>16</sup>

The following observations can be made. First, the reporting, verification, and registration of permits is a domestic matter and therefore must be implemented by each country. Confidence in permit trading will rest on a sound verification process. However, as only some fundamental requirements of the process are regulated, practices may vary greatly between Member States of the EU as well as between other sovereign states. The EU Commission has conceded that the verification process "may not necessarily ensure the level playing field required to maintain the overall credibility of verification."<sup>17</sup> It is advantageous if a global uniform system could be agreed upon, but looking at the past negotiation histories amongst states, such a result is not very likely to be implemented in the near future, if at all. What can be said though, is that a disparate system of verification will be a source of disputes that will play out either under the WTO dispute resolution mechanism or in private dispute settlement attempts.<sup>18</sup> It is, therefore, also equally important to have at least an international arbitration system in place to handle these dis-

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<sup>16</sup> *Id.* at 2. (footnote omitted).

<sup>17</sup> *Id.* at 6.

<sup>18</sup> *Id.* at 8.

putes. Litigation will not be uniform, as each country will settle disputes in its own courts pursuant to prevailing conflict of law rules. It is extremely unlikely that sovereign states will agree on the formation of a world court to settle disputes in relation to cap and trade issues.

Second, many countries have not yet reached an advanced state in the cap and trade process. The United States (“US”) has not even ratified the Kyoto Protocol, hence the claim of a “global uniform system” is rather premature. This view is strengthened by the fact that US President Barack Obama promises to put the US in the lead by cutting emissions by eighty percent below 1990 levels by 2050, aiming to cut back to 1990 levels by 2020.<sup>19</sup> This fact alone would create a much bigger market than the EU anticipates.

Third—and for the purpose of this paper the most important point—is that no mention has been made as to the system of law that was adopted in the trade of permits. It is assumed that each of the EU countries would have traded under their own domestic laws, which are not conducive to global trade. However, it is still of value to investigate the EU ETS system in order to find solutions which would lend themselves to be included in an international model law that could contribute to a “best practices” trading law.

### **A. Emissions Trading**

In 2005, the EU started trading emissions, but more importantly it was thought to be the “first multi-national emissions trading scheme in the world and is considered a forerunner of the interna-

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<sup>19</sup> Alister Doyle, *Obama Can Sign U.N. Climate Pact Before U.S. Law: Kerry*, REUTERS, Dec. 11, 2008.

tional emissions trading scheme under the Kyoto Protocol.”<sup>20</sup> Companies that either fall below the cap or achieve reductions below the cap are in a position to trade the permits. The ultimate problem, of course, is the permits must cost less than the allowance to pollute, otherwise there will be no trade.<sup>21</sup> It also follows that international companies will make their cuts where it costs less and buy where the permits are cheapest. From a global point of view this is not a problem; it is only a problem for individual states experiencing a flight of companies to more cost attractive locations. A free and unencumbered international system of trade could be a partial solution to this problem. However, carbon leakage must be resolved domestically by government policies.

The Australian position is similar, but not the same. In addition to free trading processes, the Green Paper, and the subsequent White Paper, propose to also introduce an auction system.<sup>22</sup> As long as auctions are domestic in nature, the problem with such a system in a global sense is that it would need to create new and different international black letter laws because most sales by auction are excluded from uniform systems such as the Convention on the International Sale of Goods (“CISG”) through Article 2.<sup>23</sup>

<sup>20</sup> EuropaWorld, *The European Union and the Kyoto Protocol, Some Questions and Answers*, <http://www.europaworld.org/week167/background5304.htm>.

<sup>21</sup> ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 95 (4th ed. 2004).

<sup>22</sup> AUSTRALIAN GOVERNMENT, *CARBON POLLUTION REDUCTION SCHEME: GREEN PAPER* 12 (2008) [hereinafter GREEN PAPER], available at <http://www.climatechange.gov.au/greenpaper/summary/pubs/greenpaper-summary.pdf>; AUSTRALIAN GOVERNMENT, *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future—White Paper—Executive Summary*, Dec. 15, 2008, <http://www.climatechange.gov.au/whitepaper/summary/index.html>.

<sup>23</sup> United Nations Convention on Contracts for the International Sale of Goods, available at <http://www.uncitral.org/pdf/english/texts/sales/cisg/CISG.pdf>.

## B. Joint Implementation

JI is project based, allowing the generation of credits wherever the project takes place. JI is only possible in countries that have accepted emissions targets. The key criterion is that the generation of emissions by JI must be less than if the project would not take place. The baseline of JI is that “real, measurable and long term benefits related to the mitigation of climate change [must be implemented], while [at the same time] contributing to the achievement of sustainable development goals of host counties, notably through the transfer of environmentally sound technologies.”<sup>24</sup> Host countries, developing countries, and economies in transition presumably will benefit, but at the same time measuring the carbon value will be a problem. It requires a uniform system, or at least a verifiable system that is transparent to the JI partner. Furthermore, the host country must have a system of registering the property rights of the “developer.” An important point is the carbon credits resulting from JI projects are called emission reduction units (“ERU”) and presumably, at least at this stage, are distinguished from carbon permits issued by the same country in which they accrue. It does not take much imagination to see this area will become a source of disputes and only the creation of a sound dispute resolution mechanism will overcome the obvious risk aversion of possible JI partners. It should be noted that the Marrakesh Accord proposed a less restrictive control procedure, which in itself creates problems and supports the view that an international uniform system of trade and verification ought to be implemented.

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<sup>24</sup> COM (2003) 403 final, *supra* note 10, at 2-3.

Much weight is added to this argument in view that JI projects will play an important part in the global allocation of productive resources since many countries will see a cost benefit in the allocation of sustainable technologies to developing economies. The supply chain argument will play an important part, as offsets within the supply chain will attract the interest of big polluting companies, which has already informally begun.

### C. Clean Development Mechanism

The Kyoto Protocol allows developing countries that do not have a quantitative reduction target to host CDM projects. Annex I countries can use the “CDM credits to offset an increase in their domestic emissions during a commitment period.”<sup>25</sup> It goes without saying that a country without a reduction target would still need to deliver a verifiable system of measuring and recording the amount of credits accruing under these projects. The Marrakesh Accord has recognized these problems and has implemented, or will implement, supervision under a UNFCCC body, namely the CDM Executive Board, which will issue the CDM credits that will be called certified emission reductions (“CER”).<sup>26</sup>

The CDM will result in the transfer of advanced technology, which is environmentally friendly. This technology should by definition emit less greenhouse gasses than the technology used by the “donor” country. At this stage, three different credit systems are already in operation. Two solutions are possible; the trade is system

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<sup>25</sup> *Id.* at 3.

<sup>26</sup> *Id.* (emphasis omitted).

specific or it is treated at the same level. The logical compromise would be to have one trading system, with possible different price structures for each system. By way of analogy, designer models can be bought and sold on the same market as mass produced products, but the price differential would be obvious. It is argued that a cost effective way to deal with a global problem would be a single market for the trade in carbon credits.

Furthermore, if private industry is forced to reduce their emissions in their own countries, these systems will not have much private sector input and only purchases by governments will dominate this market. This opens an interesting prospective problem: will an inter-government dispute in carbon trading fall under the dispute resolution mechanism of the WTO? There is clearly an intersection between public and private international law, which is not far away in any trade in permits.

## II. THE EU POSITION

The EU ratified the Kyoto Protocol by a Council Decision on April 25, 2002.<sup>27</sup> A core proposal, according to the EU, is to recognize JI and CMD credits as equivalent to EU emission allowances, but at the same time recognize that it has been the subject of intense discussions.<sup>28</sup> The main discussions hinged on the problem of creating a bridge between the two different frameworks: the domestic system is a cap and trade system, whereas, the other two systems are

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<sup>27</sup> Council Decision 2002/358/CE, 2002 O.J. (L 130/1) (EU).

<sup>28</sup> Press Release, EUROPA, Kyoto Protocol, MEMO/03/154 4 (July 23, 2003), <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/03/154&format=PDF&aged=1&language=EN&guiLanguage=en>.



based on a credit and baseline approach.<sup>29</sup>

As seen above, the problem is that different institutions will issue the allowances and credits, and it appears the units of accounting are also different. It is perhaps of value to revisit the measuring of credits in a uniform fashion. If that is not possible, simply put, the argument is that at the very least a uniform trading system needs to be established. Trade, after all, is the same irrespective of the product. Differences in products influence the price but not the tradability, which in this instance would be dependant on the market's confidence in the verification process of each country. Also, we use the same laws whether we trade in bananas or machinery from various countries. The fact that different systems or different units are used is not a hindrance per se to the application of a uniform international trading law. It is arguable that the more common methods are used in the trade and measuring of carbon are, the easier it is to integrate all countries in a uniform system, which is easier to administer than disconnected domestic systems.

The EU argues that the JI (ERU) and CMD (CER) credits should be converted "into allowances, the unit of account within the Community scheme."<sup>30</sup> If that were the case, there is absolutely no hindrance to simply trade the ERU and CER within the same legal framework as any other domestic unit of account. The only difference would be the price per unit, which would be discussed and ne-

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<sup>29</sup> *Id.*

<sup>30</sup> Tony Beck, AETF & Frank Convery, ASIA-PACIFIC EMISSIONS TRADING FORUM, *EU Emissions Trading Scheme Linking—Features and Implications 2* (March 2004), <http://www.aetf.net.au/> (under "Knowledge Center" follow "Reference Papers," then scroll down for above title and download).

gotiated by the seller and buyer anyway or quoted on the various trading floors. The European Commission recognized this fact by stating that “[t]he absence of any additional restrictions on use or banking by entities thus provides full fungibility of companies’ holdings within the Community emission allowance trading system.”<sup>31</sup> At the same time, the Commission also recognized that the “trading system should only be extended to emissions which are capable of being monitored, reported and verified” with a high degree of accuracy.<sup>32</sup> The principle of confidence in the system would dictate that such a view is taken. However, it is arguable the market will pay pursuant to risk assessments. In other words, few would purchase a permit if there were no verification process in place because there is a high risk the permit turns out to be of no value. On the other hand, the market will assess the various verification processes of each country, and it is arguable that a price differential is imminent, as the market may not have the same confidence in the processes of verification in each country. Arguably, the outcome is that there will be price differentials, which will impact on cost structures. Hence, carbon leakage could be the result. Companies will seek cost advantages and seek to operate in a country where only internal credits are given. The countries the businesses seek, even if not as industrialized, will be preferred over a location in a recognized country with a higher cost structure. Other countries, via tariffs or other measures, may bring WTO disputes into play only to negate the lower cost advantage.

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<sup>31</sup> COM (2003) 403 final, *supra* note 10, at 6.

<sup>32</sup> COM (2008) 16 final, *supra* note 5, at 4.

Another point in support of the creation of an international trading law is that in general, a small number of entities contribute the most emission in any country. In the EU, for example, seven percent of businesses contribute to sixty percent of total emissions.<sup>33</sup> The conclusion is that most installations are corporate entities and corporate entities are commonly represented in more than one country. The question then becomes whether corporations could engage in an inter-company exchange of permits and take advantage of price differentials that will distort the trading regime. The EU Commission believes that measures such as taxation will avoid a distortion of markets.<sup>34</sup> On the other hand, it is also possible that carbon trading can create “tax minimization” schemes as credits that can be banked or moved along internal lines within a global business. These aspects, however, will not be pursued in detail in this Article.

### III. THE PRINCIPLE OF AUCTIONING PERMITS

It is arguable that a clear distinction must be made between the free trade of permits and the auctioning of permits. An introduction of an auctioning system regulating the sale and purchase of carbon permits unnecessarily complicates the creation of an international trade law. Sale by auction is traditionally excluded from many international sales laws such as the CISG.<sup>35</sup>

Domestic regimes should govern permit auctioning. This is how permits are distributed within each country in order to set levels

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<sup>33</sup> *Id.* at 5.

<sup>34</sup> *Id.*

<sup>35</sup> See United Nations Convention on Contracts for the International Sale of Goods, *available at* <http://www.uncitral.org/pdf/english/texts/sales/cisg/CISG.pdf>.

for domestic industries. In other words, auctioning of permits should be part of the capping system within the emission reduction efforts. However, an understanding of the various attempts to cap emissions is essential because it could have an influence on the cost structures of industry. In the end, a flow effecting the permit price could be observed. Three economies—the EU, Australia, and the US—are implementing the auction system differently. The main driver for US emissions cuts would be an “economy-wide” cap and trade scheme under which all emissions permits would be auctioned; “[a] 100 percent auction ensures that all large corporate polluters pay for every ton of emissions they release, rather than giving these emission rights away for free to coal and oil companies.”<sup>36</sup>

In Australia, on the other hand, the proposal is to auction the majority of permits, and the rest is free to high polluting industries; only over the long term is a move to a 100 percent auctioning system envisaged.<sup>37</sup> The EU seeks to use the auctioning system to avoid carbon leakage to avoid undesirable distribution effects, and intends to auction two-thirds of the total quantity in 2013.<sup>38</sup> Because the EU is acutely aware of the possibility that the energy intensive industry sector may relocate, the auctioning system will be varied for these industries. The Commission notes:

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<sup>36</sup> BarackObama.com, Barack Obama and Joe Biden: Promoting a Healthy Environment, <http://www.barackobama.com/pdf/issues/EnvironmentFactSheet.pdf>. (login, then follow the “Resources” hyperlink under “download into,” then follow the “Obama’s stance on Energy” hyperlink, then follow “the Obama-Biden environmental plan” hyperlink).

<sup>37</sup> GREEN PAPER, *supra* note 22, at 20.

<sup>38</sup> EUROPEAN UNION COMM., THE REVISION OF THE EU’S EMISSIONS TRADING SYSTEM, HL PAPER [197] 29 (2008), <http://www.publications.parliament.uk/pa/ld200708/ldselect/ldcom/197/197.pdf>.

Energy-intensive industries which are determined to be exposed to a significant risk of carbon leakage could receive a higher amount of free allocation or an effective carbon equalisation system could be introduced with a view to putting installations from the Community which are at significant risk of carbon leakage and those from third countries on a comparable footing.<sup>39</sup>

It does not take much imagination to realize the EU is granting some protection to strategic industries, but it must be mentioned that the Commission is aware that it must do so within WTO and UNFCCC obligations.<sup>40</sup> Whether such “preferential” treatment will distort the market remains to be seen.

Another interesting point is the first auction which was held in the US on September 25, 2008 under the auspices of the Regional Greenhouse Gas Initiative (“RGGI”).<sup>41</sup> The finding shows that “[fifty-nine] separate entities submit[ed] bids to purchase . . . four times the available supply of allowances.”<sup>42</sup> Of interest is the range of bids from a minimum of \$1.86 to a maximum of \$12.00, with an average mean of \$2.77. It is arguable that an open market would offer better returns than the above figures demonstrate. A compliance entity arguably is “better off” purchasing from other countries as

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<sup>39</sup> Committee on Industry, Research and Energy, Proposal to Improve and Extend the Greenhouse Gas Emission Allowance Trading System of the Community, EUR. PARL. DOC. 2008/0013 (COD) 16 (May 21, 2008).

<sup>40</sup> *Id.*

<sup>41</sup> RGGI.org, Regional Greenhouse Gas Initiative, CO<sub>2</sub> Auction Results, <http://www.rggi.org/co2-auctions/results>.

<sup>42</sup> Memorandum from Potomac Economics to RGGI, Inc. on Allowance Auction on September 25, 2008 (Oct. 18, 2008), *available at* [http://www.potomaceconomics.com/uploads/documents/Auction\\_One\\_Assessment.pdf](http://www.potomaceconomics.com/uploads/documents/Auction_One_Assessment.pdf).

prices contrary to an auction system can be negotiated. Such an argument takes on significance if the prices at the Chicago Exchange are examined. The price in May 2008 was quoted at \$7.50, but by November 26, 2008 it dropped to \$1.40, still cheaper than the lowest price at the RGGI auction.<sup>43</sup>

#### **IV. DISCUSSION OF PROPOSED SOLUTIONS**

##### **A. Introduction**

At the center of any trade in permits is the cap and trade proposal, a market based policy. It is obvious that most countries will develop their own domestic variation of a cap and trade model, which has already been alluded to in the above discussions. What has emerged so far is that the trading of permits, whether within a supply chain or between individual businesses within a country, has stimulated emission abatement and contributed already to a reduction in greenhouse gases. It is hoped that policymakers in setting the necessary domestic cap have addressed issues such as: the location and magnitude of industries that contribute to greenhouse emissions; the reduction that is necessary to address the problem; as well as any potential carbon sinks to offset some of the emissions, which are above the desired short and medium term cap. Once these policies are in place, further reductions will naturally follow.

The problem with a domestic cap and trade model is that marginal abatement costs are only effective within each domestic

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<sup>43</sup> To explore the market for RGGI's, see The Chicago Mercantile Exchange, <http://www.cmegroup.com>.

system. An opening of the market that is abatement within the JI and CDM systems will arguably increase the incentive within each industry to lower their marginal abatement costs in order to remain competitive. The JI and CDM projects allow for a greater flexibility in the trade of permits. The United States Environmental Protection Agency (“EPA”), in 2003, recognized that “cap and trade programs should include enough [business units] to create an active market for allowances.”<sup>44</sup> The reason is obvious: if the market does not have enough players—as seen in the above example of the first auction—potential sellers could be reluctant to part with their excess allowances, either to drive up the market price or bank the allowances for future use when the emissions gap will be lowered further and permits are potentially costlier.

One of the prerequisites for a successful international trading scheme is the presence of effective systems of law and enforcement mechanisms, which will be conducive to instill confidence in the participants of the trading system. Accurate pollution measurements and confidence in the registration system of tradeable permits or allowances must also underpin the legal framework. Ultimately, each country should aim to reduce pollution not only by industries within their own sovereign borders, but also across borders via JI and CDM projects, as long as the projects are cost effective.

In order to understand the trade aspect, the policy options of a cap and trade system need to be understood. It is more than likely

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<sup>44</sup> UNITED STATES ENVTL. PROT. AGENCY, *TOOLS OF THE TRADE: A GUIDE TO DESIGNING AND OPERATING A CAP AND TRADE PROGRAM FOR POLLUTION CONTROL 2-2* (2003), <http://www.epa.gov/airmarkets/resource/docs/tools.pdf>.

that not all countries will introduce the same cap and trade policy because countries face different environmental problems and will adopt the best policy option suiting their needs. The EPA has analyzed two main options, namely the Market Based approach versus Command and Control Regulations, and the Cap and Trade versus Environmental Taxes Regime. Command and control, or simply direct regulation, works best to reduce emissions in specific facilities where a zero or near zero emission level is desirable, such as in areas where a serious health problem exists.<sup>45</sup> The cap and trade versus tax regime, on the other hand, is different insofar as a cap and trade option reduces the total emissions step-by-step.<sup>46</sup> The tax regime sets a price for a ton of emissions and therefore the quantity of emissions is only reduced to the level where the marginal abatement costs equals the level of the tax.<sup>47</sup> However, the EPA also advocates an interesting concept, namely the “bubble policy.”<sup>48</sup> This policy would work best for industries with strong supply chains or groups of facilities such as refineries or steel mills. In brief, the facility or conglomerate asks the government for an aggregate emissions ceiling—the cumulative emissions within the bubble must be no more than the total emissions limit imposed on the conglomerate, irrespective of the emissions of each individual facility within the bubble.<sup>49</sup>

It appears logical that not all industries and firms within an industry—let alone in a closed economy—are locked into the same

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<sup>45</sup> *Id.* at 2-5.

<sup>46</sup> *Id.* at 2-5-2-6.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.* at 2-11.

<sup>49</sup> UNITED STATES ENVTL. PROT. AGENCY, *supra* note 44, at 2-11.



cost structures. The result is that some firms can reduce their greenhouse emission at a cheaper rate than others. It follows, therefore, that in the short term it is cheaper for some firms to purchase permits instead of reducing their emissions. However, from a global point of view the same result is obtained as the total reduction target is achieved. The advantage of a trading system is that it is targeting the bottom line of each business entity and will force each firm to cut emissions in order to remain competitive. The command and control system, as well as the tax system, are not target specific because they do not differentiate between efficient and less efficient companies but impose the same standard on everyone. Furthermore, an open trading system will indicate to firms within the same industry how cost effective—and therefore how efficient—their operations work compared with others. It will create an incentive to look for new technologies and improve “their game.”

Before attempting to discuss a trading scheme that will promote an efficient and effective market, it must be understood that any system must be simple, predictable, and consistent. Drafters of international uniform rules have long recognized that any market operates best when the rules are simple and easily understood by all participants.<sup>50</sup> It is argued that the predictability, and hence cost effectiveness, is best served by the introduction of uniform rules. One of the problems of the auction system that may be useful for the allocation of domestic allowances is that it varies between countries, and the acquisition of knowledge of the particular domestic system is essen-

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<sup>50</sup> See, e.g., David G. Victor, *Enforcing International Law: Implications for an Effective Global Warming Regime*, 10 DUKE ENVTL. L. & POL'Y F. 147, 165 (1999).

tial. Simply put, the above discussion indicates the auction market is a fragmented market and it is unlikely that a global auction market would be established. In this context it must be noted that to allocate allowances is not part of the international trading system because the distribution of allowances have economic, equitable, and political ramifications which are best left to individual countries, at least in the short to middle term. Political units are unlikely to reach a consensus to develop a uniform or centrally administered allowance system. The Doha round of talks are a confirmation—unfortunately, as basically all talks have broken down because no consensus could be reached.<sup>51</sup>

It is recognized that any allowance or tradable permit represents a valuable asset. The question is who will capture the value of the asset. By a free allocation, it is the individual business entity. If, on the other hand, all allowances are auctioned, it is the government who reaps the benefits. It is, therefore, clear that a global trading system can only be implemented after the allocations are made and have conformed to the caps individual governments agree on and are willing to implement. These caps, as it has been seen, vary between country, and therefore, a uniform system is impossible to implement. However, the most important reason is that the allocation of allowances will have economic implications, which differ if a country is either fully developed or is underdeveloped. It is very doubtful that policymakers would allow outside interference into domestic affairs,

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<sup>51</sup> Heather Stewart, *Tariffs: WTO Talks Collapse After India and China Clash with America Over Farm Products*, THE GUARDIAN, July 30, 2008, available at <http://www.guardian.co.uk/world/2008/jul/30/wto.india>.

especially if China or India are to be considered.<sup>52</sup>

## **B. Industry Based Solutions**

Several major industries have proposed specific in-house solutions based on supply chain management principles. It is of value to understand the methods applied by major companies to position themselves in a global market. It goes without saying that international company markets are governed by company policies and must comply with domestic allowance schemes. Most companies—and in this particular case, British Petroleum (“BP”)<sup>53</sup>—are meeting their first target by introducing a group-wide, cost-effective trading system. It is encouraging to note that BP believes that an international trading scheme will deliver agreed emission targets at less economic costs, and that such a trading system is superior to any other systems discussed above.<sup>54</sup>

Most importantly, BP believes that an international trading scheme will provide “the appropriate price ‘signal’ for emissions abatement and therefore the incentive to invest in abatement technology.”<sup>55</sup> In summary, BP created a basic model consisting of four streams: upstream; downstream; chemicals; and gas, power and renewables. 150 individual business units within BP operating in 100 countries were given an allocation of allowances and all were eligible

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<sup>52</sup> See generally, DALLAS BURTRAW ET AL., THE EFFECT OF ALLOWANCE ALLOCATION ON THE COST OF CARBON EMISSION TRADING, RFF DISCUSSION PAPER 1-30 (2001), available at <http://www.rff.org/documents/RFF-DP-01-30.pdf> (discussing cost effective methods of allocating emission allowances).

<sup>53</sup> Mark Akhurst et al., *Greenhouse Gas Emissions Trading in BP*, 31 ENERGY POL’Y 657 (2003).

<sup>54</sup> *Id.* at 658.

<sup>55</sup> *Id.*

to participate in the trading system. BP significantly notes: “The cornerstone of a successful emissions trading programme is having a robust and credible system in place to measure and, where appropriate, verify the greenhouse gas data being used in the trading system.”<sup>56</sup> BP created a central broker who registered all purchases and sales of permits. It is interesting to note that in the initial year of operation that was 2000, 2.7 million tons were exchanged at an average price of \$7.60 per ton.<sup>57</sup> In 2001, 4.5 million tons were traded at a higher price of \$36 per ton.<sup>58</sup>

The lessons learned are not restricted to BP alone but can be applied to the global trading system. It appears inevitable that big international corporations who already trade effectively within their own business structure will not give up their system for an inferior local system that does not fit into their business plan. It is instructive to read the lessons learned by BP, a company operating in a global environment. Significantly, the lessons learned relate to market fundamentals such as a simple system which is target specific and specifically: “critical is the need to establish a clear set of simple trading guidelines—designed for the 90% of ‘good actors’ instead of focusing on the 10% of ‘bad actors.’”<sup>59</sup> This statement sets two parameters: first, governments must introduce a cap and trade system which achieves the goal of broad compliance; and second, a trading system, which, in essence, must be global, should be simple and arguably

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<sup>56</sup> *Id.* at 659.

<sup>57</sup> *Id.* at 662.

<sup>58</sup> Akhurst, *supra* note 53, at 662.

<sup>59</sup> *Id.* at 663.

without interference of governments and not restricted to being put into domestic legislation. After all, the “big players” are multinationals, or those who operate in supply chains that are multinational in character.

The most important aspect of the experiment BP introduced was the realization that trading has considerable potential to reduce greenhouse gases, at least in terms of economic costs, because the creation of a new business asset—namely the permits—are the correct incentives for innovation and investments “which cannot be matched by command and control regulation, taxes or even tax breaks.”<sup>60</sup> The argument, therefore, to produce a global trading system based on uniform laws assisted by an arbitration dispute resolution mechanism has to be seriously considered. BP has indicated they will join emerging external schemes on a case-by-case basis.<sup>61</sup> The suggestion could be made that once a major international player adopts an international model others would follow.

Several market models have already emerged amongst the most important one: the allowance based market. This is not surprising, as the first step in any abatement has to be the actual cap that requires the trade or allowances. It is therefore not surprising that marketplaces have been created; the most important ones being the European Climate Exchange (“ECX”) and the London Energy Brokers Association (“LEBA”).<sup>62</sup> Other markets have or will emerge in all major places such as New York and India. Energy companies

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<sup>60</sup> *Id.*

<sup>61</sup> *Id.*

<sup>62</sup> AMBROSI & CAPOOR, *supra* note 2, at 2 n.4.

have already hedged their carbon exposure, which is commonly referred to as flow trading. Companies on their own accounts, which are referred to as proprietary trading, have also undertaken purchases and sales.<sup>63</sup> It is not surprising that permits—being a proprietary right—will be traded on the stock exchange and other exchanges. This, no doubt, will be undertaken under current rules governing exchanges. However the actual trade has not been fully investigated and requires a governing law that has not been determined yet on a global scale.

### **C. Allowance and Project Based Markets—Is Unification of Trade Laws Possible?**

At this stage of play, the observation can be made that voluntary markets are already well established; specifically, the EU appears to be the trendsetter in greenhouse abatement. A high proposition of volume is struck over-the-counter with LEBA. As expected, each of the trading associations have developed their own terms and conditions. LEBA as well as ECX in their jurisdictional term—which is of interest to this paper—have selected English law with the exclusive jurisdiction of London Courts, which excludes any dispute resolution through arbitration.<sup>64</sup> The Chicago Climate Exchange (“CCX”), which is associated with the Financial Industry Regulatory Authority, included arbitration into their rules, excluding the recourse of litigation. At the same time, governments are also producing Green Papers as well as White Papers, such as in Australia, identify-

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<sup>63</sup> *Id.* at 2.

<sup>64</sup> EuropeanClimateExchange.com, European Climate Exchange—Legal Disclaimer, <http://www.ecx.eu/Disclaimer> (last visited Apr. 2, 2009).

ing potential designs of trading schemes; however, these designs come without any details.<sup>65</sup>

If this trend continues as indicated, the carbon market will inherit all the disadvantages of having to deal with multiple domestic laws, arriving potentially at different solutions. It is proposed that an understanding of the current trend is important to develop a uniform system of law, overcome problems of domestic conflict of law rules, create different procedural laws, and above all, create different substantive laws which will not supply a uniform global jurisprudence. In other words, a comparative analysis will “tease out” a best practices solution, taking into consideration existing practices as well as uniform international laws where existing practices are not conducive to a satisfactory global resolution.

A uniform law will arguably conform to the findings of companies such as BP, which advocate a simple, transparent, cost effective system devoid of extra costs in acquiring different levels of knowledge depending on where dispute resolutions will take place. As the EU market is the trendsetter, a view to create a uniform system of law in carbon dealing has some urgency. It is well established that the EU is currently well advanced in the creation of a uniform European civil law, including contract law. The question immediately arising is how the London Courts and English law will react to such a regulation, and more importantly, how will the world trade in permits be influenced by a unified EU law?

It is recognized that the free market plays an important part in

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<sup>65</sup> See, e.g., GREEN PAPER, *supra* note 22, at 141-68.

the trade of carbon permits. However, it is also recognized that a regulatory framework is essential to guarantee a viable low-cost market that instills confidence in buyers and sellers. The current financial market collapse indicates that regulators still have a role to play.<sup>66</sup> Furthermore, the development in many areas of law towards uniform laws should also be taken into consideration in capturing “best practices” solutions in this important market, which is still in its infancy. The Business Council of Australia released a framework as far back as April 2007, where it noted:

The framework identified the need to take a risk management approach and to introduce a linkable emissions trading scheme (ETS).

But Australia cannot go it alone. What is required is an international response including all emitters. In the absence of global action, Australia must ensure its actions do not unnecessarily impact on its economy and living conditions.

A well-designed ETS will ensure Australia can manage its economic growth while contributing to a reduction in global emissions. A poorly designed ETS means high economic and social costs for Australia with no environmental gain.<sup>67</sup>

The interplay between the free market and a regulatory framework is important and has been demonstrated by the fall of the EU carbon prices. It is clear that a free market will respond faster to changed

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<sup>66</sup> See Michael Englund & Rick MacDonald, *Trade, Jobless Claims Data Add to the Gloom*, BUS. WK. ONLINE, Dec. 12, 2008.

<sup>67</sup> Business Council of Australia, Emissions Trading, <http://www.bca.com.au/Content/101469.aspx>.



market conditions, as experienced in 2008, and a carbon tax imposed by governments is too slow to react to change.

Environment markets are client-driven markets, so the dominant players are people who participate because they have to. If you look at liquidity in the EU there's not a big impact on market because people need to go out and buy. There's not a huge amount of speculative players [in the carbon market] so we're not suffering from companies needing to scale back.<sup>68</sup>

However, the setting of prices and responding to market demand does not diminish the need to create a regulatory framework, especially once litigation and disputes arise. A system responding to the needs of the market requires a sound dispute resolution system, which at this stage, is domestically regulated. As stated previously, the creation of a global jurisprudence would contribute certainty and provide confidence to traders in an ever-increasing market.

Simply put, it is not proposed to “close down” the private market; what is suggested is that all dealers in carbon—government or private firms—adopt the same trading rule that is a uniform trading law. As it stands, variations between legal systems will emerge as they have in other areas of law and will therefore influence the outcome of disputes. It is recognized that the setting of caps cannot have a global solution because the cap depends on individual economies and their ability to absorb costs in order to remain viable. However, once all the caps are set and the free trade of carbon credits is in

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<sup>68</sup> Thomson Reuters, *Carbon Extra: Price Fall Shows Why ETS Best*, Ed. No. 16, Nov. 28, 2008 (alteration in original).

“full swing” the lessons of the past should not be forgotten—namely, that a uniform system of law is possible. The CISG and the UNIDROIT Principles have proven this beyond all reasonable doubt.<sup>69</sup> Furthermore, the efforts of the EU to create a uniform civil law underline the above points.

## V. CONCLUSION

As far as arbitration as a dispute resolution mechanism is concerned, lessons from current practices should be heeded. Carbon trading is a unique and new system of trading in intangible proprietary rights. Considering the possibilities of engaging in greenhouse gas reduction, in other countries or in one’s own, will create specific problems considering that verification and registration are important aspects to instill confidence in the trade. If special trades such as charter parties or the commodity trade are concerned, the appropriate trade associations have developed specific contractual documents in order to instill uniformity into the trade. Carbon trading must go the extra step and follow the example of the Olympic Committee, which in the end created their own arbitration association with a fixed seat in Lausanne.<sup>70</sup> Most problems of applicable substantive, as well as procedural laws, have been resolved. What used to be a complicated system is now accepted and produces uniform results.

It is argued that the important aspect of dispute resolution in carbon trade should not be left to individual nations and their indi-

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<sup>69</sup> Rod N. Andreason, *MCC-Marble Ceramic Center: The Parol Evidence Rule and Other Domestic Law Under the Convention on Contracts for the International Sale of Goods*, 1999 BYUL REV. 351, 355.

<sup>70</sup> TAS-CAS, Court of Arbitration for Sport, *Origins*, <http://www.tas-cas.org/history>.

vidual laws, but should be resolved by the creation of uniform laws, which ultimately ought to be included into a greenhouse gas reduction convention or protocol. More research in this area is warranted and no doubt is underway.