

# CLI RECOMMENDATION NO. 14

## Strengthen Kyoto Institutions and Mechanisms to Reduce Greenhouse Gas Emissions\*

The Kyoto Protocol was adopted on December 11, 1997 and entered into force on February 16, 2005 after ratification by Russia.<sup>1</sup> A follow-up agreement to the 1992 United Nations Framework Convention on Climate Change (UNFCCC) which created a framework for international action and encouraged greenhouse gas (GHG) emission reductions by industrialized countries,<sup>2</sup> its most important achievement is arguably the adoption of binding greenhouse gas (GHGs) emission limits for industrialized nations and the creation of several institutions designed to facilitate global reduction efforts, especially through a global carbon market.

### I. A Primer on Key Kyoto Protocol Institutions<sup>3</sup>

#### A. Kyoto's International Emission Trading System

Annex B of the Kyoto Protocol sets emissions reduction targets for almost all industrialized nations, with the amount of allowed emissions, or assigned amounts, divided into “assigned amount units” (AAUs, also known as “Kyoto units”).<sup>4</sup> Article 17 of the Protocol provides that “Parties included in Annex B may participate in emissions trading for the purpose of fulfilling their [emission limitation] commitments.”<sup>5</sup> Thus the Protocol produced a new commodity. The trading of these AAUs (emissions trading) between nations with excess amounts of AAUs to ones potentially not on target in meeting their emissions reduction goals created a brand new world market: the carbon market,<sup>6</sup> estimated to be worth about \$64 billion last year.<sup>7</sup> It is believed that if the US were to enter the carbon market, the global market could be worth \$2,000–\$3,000 billion by 2020.<sup>8</sup>

The carbon dioxide reduction target for each Party is pegged primarily to a 1990 baseline, though 1995 emissions base-line levels may be applied for different GHGs.<sup>9</sup> Before the start of the Kyoto Protocol's first commitment period (2008–2012), just recently begun, each country is required to submit a report providing the emissions data necessary to establish its future assigned amount formally. An inventory of GHGs and removals as well as information

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<sup>1</sup> FCCC/CP/1997/7/Add.1; 2002(II) BGBI 967; Cm 5379, *reprinted in* 37 I.L.M. 32 (1998) and 5 INTERNATIONAL LAW AND WORLD ORDER: BASIC DOCUMENTS V.E.20d (Burns H. Weston & Jonathan C. Carlson eds., 1994–) [hereinafter “Weston & Carlson”], *available at* [http://unfccc.int/kyoto\\_protocol/items/2830.php](http://unfccc.int/kyoto_protocol/items/2830.php).

<sup>2</sup> Opened for signature, May 9, 1992. Entered into force, Mar. 21, 1994. 1771 U.N.T.S. 107, *reprinted in* 31 I.L.M. 849 (1992) and 5 Weston & Carlson V.E.19.

<sup>3</sup> Anna Ellis & Kristin Hines had primary drafting responsibility for the emission trading and CDM portions of this primer. The discussion of the non-compliance mechanism is adapted from Tseming Yang, *International Treaty Enforcement as a Public Good*, 27 MICH. J. INT. L. 1131 (2006).

<sup>4</sup> See [http://unfccc.int/kyoto\\_protocol/mechanisms/emissions\\_trading/items/2731.php](http://unfccc.int/kyoto_protocol/mechanisms/emissions_trading/items/2731.php).

<sup>5</sup> Kyoto Protocol, *supra* note 1, art.17.

<sup>6</sup> Though other GHGs are traded, carbon dioxide is the principle GHG. The “carbon market” thus means the transactional distribution of any GHG.

<sup>7</sup> Fiona Harvey, *Carbon Trading Set to Dominate Commodities*, <http://www.ft.com> (June 6, 2008).

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

<sup>9</sup> See [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).

on total annual transactions is required for each subsequent year and is subject to review for accuracy and conformity to Protocol guidelines.<sup>10</sup>

For the carbon market to work, all of the AAUs, emissions levels, and transactional data must be accurately tracked and consolidated. Hence another requirement of the Kyoto Protocol: before the start of the commitment period, each Party must have established a national system and registry for storing this information.<sup>11</sup> The national registries are the heart of the process that allows the Parties to participate in the emissions trading mechanism. Similar to banks, they manage the accounts for the Annex B parties (and entities authorized by them). Using electronic databases which must be continuously available via the Internet<sup>12</sup>—none of the Kyoto units are transformed into tangible items such as physical currency—they record the units held and initiate the transactions among the carbon market.

### B. Kyoto's International Transaction Log

The Protocol Secretariat has established and maintains also a system called the international transaction log (ITL) to “verify the validity of transactions undertaken by the registries.”<sup>13</sup> The ITL does not initiate transactions or hold units. It was established, rather, as a central system to “monitor the validity of any transactions performed by registries which affect the overall quantity of units which Annex B Parties may use for compliance purposes under the Kyoto Protocol.”<sup>14</sup> Specifically, it maintains a communications hub through which all communications between registries flow (all registries being linked to each other only via the ITL hub).<sup>15</sup> When a transaction is generated, a proposal message is sent to the ITL which includes all the information that pertains to the transaction such as the quantity of units and the type of account involved.<sup>16</sup> The ITL then verifies the authenticity of the request (checking to confirm that the units requested are actually held by the registry, that they have not been retired, etc.) before allowing the transaction between registries to be completed and recorded.<sup>17</sup>

Similar to the ITL are supplementary transaction logs (STLs) which are also established to monitor the validity of transactions but only on a regional scale for the countries that are members of a specific regional trading scheme.<sup>18</sup> These regional schemes have their own rules about transactions and thus apply checks that are complementary to, but not the same as, the checks applied by the ITL, which will forward proposed transaction information to an STL only if the country involved in the transaction is a member of the regional trading scheme. Currently the only STL in existence is the Community Independent Transaction Log (CITL) which supports the EU emissions trading scheme (EU ETS) and which has been in place since the start of the EU ETS in 2005.

Only two of the current 38 Annex B countries do not have working registries that have passed the Protocol's initialization process.. However, only four have registries that are live with the ITL (Japan, New Zealand, Russia, and Switzerland).<sup>19</sup> As the Protocol's commitment period started only recently, in January 2008, it is too early to tell how the

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<sup>10</sup> See [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>11</sup> Note by the Secretariat, *Checks to be Performed by the International Transaction Log*, May 13, 2005, at 3.

<sup>12</sup> *Id.* at 4.

<sup>13</sup> *Id.* at 3.

<sup>14</sup> *Id.* at 4.

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

<sup>16</sup> *Id.* at 10.

<sup>17</sup> *Id.* at 11.

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

<sup>19</sup> See [http://unfccc.int/kyoto\\_protocol/registry\\_systems/registry\\_websites/items/4067.php](http://unfccc.int/kyoto_protocol/registry_systems/registry_websites/items/4067.php).

delay of connecting the national registries to the ITL will impact the carbon market as a whole. For the EU countries, on the other hand, the delay will most likely not affect trading since the EU trading scheme has been in force for three years already.

As mentioned, the CITL of the EU ETS has been in place since 2005. The EU ETS is both the world's oldest and largest carbon market, covering 10,500 installations across the 27 members, plus Iceland, Liechtenstein, and Norway.<sup>20</sup> During the initial Phase I period of the EU ETS (2005-2007), the CITL was completely independent of the ITL; however, for the start of the Kyoto commitment period last year, the EU registries are to switch their primary connections from the CITL to the ITL such that the CITL will become a supplementary log. As indicated, this has yet to happen.

The EU ETS is completely independent of the Kyoto Protocol in that it is EU law and would have become operational even if the Protocol had not entered into force.<sup>21</sup> However, the Phase II emissions targets of the EU ETS will be set in Kyoto unit equivalents and thus tie the EU ETS to the Kyoto emissions trading mechanism similar to how the EU CITL will be joined to the Protocol's ITL. Individual EU countries will be bound by the Annex B limits agreed to in the Protocol and will distribute the Kyoto units either by auctioning them to individual polluters or giving them away.

The distribution of the permits was one of the challenges faced by the EU during Phase I that it hopes to correct in Phase II. In Germany, for example, politics swayed the process. The German government wanted to protect its coal industry and gave many free credits to coal-fired power plants.<sup>22</sup> Some of these plants then turned around and charged customers for carbon costs they never had to pay.<sup>23</sup>

Another issue that came to light in Phase I resulted from some inaccurate data such that allowances to emitters were over allocated<sup>24</sup>—in essence, flooding the market and causing permit “inflation.” Thus, many were concerned about the volatility of the market because prices were initially quite high, but when accurate data emerged the price dropped dramatically from almost \$40 to \$1 per ton.<sup>25</sup> Similarly, when prices again declined it was discovered that there was no provision for “storing” emissions reductions for use in Phase II.<sup>26</sup> There now are provisions for “banking” between phases; so permits traded in Phase II can be eventually moved forward to Phase III.<sup>27</sup> Further, because accurate data is essential also to the success of Phase II, information dissemination and transparency is a top priority for the EU going forward.

### C. Kyoto's Clean Development Mechanism

The Clean Development Mechanism (CDM) is a second market-based mechanism established by Article 12 of the Kyoto Protocol. Like emission trading, it was designed to increase flexibility and lower the costs of Annex I Parties in meeting their emissions reductions targets under Kyoto. Essentially, it allows Annex I Parties to receive carbon credits—called “Certified Emissions Reductions” (CERs)—for investing in emission-reduction projects in developing countries and to apply such “offset” credits generated towards their domestic emissions, to bank them for the next commitment

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<sup>20</sup> See World Bank, *State and Trends of the Carbon Market 2008*, May 2008, at 1 and [http://ec.europa.eu/environment/climat/emission/citl\\_en.htm](http://ec.europa.eu/environment/climat/emission/citl_en.htm).

<sup>21</sup> “The European Union's Emissions Trading System in Perspective,” at 1, prepared for the Pew Center on Global Climate Change by A. Denny Ellerman & Paul L. Joskow, M.I.T., May 2008.

<sup>22</sup> David G. Victor & Danny Cullenward, *Making Carbon Markets Work*, SCIENTIFIC AMERICAN, Dec. 2007, at 74

<sup>23</sup> *Id.*

<sup>24</sup> *Id.*

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

<sup>26</sup> *Id.*

<sup>27</sup> *Supra* note 22, at 34.

period, or to sell them internationally. Intended to promote sustainable development in the project's host-country while helping Annex I Parties achieve their emissions targets in a more cost-effective manner, the CDM was the first global market mechanism in international environmental law and is innovative in that it allows private entities to participate in buying and selling emissions credits.<sup>28</sup>

Experience with the CDM to date, however, suggests the need for reform and use in conjunction with other investment and carbon-management strategies to reach its full potential.<sup>29</sup> Indeed, many of the calls for reform of the Kyoto Protocol concern the CDM's current operating procedures.

The CDM is supervised by an Executive Board comprised of individuals from Parties to the Kyoto Protocol serving in their individual capacities. The Board follows procedures for CDM implementation finalized by the Marrakesh Accords<sup>30</sup> and is responsible for oversight at the project level. CDM projects begin with a Project Design Document (PDD) submitted by the developer and containing a variety of information related to its expected impact, including proposed methodology for calculating emissions with and without the project.<sup>31</sup> An independent auditor, termed a Designated Operation Entity (DOE), is then hired by the project developer to confirm that the PDD's projected emissions reductions are realistic and that the project complies with the CDM's procedural requirements.<sup>32</sup> After host country-approval and a public comment period, the DOE validates and submits the PDD to the Executive Board, marking formal acceptance of the project as a CDM activity.<sup>33</sup>

Once the project development is under way, a different DOE conducts ongoing, periodic reviews to monitor the actual reductions in GHG emissions that the project generates.<sup>34</sup> It certifies achievement of the project's stated reduction in anthropogenic emissions to the Executive Board and requests issuance of credits to the project developer, who then can hold or sell the CERs on the carbon market.<sup>35</sup> In 2007, the CDM market was valued at €12 billion,<sup>36</sup> with more than 3,000 projects either registered or in the validation process after just four years.<sup>37</sup> Ongoing CDM projects combined with PDD projections anticipate supplying approximately 2.6 billion CERs by the end of Kyoto's first commitment period in 2012.<sup>38</sup>

This escalation in CDM-project growth, however, signals trouble to analysts who argue that already the CDM is not functioning well.<sup>39</sup> The primary criticisms of the CDM thus far are that the credits generated are of poor quality

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<sup>28</sup> Charlotte Streck & Jolene Lin, *Making Markets Work: A Review of CDM Performance and the Need for Reform*, 19 EUR. J. INT'L L. 409, 410–411 (2008).

<sup>29</sup> See generally Michael W. Wara & David G. Victor, *A Realistic Policy on International Carbon Offsets*, Working Paper No. 74, Program on Energy and Sustainable Development, Stanford University, April 2008.

<sup>30</sup> *Modalities and Procedures for A Clean Development Mechanism*, Decision 17/CP.7 of The Marrakesh Accords (governing rules for CDM implementation), adopted by the Conference of the Parties (COP 7) in Oct. 2001, available at <http://unfccc.int/resource/docs/cop7/13a02.pdf>.

<sup>31</sup> "Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its first session held in Montreal from 28 November to 10 December 2005," Appendix C(b)(ii), p. 25, available at <http://cdm.unfccc.int/Reference/COPMOP/08a01.pdf>.

<sup>32</sup> *Id.* at ¶35, p. 14.

<sup>33</sup> *Id.* at ¶41, p. 15.

<sup>34</sup> *Id.* at ¶61, p. 18.

<sup>35</sup> *Id.*

<sup>36</sup> PointCarbon, CDM-JI Monitor, 23 Jan. 2008, at 6.

<sup>37</sup> Wara & Victor, *supra* note 30, at 9.

<sup>38</sup> *Id.* (citing Jorgen Fenhann, UNEP-Riso Centre, CDM-JI Pipeline Database, at <http://www.cdmpipeline.org>.)

<sup>39</sup> See generally Wara & Victor, *supra* note 30.

and do not reflect actual reductions in emissions, and that the CDM's design, worsened by inadequate administrative resources, limits its ability to function properly because the primary strategy of many countries is focused on controlling costs in complying with emissions targets.<sup>40</sup> Functionally, the CDM creates an incentive to inflate emissions reductions, a problem exacerbated by the fact that the DOEs auditing the project are compensated by the project developers and often do repeat consulting work for the same ones.<sup>41</sup> Verification work by the Executive Board slows down other parts of the process, including issuing credits.<sup>42</sup> Because of the high transaction costs, projects are either approved without sufficient scrutiny to ensure their integrity or prevent administrative delays and consequent system bottlenecks.<sup>43</sup> Moreover, the Executive Board's own operation has been criticized for a lack of transparency, accountability, and predictability.<sup>44</sup> Finally, the CDM's appeal to Annex I Parties—generating less expensive credits abroad—may not necessarily best serve the host country's long-term sustainable development needs, especially the need for investment in infrastructure.

Other reforms focus on the credits, including their integrity, supply, and effect on developing nations. Suggested reforms in this vein involve concentrating the CDM on a smaller number of larger volume projects, thereby allowing more resources to be dedicated to ensuring the environmental integrity of each project and helping to amortize administration costs.<sup>45</sup> Other suggestions include shifting to “programmatic” CDM projects or activities with dispersed emissions where substantial reductions can be realized through widespread implementation of cleaner technologies.<sup>46</sup> This approach suggests limiting and focusing the use of the CDM in conjunction with other cost control and development strategies, a desirable strategy not only because it reduces volatility in the offset market by taking pressure off the supply gap created by slow-paced credit issuance, but also because it might better serve the sustainable development paths of developing countries. Analysts advocating this approach propose pairing a reformed CDM with non-offset efforts such as a climate fund and an infrastructural deals program to engage and encourage developing countries towards eventual emissions commitments.<sup>47</sup>

Despite a widely acknowledged need for reform, the CDM is viewed as having an important role to play in engaging developing countries in climate change abatement efforts. A reformed CDM able to ensure that projects are achieving real reductions in anthropogenic emissions is required for the CDM to function as a viable part of a greater emissions reduction strategy.<sup>48</sup>

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

<sup>41</sup> *Id.* at 19.

<sup>42</sup> “Given the pattern of issuance requests to date, in order to actually issue CERs from all registered projects, the CDM EB will likely have to respond to between 5 and 10 thousand issuance requests, depending on whether they come annually or bi-annually. . . . This is between 20 and 40 times the rate at which issuance has been occurring. . . . Assuming the proportions of project types stay about the same, the actual rate of issuance by the CDM EB is only about 1% to 2% of the actual rate needed to issue all the CERs in the CDM pipeline in a timely manner.” Wara & Victor, *supra* note 30, at 16.

<sup>43</sup> *Id.* at 14.

<sup>44</sup> Streck & Lin, *supra* note 29, at 423.

<sup>45</sup> Wara & Victor, *supra* note 30, at 19.

<sup>46</sup> *Id.*

<sup>47</sup> Michael Wara & David Victor, Research Fellow and Director of the Program on Energy and Sustainable Development at Stanford University's Freeman Spogli Institute for International Studies, respectively, propose these non-offset approaches as complements to the as part of a “portfolio of strategies” to control costs and engage developing countries. *Id.* at 21.

<sup>48</sup> “Additionality” is the requirement that the CDM project creates actual reductions in anthropogenic emissions beyond that which would have occurred in the absence of the CDM project. It, is a key component of the flexibility mechanisms and thus far has proved challenging to assess in CDM's operation.

#### D. Kyoto's Non-Compliance Mechanism

A third key Kyoto institution is the non-compliance mechanism, created by Article 18.<sup>49</sup> The non-compliance mechanism is administered primarily by a 20-member Compliance Committee. The Committee is subdivided into an enforcement branch, a facilitative branch, a bureau, and a plenary committee.<sup>50</sup> One half of the membership serves in the enforcement branch, the other half in the facilitative branch. Members of each branch are selected with an eye to reflecting geographic diversity, including small island nations, and based on their Annex 1 membership status. The chairs and vice-chairs of each branch comprise the bureau, which has as its primary responsibility the task of allocating “questions of implementation”—potential noncompliance issues—between the two branches. The plenary committee is made up of all twenty members and handles all administrative and reporting matters.

The enforcement branch of the Compliance Committee addresses specific instances of noncompliance with the Annex B emissions caps; the methodological and reporting requirements; and the eligibility requirements of the Clean Development mechanism (Article 6), Joint Implementation (Article 12), and emissions trading (Article 17). It is also responsible for applying the “consequences” of noncompliance. The decisions of the branch are to be adopted by consensus. If consensus cannot be reached, a three-fourths majority—including simple majorities each of Annex I and of non-Annex I countries—must support the decision.<sup>51</sup>

The facilitative branch of the Compliance Committee is similar to the Implementation Committee of the Montreal Protocol. In contrast to the enforcement branch, it is “responsible for providing advice and facilitation to Parties in implementing the Protocol, and for promoting compliance by Parties with their commitments under the Protocol.”<sup>52</sup>

Questions of implementation may be brought to the attention of the Compliance Committee by reports of the expert review teams, a state party with respect to itself, and other parties when supported by corroborating evidence.<sup>53</sup> The matter is dealt with in two stages. In the first stage, the responsible branch engages in a preliminary examination of the matter to ensure that it is “supported by sufficient information,” is “not de minimis or ill founded,” and is “based on the requirements of the Protocol.”<sup>54</sup> If the noncompliance complaint passes the preliminary examination, a substantively more detailed inquiry ensues in the second stage. Deliberations by both branches during this stage may be based on a broad range of relevant information, including expert advice. Decisions must be supported by conclusions and reasons and, together with the information considered, will usually be made available to the public.

The noncompliance mechanism also contains specific provisions for the management of a second stage enforcement branch proceeding. First, the party whose noncompliance is at issue may submit its own materials on the issue and request a hearing.<sup>55</sup> After review of the information before it, the enforcement branch must then either adopt a preliminary finding that the party concerned is not in compliance or, alternatively, issue a decision not to proceed.<sup>56</sup> In the event of a preliminary finding of noncompliance, the party concerned may provide additional written comments.

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<sup>49</sup> Procedures and Mechanisms Relating to Compliance under the Kyoto Protocol, Decision 24/CP.7, U.N. Doc. FCCC/CP/2001/13/Add.3 (Nov. 10, 2001) [hereinafter Decision 24/CP.7]. Two additional means of addressing noncompliance are the multilateral consultative process of the Framework Convention and the dispute settlement provisions. Kyoto Protocol, *supra* note 2, arts. 16, 18. These two processes are to operate unaffected by the noncompliance process. Decision 24/CP.7 § XVI.

<sup>50</sup> *Id.* § II

<sup>51</sup> *Id.* § II(9).

<sup>52</sup> *Id.* § IV(4).

<sup>53</sup> *Id.* § VI(1).

<sup>54</sup> *Id.* § VII(2).

<sup>55</sup> *Id.* §§ IX(1)-(2).

<sup>56</sup> *Id.* § IX(4).

Thereafter, the branch issues a final decision either confirming or modifying the preliminary finding, although a party may appeal an enforcement branch decision relating to compliance with a party's emissions caps to the full set of Kyoto Protocol parties if the party "believes it has been denied due process."<sup>57</sup> If no appeal is taken, the decision becomes "definitive" after forty-five days.

Overall, the consequences of the noncompliance mechanism are "aimed at the restoration of compliance to ensure environmental integrity, and [are intended to] provide for an incentive to comply."<sup>58</sup> Remedies applied by the facilitative branch will provide assistance and aid to help a party remedy its breach. In contrast, the measures applied by the enforcement branch are designed to be more coercive and are automatically applicable upon a final determination of noncompliance. They include the issuance of a noncompliance declaration and development of a compliance plan. In addition, when a party has failed to limit its emissions as required by Annex B, the result is

- (a) Deduction from the Party's assigned amount for the second commitment period of a number of tonnes equal to 1.3 times the amount in tonnes of excess emissions; . . . [and]
- (c) Suspension of the eligibility to make transfers under Article 17 [emissions trading] until the Party is reinstated in accordance with section X.<sup>59</sup>

The noncompliance mechanism explicitly provides that for subsequent commitment periods, the rate of deduction for excess emissions is to be determined by amendment.<sup>60</sup>

One of the most important accomplishments of the Kyoto compliance mechanism is the institutionalization of the process of enforcement in a neutral and independent body. The creation of an enforcement branch reduces the cost to any individual party of initiating an enforcement action; although individual parties or an expert review team need to trigger the process, the enforcement branch bears the cost of pursuing these issues. Furthermore, the structure of the branch reduces the likelihood that political manipulation and expediency will be a significant factor in its decisions. Members of the branch serve in an independent capacity and membership of the enforcement branch explicitly anticipates inclusion of an individual from small island nations whose stake in the effective operation of the Protocol is greatest. Noncompliance penalties are applied automatically and are mostly predetermined. NGOs may provide input into the process. Both the branch's determination and the information submitted to it are made available to the public, increasing transparency. Finally, the substantial and fixed size of the Annex B noncompliance sanction—30% of excess emissions—gives the process a significant punitive element.

The biggest question that remains, however, is whether the penalties will be sufficient to alter the incentives for strategic behavior so that initiation of enforcement becomes attractive. Financial penalties, though proposed, are not now incorporated into the mechanism. Reinstatement of eligibility for emissions trading appears relatively easy. Even the 30% excess emissions penalty is likely to have only limited effect since Article 18 stipulates that any procedures that entail binding consequences are subject to adoption by the amendment process. Refusal to ratify such an amendment or even to participate in the subsequent commitment period could open a back-door escape from penalties.

Delaying application of penalties until the following commitment period poses two additional problems. First, since each party's GHG emissions reductions for the subsequent commitment period have not been determined,

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<sup>57</sup> *Id.* § XI(1).

<sup>58</sup> *Id.* § V(6).

<sup>59</sup> *Id.* § XV(5).

<sup>60</sup> *Id.* § XV(8).

the severity of the penalties can be blunted by manipulating the future assigned amounts. Second, given that the commitment period lasts five years, delays may also reduce the political accountability of government officials responsible for noncompliance. Willful ignorance or acceptance of noncompliance is a possibility.

## II. Making Kyoto Effective

The beginning of the 2008-2012 commitment period of the 1997 Kyoto Protocol to the 1994 United Nations Framework Convention on Climate Change<sup>61</sup> furnishes important opportunities to consider action on both short- and long-term issues that must be considered as part of any integrated international plans to make the post-2012 regime effective and equitable for both present and future generations. There is a need to strengthen and “fix” existing international institutions created by the Kyoto Protocol. Additionally, there is a need to engage major developing country emitters, especially, in discussions about curbing greenhouse gas (GHG) emissions, discussions which could have significant short-term global impacts.

The creation of institutions that can support and lead international efforts to curb greenhouse gas emissions is a critical priority. Even though the Kyoto Protocol will have only limited impact on reducing GHG emissions, it has been successful in priming the process of building international climate change institutions such as the international emission trading system (IETS), the Clean Development Mechanism (CDM), and the Protocol’s non-compliance mechanism. At the same time, serious work remains to be done to make them truly effective and consistent with the objectives of protecting the global environment and present and future generations from the negative effects of climate change. Addressing climate change is a long-term global challenge that requires sustained international effort.

The importance of the IETS and the CDM lies both in facilitating the effective functioning of Kyoto and successor regimes and in engaging the private sector in the developing as well as the industrialized world. Because regulatory institutions in developing countries remain generally weak and because they have yet to take on binding international emission limits, institutions such as the IETS and the CDM afford an opportunity to engage the private sector in such countries and to link them to international markets and actors elsewhere. However, each has been the subject of significant criticism.

The IETS has been hailed as a key flexibility and market-based mechanism that is designed to lower the cost of GHG emission reductions by Annex B countries (i.e., countries that face mandatory GHG reduction obligations under the Kyoto Protocol). Modeled on the generally successful American sulfur dioxide trading program created by the 1990 Clean Air Act Amendments,<sup>62</sup> and made up of national and regional systems, especially the European Trading System (ETS), the primary embodiment of the IETS can be seen in the International Transaction Log which tracks all international trades under the Kyoto Protocol. However, because the Kyoto system did not come into effect until the start of the 2008-2012 commitment period and thus is too new to permit definitive assessments of its operation, the challenges experienced by the ETS during the pre-2008 trading phase are instructive and raise some potentially serious concerns about the future of the international system.

During the pre-Kyoto commitment phase of the ETS, European countries allocated too many carbon credits to their domestic sources, flooding the market and eventually causing a temporary collapse, with a short-term drop of carbon credit prices from \$40/ton to \$1/ton. Similarly, concerns were raised about the decision of some countries to give free carbon credit to certain domestic industries, which then charged customers for carbon credits for which they never

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<sup>61</sup> *Supra* note 1.

<sup>62</sup> Pub. L. No. 101-549, 101 Stat. 2399 (1990).

had to pay. Undoubtedly, policing the integrity and credibility of carbon markets will be critical to ensuring that they will function in the way that they were intended.

Concerns have been raised also about the proper functioning of the CDM. Its primary objectives have been two-fold. First, it was intended to engage the developing world in emission reduction efforts and to help make their economic development path more sustainable. Second, it was designed to lower the cost for industrialized nations to meet their binding emissions limits under Kyoto. Since the CDM has begun to register projects, however, the consistency of certain projects with the Kyoto Protocol's goals has been questionable.

One chief concern has focused on industrial waste gas destruction projects, especially HFC-23. These projects, many of them hosted in China, are set to provide a huge number of carbon credits at relatively low cost. Unfortunately, they will also provide little long-term benefit in helping to reduce long-term dependence on fossil fuel for energy needs, an issue central to the interests of future as well as present generations. Other projects have been criticized with respect to emission reduction additionality.<sup>63</sup> While they will reduce GHG emissions, some of these projects would have been financed even without the CDM and the emission reductions would have occurred regardless. In other words, the subsidy dollars channeled by the CDM (and paid for by carbon credit purchasers) have been "wasted" because they produced no new reductions in GHG emissions<sup>64</sup>

Of greatest concern, however, has been the serious risk that awarding carbon credits for inappropriate projects is potentially distorting the carbon market by directing investment dollars away from renewable energy, energy conservation, or other projects intended to reduce reliance on fossil fuels, a serious threat to future as well as present generations. Such projects could have a much greater impact on reducing fossil fuel use, but will need crucial CDM support to be financially viable. Especially with respect to waste gas destruction projects, the question arises whether such projects might not be more appropriately financed through traditional environmental assistance programs, such as loans or grants from the Global Environmental Fund (GEF).<sup>65</sup>

Additional reforms suggested by others also include fixing the CDM's internal process, and using the CDM in a more focused way together with other regulatory and investment mechanisms to target long-term sustainable development goals in developing countries. One suggestion for "tightening" the CDM is to shift project validation and verification from third parties paid by the project's developer to either the CDM's Executive Board (contingent upon increased funds) or some other truly independent authority to increase credibility.<sup>66</sup> Other suggestions for improving the CDM's operation include more funding for the Executive Board to increase capacity; implementing an appeals process and dispute resolution mechanisms for entities affected by the Board's decisions; and professionalizing the Board by hiring individuals with technical expertise and by prohibiting members from holding other positions that pose a conflict of interests.<sup>67</sup>

A third institutional mechanism in great need of strengthening is the Kyoto Protocol's non-compliance mechanism. As the key tool for ensuring that countries meet their emission reduction commitments, it is critical to the effective international management of GHG emissions and consequently to the interests of both present and future generations as well. Embracing both a cooperative branch designed to facilitate voluntary compliance efforts as well as an enforcement branch that can impose punitive sanctions, it is one of the most advanced of such international

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<sup>63</sup> See *supra* note 51.

<sup>64</sup> Jeffrey Ball, *U.N. Warming Program Draws Fire*, WALL STR. J., June 11, 2008, at 1.

<sup>65</sup> Established in 1990, the GEF invests in businesses throughout the world that provide cost-effective solutions to environmental and energy challenges.

<sup>66</sup> Wara & Victor, *supra* note 30, at 19.

<sup>67</sup> Streck & Lin, *supra* note 29, at 423.

mechanisms. Its main sanctions tool is its ability to penalize parties in noncompliance with their Annex B emissions limits with additional emission reduction obligation—30% of the offending party's excess emissions. Unfortunately, the enforcement branch lacks the authority to impose monetary fines.

The practical effect of the emission penalty authority is uncertain at this point, given that penalties cannot be applied until after 2012, i.e., following the conclusion of the Kyoto commitment period (and expiration of Kyoto treaty obligation). Most importantly, the legal basis of the enforcement branch to impose emissions penalties for non-complying parties is doubtful. Under the terms of the Kyoto Protocol itself, any “binding consequences,” such as binding punitive measures, must be approved by an amendment to the agreement, which has not occurred.

These three Kyoto Protocol institutions—the IETS, the CDM, and the Protocol's non-compliance mechanism—are important international tools for promoting and supporting long-term efforts to reduce GHG emissions. Yet they are in significant need of strengthening. The IETS could become an effective flexibility and carbon emission management tool if close oversight is ensured not only over international trades of carbon credits but also through close monitoring of the integrity of national and regional trading systems so that credits traded correspond to actual GHG emissions reductions. The CDM's ability to promote developing world participation in emission reduction efforts could be enhanced by stricter scrutiny of projects for environmental sustainability and additionality and by providing for alternative (or “traditional”) public financing models of emission reduction projects, such as the GEF. Finally, the Protocol's non-compliance mechanism could be made more effective if questions about emission penalty implementation in a post-Kyoto agreement were resolved and monetary fines incorporated. Enhancing the effectiveness of these institutions can result in a more robust and credible global climate change regime that can better sustain long-term efforts to reduce carbon emissions for present and future generations.

Respecting opportunities to make significant and relatively short-term impacts on GHG emission curbs, efforts to engage developing countries are arguably among the most important. Since it has become the world's greatest greenhouse gas emitter, China is the most important of these. While per capita emissions in the U.S. are still five-times higher than in China, 80% of China's electric power needs continue to be met through coal-fired power plants. Such carbon-intensive energy usage patterns as well as relatively energy inefficient industries present an important opportunity to make a serious impact on reducing global carbon emissions.

China has already made energy conservation and efficiency a national policy, and thus has enacted a number of laws that drive down fossil fuel use by reducing energy consumption and increasing energy efficiency. For example, the Eleventh 5-year Plan (2006-2010), China's most recent, calls for a 20% reduction in energy used per unit GDP over the plan years. China has developed a burgeoning industry focused on manufacturing renewable energy equipment such as photo-voltaic solar panels and wind turbines. And, with respect to the implementation of the CDM, 73% of carbon credit projects certified in 2007 by the Kyoto Protocol were based in China.

Unfortunately, China has publicly refused to discuss binding emission limits for developing countries. It has been even less willing to engage in bilateral negotiations with the United States about international emission limits. Its basic argument is that industrialized nations such as the United States must cut back their GHG emissions first and provide greater financial and technical assistance before developing nations can be asked to commit to limitations as well. Even if China were to agree to binding limits, the current governance of China's energy regulation makes the fulfillment of binding commitments very difficult. At most, binding limits could serve only as “domestic leverage for leaders seeking to strengthen [China's] internal governance in the long run.”<sup>68</sup> In turn, the United States has based its refusal to ratify the Kyoto Protocol largely on the lack of binding emissions for large developing countries such as China.

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<sup>68</sup> MASSACHUSETTS INSTITUTE OF TECHNOLOGY, *THE FUTURE OF COAL: OPTIONS FOR A CARBON-CONSTRAINED WORLD* 72–74 (2007).

The U.S. has sought to engage China on climate change in a number of fora outside the Kyoto Protocol —via the Asia-Pacific Partnership for Clean Development and Climate (APP), for example. Mostly because they have focused primarily on voluntary commitments to limit GHG emissions, however, such efforts have little to show for themselves. The APP itself is a non-binding arrangement that is designed mainly to share and promote technology-based approaches to GHG emissions reductions.

On the other hand, China has acknowledged that its population will be seriously affected by global climate change; and, with its prospering economy and increasing international influence, it appears to have become more willing to take a greater role in international issues, including climate change. Coupled with a new administration in the United States that will likely be more environmentally friendly than the present, there is an important opportunity for the world's two largest GHG emitters to become engaged in more serious joint efforts to reduce GHG emissions. Possibly one of the most radical ideas for bilateral action would be the formation of an EU-like joint emission reduction and carbon trading regime that could unlock tremendous mutual benefits with respect to reducing emissions, technology transfer, and investment. The obstacles would be many, including China's current lack of binding emission limits and significant challenges related to harmonizing environmental regulatory requirements. But they would not be insurmountable, especially if created as a stand-alone agreement outside of the Kyoto Protocol.

As a matter of global fairness, and consistent with the widely accepted principle of “common but differentiated” responsibility for global environmental problems, the prospect of any bilateral arrangements on climate change will depend in the first instance on the United States ratifying the Kyoto Protocol and taking much more serious domestic steps on climate change. In other words, Kyoto Protocol ratification and U.S. domestic action on climate change are not only essential steps towards reducing American GHG emissions; they also can significantly alter the international politics of developing country participation in binding emission limits.

At the same time, while specific areas of cooperation between China and the United States will need to be considered, there are opportunities for China to provide greater economic incentives for energy efficiency, conservation, and environmental protection that, in the meanwhile, would promote the conservation of carbon sinks and reduce subsidies. More generally, a strengthening of China's environmental regulatory system overall will have broader benefits because many traditional pollution-generating activities are closely linked with carbon emissions. As noted above, the formation of an EU-like joint emission reduction and carbon trading regime could be an important result.<sup>69</sup>

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<sup>69</sup> China has also been very interested growing its nuclear energy capacity. While development of nuclear power plants presents serious environmental questions that arguably rival those of climate change, it currently is set on moving forward with the development of a number of plants.