

RESPONSIBILITY FOR NON-COMPLIANCE UNDER THE KYOTO PROTOCOL'S MECHANISMS FOR COOPERATIVE IMPLEMENTATION

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Executive Summary

The Kyoto Protocol contains four cooperative implementation (CI) mechanisms: joint fulfillment (Article 4), joint implementation (Article 6), the Clean Development Mechanism (Article 12), and international emissions trading (Article 17). The common feature of these mechanisms is that they allow for the transfer of greenhouse gas (GHG) emissions allowances between Parties to the Protocol.

The question of which Party to a transfer—the buyer or the seller—is responsible if the seller exceeds its emission target is one of the most important issues to be resolved in the design and implementation of CI. The green/yellow/red symbols of a traffic light serve as a basic model for describing one approach to allocating responsibility. The traffic light approach is derived from the provisions of Article 6 of the Protocol, particularly paragraph 6.4. It is argued in this paper that the traffic light approach is not only applicable to Article 6 JI, but is an effective model for several of the other CI mechanisms as well.

Under the green light, trading may proceed without restriction, with the seller bearing responsibility for ensuring that it is able to meet its emissions requirements. A yellow light would indicate the existence of actual or potential problems with the selling Party's implementation. Trading could still continue, but buyers would be on notice that trades completed when the yellow light is on entail greater risks. Specifically, the buyer could not use the allowances it has purchased until the problem is cleared up. A red light would indicate that a Party is having serious problems implementing its obligations and would halt all transfer of allowances from the country in question.

The most serious defect of an unrestricted seller responsibility regime is that it creates an opportunity for a Party to aggressively sell emission units, calculating that the consequences of non-compliance are overwhelmed by the benefits to be gained from selling large numbers of allowances. The purchaser, which will often be the economically stronger Party, has no reason to care whether the seller over-sells, since it is assured it may use the allowances it has purchased.

A pure buyer responsibility framework results in a strong incentive for the seller to achieve its emissions reductions by harnessing the market power of potential buyers. A significant potential disadvantage of pure buyer responsibility, however, is that it could inhibit the development of a robust and efficient market, particularly early on, when few if any potential buyers will have any emissions trading experience.

There are several additional reasons to prefer the buyer-seller hybrid (traffic light) approach. First, the availability of the green light period, and the threat of yellow light status, is likely to create a strong incentive for seller Parties to avoid implementation problems. Second, the hybrid system discriminates between early buyers who purchase sound allowances and buyers who purchase after implementation problems come to light. Third, the hybrid system generates vital information for the market—information that otherwise might not be available to the private sector. Fourth, and, perhaps most importantly, the system promotes transparency, so that all Parties, regulators, and NGOs can see whether CI is working.

RESPONSIBILITY FOR NON-COMPLIANCE UNDER THE KYOTO PROTOCOL'S MECHANISMS FOR COOPERATIVE IMPLEMENTATION¹

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1. Introduction

One of the Kyoto Protocol's most significant features is the incorporation of market-based mechanisms for "cooperative implementation" (CI) designed to allow Annex I countries to achieve their required emission reductions at the least possible cost.² No international environmental agreement to date has relied on flexible market mechanisms to the extent called for in the Protocol. The Protocol contains four CI mechanisms: joint fulfillment (JF, Article 4), joint implementation (JI, Article 6), the Clean Development Mechanism (CDM, Article 12), and international emissions trading (IET, Article 17).³ The common feature of these mechanisms is that they allow for the transfer of greenhouse gas (GHG) emissions units between Parties to the Protocol. None of the CI mechanisms are fully defined in the Protocol, and they all require significant additional clarification by the Parties. Nevertheless, it is apparent that how these mechanisms are elaborated is certain to influence both the implementation of, and compliance with, the obligations of the Protocol.⁴ Elaboration of the mechanisms will require analysis of a number of complex issues, many of which have no precedent in international environmental law.

¹ The secretariat of the Framework Convention on Climate Change (FCCC) does not include Article 4 as a CI mechanism, but does include "activities implemented jointly," which are not discussed in this paper.

² Annex I countries refer to developed countries and those with economies in transition as listed in Annex I to the FCCC. These countries have accepted quantified emission reduction or limitation commitments under the Kyoto Protocol.

³ The Kyoto Protocol articles establishing these mechanisms are attached in Appendix 1. See Box 1 for a brief description of these mechanisms.

⁴ The term "implementation" refers to obligations during the commitment period, and "compliance" refers to obligations at the end of the commitment period.

KYOTO PROTOCOL MECHANISMS FOR COOPERATIVE IMPLEMENTATION

Article 4: Joint Fulfillment

Joint Fulfillment (JF) allows Parties with emissions reduction commitments to jointly meet those commitments by entering into an agreement that redistributes the total reductions among the parties to the agreement. Once the agreement is finalized and deposited with the secretariat, the revised emission reduction target for each participating Party becomes enforceable under the Protocol. This provision was originally introduced to allow regional economic integration organizations (such as the European Union) to make alternative distributions of the Protocol's reductions requirements amongst their members. During the course of negotiations, the provision was expanded to allow any group of Annex I Parties to enter into such an agreement.

Article 6: Joint Implementation

Joint Implementation (JI) allows for Annex I Parties to transfer to or acquire from other Annex I Parties emissions reduction units (ERUs) associated with specific projects designed to reduce emissions or enhance sinks of GHGs. Thus one Party (or authorized legal entities within its jurisdiction) may sponsor or finance a GHG reduction project in another Party's territory in exchange for some or all of the GHG reductions resulting from the project. Under Article 6 such arrangements must be approved by both Parties involved, must provide climate benefits beyond those that would otherwise occur, must be supplemental to domestic action in the acquiring Party, and are prohibited if the acquiring Party is not in compliance with its accounting and reporting obligations under the Protocol. A transfer of ERUs is a subtraction from a Party's assigned amount, while a purchase of ERUs is an addition to a Party's assigned amount (Kyoto Protocol, Articles 3.10 and 3.11).

Article 12: Clean Development Mechanism

The Clean Development Mechanism (CDM) is designed to promote sustainable development in non-Annex I countries (i.e., developing countries) and assist Annex I countries to meet their reduction requirements by creating a mechanism for Annex I countries to sponsor or finance GHG reduction projects in non-Annex I countries. Emissions reduction from CDM projects will be subject to a certification procedure that remains to be elaborated by the Parties. Nevertheless, Article 12 requires that emissions reductions must provide "real, measurable, and long-term benefits related to the mitigation of climate change" and provide benefits additional to those that would occur in the absence of the project. Annex I countries will be able to use certified emissions reduction units (CERs) to help meet their reduction targets under the Protocol. Legal entities may participate in CDM projects.

Article 17: Emissions Trading

Article 17 allows for the elaboration of a system of international emissions trading (IET) between Annex I Parties. Under a trading system, Parties (and potentially legal entities) would be able to buy and sell the right to emit GHGs. This would effectively transfer emissions from one country to another allowing the Parties to seek out the least-cost reductions. Thus a Party could offset its domestic emissions by purchasing emissions reductions from another Party if the cost of domestic reduction exceeds the cost of equivalent reductions in the other country. Both parties to a trade would adjust their domestic GHG calculations to reflect the trade: resulting in lower net emissions in the selling country and higher in the buyer country. The mechanics and parameters of the trading system require further elaboration by the Parties.

This paper is concerned with the issue of which Party to a trade bears responsibility for ensuring that the trade does not result in contributing to non-compliance by the transferring Party. While each Party to the Protocol bears the fundamental burden of faithfully executing its obligations under the agreement, the introduction of CI effectively allows Parties to transfer a portion of their assigned amounts to other Parties. When such transfers result in the inability of a Party to meet its obligations, how such obligation-busting transfers are treated requires rules that set out which Party to the transfer is responsible for taking action or foregoing use of transferred amounts to rectify the problem. Thus the responsibility in question is responsibility for exceeding assigned amounts in the case of Article 17 IET and Article 4 JF, and responsibility for shortcomings of green house gas (GHG) projects in the context of Article 6 JI and the Article 12 CDM.⁵

The presence of CI mechanisms will to some extent complicate the question of whether a country is adequately implementing its emission reduction obligations. The emissions accounting rules will doubtless operate on some refinement of the following formula: total emissions equals domestic emissions minus total reductions bought plus total reductions sold. Harmonized accounting rules will need to be developed so that all parties to the Protocol pursue the same approach to measuring implementation and compliance.⁶

While they may complicate the implementation/compliance picture on the one hand, on the other hand CI could serve as a powerful implementation tool. For example, CI might be used prospectively to encourage Parties to comply with national reporting and institution building obligations. Under this approach, only once parties have established reliable inventory and reporting procedures would they be allowed to join the group of trading partners.⁷ In addition, the trading regime raises the possibility of suspending trading privileges in response to a failure to implement substantive emissions reduction obligations under the Protocol. Moreover, the inclusion of CI mechanisms in the Protocol is likely to help form the political consensus necessary to build robust implementation and non-compliance procedures. Without such procedures, there would be no guarantee of the validity of traded units and few countries would want to be involved in trades where the value of traded units is uncertain. Naturally, Parties' interest in benefiting from CI will increase their willingness to comply with the rules for trading themselves.

⁵ Distinct from the question of which Party bears responsibility (which is decided by the rules implementing the Protocol) is the issue of assigning risk (which may be assigned on a bi-lateral or contractual basis). Parties to trades can redistribute the financial consequences of the responsibility rules through contractual arrangement, but responsibility under the rules of the Protocol cannot be redistributed.

⁶ See Kyoto Protocol, Articles 5, 6, 7, 12 and 17.

⁷ OECD, "International Greenhouse Gas Emission Trading", Annex I Expert Group on the United Nations Framework Convention on Climate Change Working Paper 9, p. 25.

2. Buyer/Seller Responsibility

The question of which Party to a trade—the buyer or seller—is responsible for the trade if the seller exceeds (or is likely to exceed) its emission target is one of the most important issues to be resolved in the design the implementation of CI. Under a pure seller responsibility scheme, the buyer retains and may use the units purchased, with the seller fully accountable for bringing itself into compliance with its emissions commitment. Conversely, a pure buyer responsibility scheme would prevent or restrict the buyer in using the units towards meeting its commitment unless or until the problem was resolved.

This section will consider various options for designing responsibility regimes for the Protocol's CI mechanisms based on a green/yellow/red traffic light model. Each of the CI mechanisms will then be considered in turn in light of these options. In evaluating the desirability of the responsibility options for each of the CI mechanisms, several important considerations must be weighed. Fairness is a key requirement. Parties should not face serious consequences unless they have been given adequate opportunity to fulfill their commitments. It is also important that the regimes both promote implementation of the Protocol and do not inhibit trading. There must also be consistency between the CI mechanisms so that countries cannot evade rules by shopping between the mechanisms for a lenient responsibility regime.

A. *Traffic Light Model: A Basic Approach*

The green/yellow/red symbols of a traffic light serve as a basic model for describing various approaches to responsibility regimes for CI mechanisms in the Kyoto Protocol. The traffic light approach is derived from the provisions of Article 6 of the Protocol, especially paragraph 6.4. It is argued below that the traffic light approach is not only applicable to Article 6 JI, but is an effective model for viewing the other CI mechanisms as well.

Under the green light, trading may proceed without restriction with the seller bearing responsibility for ensuring that it is able to meet its emissions requirements. A yellow light would be used to indicate the existence of actual or potential problems with the selling Party's implementation of its obligations under the Protocol. In this circumstance, trading could still continue although buyers would be on notice that trades completed after the yellow light entail greater risks. Finally, the red light would be used to indicate that a Party is having serious problems implementing its obligations and would halt transfer of units from the country in question. The precise consequences under the various scenarios could be developed in a number of ways depending on the desired assignment of responsibility between the Parties.

1. Pure Seller Responsibility

One possible approach for assigning responsibility for the validity of traded units would be to hold the seller of these units solely responsible. Buyers would be able to use any units purchased regardless of whether the seller actually had the units to spare. Within this framework, there are two basic variations. The seller may be free to do as it pleases, subject only to an evaluation of its performance at the end of the commitment period. Alternatively, the seller may

face restrictions on its ability to sell reduction units based on periodic evaluations of its implementation of its obligations.

Unrestricted. Under the unrestricted scenario, trading would continue unfettered until the end of the commitment period—green light conditions would prevail. Only at the end of that period would there be an evaluation of whether countries were within their emissions limits (as adjusted for trading). As long as a seller of credits remained within its assigned amount there would be no problem. If however, at the end of a commitment period, a seller has exceeded its assigned amount of emissions, the seller would be responsible for bringing itself back into compliance (it would have to “true up”). The seller would have sole responsibility. Meanwhile, the buyer of emission units, all or some of which the seller could have used to meet its obligations, would be free to use those units to meet its own emissions target.

Serious difficulties are associated with an unrestricted seller responsibility scenario. The most serious is that it creates an opportunity to manipulate the system and is a potential incentive for non-compliance. A Party could decide that it will aggressively sell emission units to other countries, since it will be able to gain significant financial rewards by doing so. Whether a Party intentionally or accidentally falls short of its commitments under the Protocol at the end of the commitment period, it could simply decide that the consequences of non-compliance are overwhelmed by the benefits it has already gained from selling large numbers of allowances. The threat of being banned from future trades may be insignificant if substantial profits have already been made. Indeed, there may be no sanction available that would be stringent enough to induce the seller to return to compliance or avert non-compliance in the first place. Under such circumstances not only the environment but also the integrity of the treaty regime would be compromised.

Restricted. Under a restricted seller responsibility system, periodic evaluations of each Party’s implementation of its emission reductions and other commitments would be made during the course of the first and subsequent commitment periods. Where a Party is deemed to have potential or actual implementation problems, the red light would come on and that Party would be prevented from selling emission reduction units until the implementation issues were rectified. This system would remove some of the non-compliance incentive inherent in an unrestricted seller responsibility regime.

How far that incentive is reduced would be a function of the severity of implementation problems that triggers the red light. Under a high threshold trigger, for example, the red light would come on only after a determination that non-compliance was certain and imminent.⁸ A low threshold trigger would result in the red light coming on much earlier—once there appeared to be a credible likelihood that a Party could have trouble meeting its commitments. The lower the threshold, the less incentive or opportunity there would be for a Party to manipulate the system. Thus from the environmental results perspective, the lower threshold option is to be preferred.

⁸ The trading rules would have to spell out explicitly what the threshold would be, as well as the mechanism for making and communicating a determination that would trigger the red light. These difficult issues are addressed only briefly in this paper.

Although the low threshold restricted case provides fewer incentives for non-compliance, it might prove to be overly restrictive on early-commitment period trading, which could undermine the effectiveness of CI in lowering the cost of reducing emissions levels. An alternative that could help overcome this problem would be to introduce a yellow light, that would allow trading to continue pending the resolution of the potential compliance problem. This alternative is discussed below (Buyer-Seller Hybrid.)

2. Pure Buyer Responsibility

Under a pure buyer responsibility framework, the buyer is subject to the possibility that emission allowances it acquires may be rendered unusable by the failure of the selling Party to meet its treaty obligations. This framework results in a stronger incentive for the seller to achieve emissions reductions by harnessing the market power of potential buyers. Every buyer would insist that sellers take measures to ensure effective implementation of the Protocol, or alternatively, to only offer deeply discounted prices for emission allowances from Parties with implementation problems.

If, at the end of the commitment period, it turns out that the seller has exceeded its assigned amount (adjusted for sales and purchases under CI) then the emissions allowances sold by that country would be discounted according to the degree of overage. The same applies to emission reduction units (ERUs) under Article 6 JI—if a JI project turns out to yield less emission reductions than the ERUs sold, the purchased ERUs are discounted, and cannot be used toward meeting the buyer’s obligations under the most recent commitment period. This however would not necessarily prevent use of such allowances or ERUs in future commitment periods should the seller true up its emissions reductions (Article 17 trading) or resolve implementation problems with Article 6 JI transfers.

Discounting is not the only possible response. Another response would be to introduce a “last-in, first-out” system whereby the allowances or ERUs bought last cannot be used, and successive allowance units, ERUs or CERs are “peeled off” until allowances or ERUs sold reflect reductions achieved or JI projects realized in the selling country. The vintaging requirements of this system would include a numbering of the units so that the last units bought could be identified. This system clearly has a different incidence on buyers when compared with discounting, and may therefore present buyers with different incentives. The exact response to overage may require some refining as an implementation framework is developed.

A significant potential disadvantage of a system of pure buyer responsibility is that it could inhibit the development of a robust and efficient market for emission allowances. Particularly early in the development of these markets, when few if any potential buyers will have any trading experience, potential buyers could be deterred from participating in trades because of the uncertainty and risk associated with a buyer responsibility system. Alternatively, potential buyers could insist on lengthy lists of protective measures which sellers would refuse to accept.

In addition, a system of pure buyer responsibility does not discriminate sufficiently between buyers who purchase when no implementation problems are on the horizon, and other buyers who purchase when serious implementation problems have arisen in the seller country. The security of allowances or ERUs bought during a “clean” period could be undermined by the later sale of similar units when implementation problems in the seller country have come to light. This is clearly inequitable to the earlier buyers, as they may well have exercised due diligence in considering the transaction. This problem would be ameliorated somewhat by a “last-in, first-out” accounting system.

Furthermore, a pure buyer responsibility system may not be efficient in that it could require each buyer to carry out a separate investigation of the seller, posing unnecessary transaction costs. It contains no mechanism to provide basic information to the buyer capable of simplifying the due diligence process. Moreover, the buyer may not have the capacity to conduct reviews as rigorous and thorough as those that could be conducted by expert review teams under the authority of the Protocol. As will be seen below, this and other difficulties can be largely overcome under a buyer-seller hybrid system.

3. Buyer-Seller Hybrid (Green/Yellow/Red light)

Under this scenario, the risk posed by transactions involving emissions units that prove to be unsubstantiated would be distributed over time between the buyer and seller. Under normal conditions, the green light would be on, with responsibility falling on the seller to ensure that it meets its commitments notwithstanding having sold emissions units. As discussed above with respect to a restricted seller responsibility system, each Party would be subject to periodic review of its performance in meeting its commitments under the Protocol. Under this scenario, however, if a selling country appears to be facing a problem implementing its commitments (under either a high or low threshold regime), a yellow light rather than a red light is triggered. The result is that rather than preventing the selling country from selling emission units, sales may continue, but buyers are on notice that the units from that particular seller may not be used in the buyer’s compliance calculation until the seller’s compliance problems are resolved. If the implementation problem is not resolved before the end of the compliance period, the buyer would either be precluded from using the units entirely, or could only use them on a discounted or “last-in, first-out” basis.⁹ Thus, under the yellow light the buyer would assume responsibility for units that are not backed by real emissions reductions.

Again, the threshold of implementation trouble that would trigger the yellow light is of critical importance to the operation of a hybrid system. A high threshold would result in the same incentive for non-compliance as in the seller responsibility system. Moreover, if a yellow light indicated the existence of serious implementation problems, most buyers would be unlikely

⁹ Discounting would be used to “take back” as many yellow light emissions units as necessary to bring the seller into compliance. Consequently, the buyer could be prevented from using some or all of the face value of the units purchased. As discussed below, a simple discounting calculation could be used to determine the amount of the units available to the buyer. Alternatively, a “last in, first out” approach would “return” units to the seller on the basis of when they were sold; the last to be sold would be the first to be returned.

to assume the risk of trading with a yellow light seller. A low threshold would remove much of the non-compliance incentive, but the use of a yellow light would not inhibit the operation of the CI mechanism to the same extent as the use of a red light. Once the yellow light goes on, periodic reevaluations of the seller's implementation status would be conducted so that potential buyers would be able to accurately gauge the risk involved in purchasing emission units. If, near to the end of the commitment period, it emerges that there are serious implementation problems that have not yet been resolved, the yellow light turns to a red light, preventing the sale of any further allowances or ERUs. At this point the benefits of flexibility are outweighed by the substantial danger that the Party concerned is seriously risking a non-compliance determination at the end of the commitment period and will only worsen its position through further sales. This of course is only a high-threshold measure.

The yellow light determination and its consequences highlight the timing issue. Since under the best of circumstances implementation evaluations and the resulting decision to switch on the yellow light are likely to involve a significant amount of time, there is the possibility that substantial trading could be conducted after serious implementation problems arise. Therefore the implementation evaluation system necessary for the operation of the green light/yellow light/red light (GYR) scheme must be as nimble and efficient as possible to allow the market to respond to changing conditions. In particular, it is important to minimize the lag between the time that implementation problems arise and the time information is conveyed to regulators. This means that existing reporting requirements must be enhanced, for example, by requiring Parties to report all relevant information as soon as they have it.

Operation of the GYR system entails certain vintaging requirements (labeling emission units by number, source, date and type) for allowances under Article 17, ERUs under Article 6 and CERs under Article 12. The certificates would have to state the number, date and place of issue.

If discounting is chosen as the response to overage or shortcomings in JI projects, a formula is needed. This formula, which would not be necessary for (or applicable to) a "last-in, first-out" system, is given below:

$$\text{Discount} = \frac{100x}{n} \%$$

x = seller's excess tons

n = tons sold to all Parties, or under buyer-seller hybrid, tons sold under yellow light.

It may seem counter-intuitive that the strongest incentives for the seller to achieve emissions reductions are to be found under buyer responsibility regimes as opposed to a regime of pure seller liability. This can be to some extent explained by the fact that buyer liability regimes in both the pure and hybrid forms take advantage of market incentives to put pressure upon the seller. By shifting the risk to the buyers, these schemes bring increased pressure to bear on selling countries to come back into compliance (or avoid compliance problems in the first place), since potential buyers would require sellers to avoid or resolve implementation problems.

By refusing to buy from yellow light countries or by offering deeply discounted prices, buyers will put intense pressure on selling countries to avoid or resolve implementation problems.¹⁰

The pure seller responsibility regime, by contrast, rests purely on measures available between the seller and the multilateral treaty institutions. Under a seller responsibility regime, the buyer has no reason to worry about the seller's compliance, for it may use any allowances it has purchased regardless of whether the seller actually implements its commitments under the Protocol. Since buyers would bear no responsibility, they might encourage trading even with sellers that have already exhibited implementation problems. They could even tempt sellers with inflated prices.

While both the pure buyer responsibility and buyer-seller hybrid (GYR) schemes harness the natural pressures of the market to reduce implementation and compliance problems, there are several reasons to prefer the buyer-seller hybrid approach. First, the green light period under which all sellers begin trading is more conducive to the early and successful development of robust and efficient markets necessary to ensure that the economic advantages of CI are realized. Since emission allowances purchased during green light conditions pose no significant risk to buyers, buyers are more likely to become active in the market. By placing responsibility on the buyer only once potential or actual implementation problems are identified, early trades can go ahead with a minimum of difficulty.

In addition, the availability of green light status for seller Parties is likely to create an additional incentive to avoid implementation problems that could trigger the yellow light and make participation in market mechanisms more difficult. Sellers operating under green light conditions are likely to be able to command the best prices for emission allowances and are likely to be able to consummate exchanges more easily than under yellow light conditions.

Also, the hybrid GYR system resolves the inequity between early buyers and buyers who purchase after implementation problems come to light.¹¹ Buyers who purchase during the green light period are not affected by the weaker reputation of units bought under the yellow light, and will be able to obtain good prices for allowances should they decide to sell them on.

Moreover, by focusing the climate regime's institutional attention on Parties' implementation status during the budget period, the hybrid system generates increased information and creates additional pressures on Parties to avoid implementation problems during

¹⁰ In order to protect themselves from excessive risk, private participants in the flexibility mechanism may insist on any of a number of protective measures on a contractual basis when purchasing under the yellow light. For example, buyers could insist on purchasing only an option to buy emission allowances once implementation issues are resolved. The buyer could also require that the purchase money be placed in escrow, so that the money is either put to resolving implementation problems or is returned to the buyer. Alternatively, a buyer could insist on paying less for the units than it would were the green light still on. This would be particularly effective in protecting the buyer should the amount of bought allowances be discounted once the seller's compliance status is determined.

¹¹ It should be recognized, however, that this particular problem with pure buyer responsibility could be largely alleviated if a "last-in, first-out" response is applied to implementation problems.

that period.¹² By contrast, the pure buyer responsibility scheme does not require any interim evaluation of implementation. The increased attention to implementation required by the GYR scheme is likely to generate more and better information to the markets, which should also improve the efficiency and operation of the markets. It is also likely to result in fewer instances of non-compliance at the end of the budget period.

4. Joint Buyer-Seller Responsibility

Another possible approach to allocating responsibility for the seller's failure to remain within its assigned amount would be to hold the buyer and seller jointly liable. While a system of joint buyer-seller responsibility has advantages in that it keeps both Parties on the hook and ensures that they take part in negotiation, it suffers from a number of disadvantages when compared to the buyer-seller hybrid approach. Firstly, the hybrid approach sets out automatic consequences that Parties know in advance will be exercised against them if implementation problems arise. Under joint buyer-seller responsibility, the consequences of implementation problems are of necessity unclear until resolved by negotiation.¹³ Secondly, a joint buyer-seller responsibility regime may be held back by finger-pointing, as there is no Party with whom the buck stops, as there is under the hybrid scheme. Conversely, if sanctions are weak, Parties could simply accept responsibility and continue trading without regard to their own emissions. Finally, the hybrid system introduces a process for mid-commitment period assessment of Parties efforts at implementation, something which is not necessarily introduced under a joint buyer-seller responsibility regime.

B. Responsibility Allocation Options within CI Mechanisms

We now examine how the GYR traffic light approach works in relation to each of the CI mechanisms in the Protocol. Since the traffic light approach is largely based on the workings of Annex I JI under Article 6.4, its application will be looked at first in relation to Article 6 JI. Article 6.4 imposes the buyer-seller hybrid regime on Annex I JI to the exclusion of the other possible approaches. Article 17 emissions trading, by contrast, could be conducted under any of the possible regimes considered above, and similarly the CDM—depending on how it is developed—could also follow a modified version of some of these responsibility regimes. As discussed below, a different approach may be required for Article 4 joint fulfillment.

1. Joint Implementation (Article 6)

Under Article 6 the sale of ERUs start under a green light, with the buyer unaffected by any difficulties that might arise with the project. It is up to the seller to ensure that the ERUs have been properly earned. Article 6.4 (in conjunction with Articles 5, 7 and 8) introduces a

¹² Some of the institutional issues raised by the various responsibility regimes are discussed in the final section of this paper.

¹³ The lack of clarity and need for negotiation could be reduced by making sanctions automatic and mandatory for both the buyer and the seller. Article 18 requires, however, that mandatory (i.e., binding) sanctions require amendment of the Protocol.

“yellow light” if a Party’s reported and reviewed data relating to the project raise implementation questions or if individual projects fail to meet the criteria of Article 6. Accordingly, any trade after the identification of such questions is subject to a buyer beware regime. The buyer knows that any ERUs bought in this period may not be used until the implementation issue is resolved. The buyer may only be willing to pay for the ERUs once the yellow light is switched on if certain contractual provisions are included, such as a condition that purchase moneys are escrowed until all implementation issues are resolved. Alternatively the buyer may only be willing to purchase an option for the ERUs rather than purchasing the ERUs outright, or may only be willing to purchase the ERUs at a discounted price.

Article 6.4 is not specific about what happens after the yellow light is switched on, except to say that ERUs transferred during that period may not be used until any issue of compliance is resolved. Under a GYR system, four possible consequences could follow the activation of the yellow light:

- i. If the implementation questions are cleared up in a manner that allows the ERUs issued under the yellow light to be fully validated, then the green light goes back on, and the ERUs bought under the yellow light can be used. If the commitment period in which they were issued has ended, they may be used in the next commitment period (“banked”).
- ii. The implementation questions could be cleared up, but not sufficiently or in a manner that would allow for the ERUs already issued under the yellow light to be validated. The yellow light will return to a green light, and the JI project can again issue ERUs with no stigma attached, but those previously issued under the yellow light remain invalid.
- iii. The yellow light stays on if the implementation questions in relation to the JI project are not resolved. This could affect ERUs sold as a result of the JI project in the commitment period in question, and could also continue to affect future ERUs issued by that project in the next commitment period. As long as the yellow light is on, the buyer is warned that it purchases ERUs at its own risk.
- iv. If the implementation questions become particularly serious or cannot be resolved within a reasonable period of time, the yellow light turns to red and the JI project will not be able to issue any further ERUs until the light changes color again.

The different traffic light signals have clear roles. The green light means simply that future ERUs generated by a JI project are clean of any “buyer beware” stigma. Only the yellow light has consequences for the use of the ERUs by a Party towards meeting its assigned amount. When the red light goes on, this should only have the consequences that the original seller of the units in question must stop trading. The red light should not have the consequence of extinguishing the ERUs sold under the yellow light, because it is always possible that problems with a JI project can be ironed out. Similarly, any problems the seller country experiences in implementing its emission reduction obligations under Article 3 probably should not affect the

validity of ERUs generated by successful JI projects. This is a matter of basic fairness to buyers of ERUs. However, it should be remembered that ERUs validated after the end of a commitment period can only be used for the next commitment period, in order to allow determination of compliance at the end of a commitment period.

There are difficulties with Article 6 that somewhat complicate the picture. Firstly, it is unclear exactly what events can trigger the yellow light. Article 6.4 states that if a “question of implementation . . . of the requirements referred to in this Article is identified in accordance with the relevant provisions of Article 8,” the yellow light is switched on. This presumably refers to project related requirements, such as those set out in Article 6.1(a) and (b).¹⁴ It is also unclear whether a Party’s failure to adequately implement its Article 3 emission reductions would trigger the yellow light under Article 6.4. Arguably since, as stated explicitly in the first line of Article 6.1, the entire purpose of JI is to help Parties meet their Article 3 obligations, failure to implement the emission reduction obligations should trigger the yellow light under Article 6.4. However, as argued above, it may be unfair to penalize JI projects for the host country’s failure to meet its Article 3 commitments if the projects have achieved verified additional net reductions.

Another complication is that it is unclear that the Article 8 procedure for evaluating implementation of a Party’s obligations is designed to or even capable of evaluating the project level requirements of Article 6.1. To ensure that the Article 6.4 yellow light provision operates to ensure the integrity of ERUs, the Parties must either ensure that the Article 8 process is equipped to conduct project level evaluations or provide an alternate means for conducting such an evaluation.

A further difficulty arises with Article 6.1 (c). This paragraph prohibits the acquisition of ERUs if a Party is not in compliance with its obligations under Articles 5 and 7. It appears to make no sense that the buyer cannot buy ERUs if it is not in compliance with information gathering and reporting obligations, but the seller can sell ERUs if it is not in compliance with these obligations. Surely it is the seller’s compliance with these obligations that affects the validity of the ERUs, not vice versa. Still, this paragraph might be explained as a means of verifying that ERUs are “supplemental” to domestic emissions reductions.

A second difficulty with Article 6.1(c) is that it would seem to indicate that a buyer who is out of compliance with information gathering obligations near the end of the commitment period is prohibited from purchasing ERUs in order to remain within emissions targets. This is clearly an undesirable situation, because surely it is better that Parties comply with their Protocol obligations in part rather than not at all.

2. Emissions Trading (Article 17)

¹⁴ These provisions require approval of the project by all Parties involved and that any climate benefits be additional to those that would otherwise have occurred.

Article 17 provides no guidance as to what type of responsibility regime should apply to emissions trading. In fact, the only constraint of any kind in Article 17 is that trades should be “supplemental to domestic actions.” Unlike Article 6 JI, there is no indication of how responsibility should be assigned and virtually no reference to how trading would relate to implementation or compliance. Article 17 says only that the “Conference of the Parties shall define the relevant principles, modalities, rules and guidelines, in particular for verification, reporting and accountability for emissions trading.” In theory, any of the various responsibility schemes discussed above could be adopted for Article 17.

The hybrid approach should both encourage the development of the market and ensure high levels of implementation of the Protocol’s obligations. The availability of baseline green light conditions and the resulting unfettered trading will contribute to the early willingness of buyers to enter the market and result in the development of a robust market. Selling countries will want to ensure their green light status by avoiding any implementation problems and thus be able to command the premium prices that such conditions should warrant. The constant tracking of implementation by international regulators—necessary to the success of the hybrid approach—will ensure transparency and provide the market with the information it needs to send the proper signals, and provide NGOs and Parties with the information needed to monitor implementation.

In addition, adopting the hybrid approach for emissions trading would create a consistent responsibility regime between trading and Article 6 JI. A consistent approach would simplify the institutional arrangements necessary to implement both mechanisms and help create a clear, consistent and transparent regime for the Parties to follow.

With respect to trading, the yellow light should be triggered by any implementation question. This, of course, would include overselling during a green light period. Failure to implement Articles 5 and 7 (inventory and reporting obligations) should lead to an automatic yellow light consequence. This is particularly important, since all of the CI mechanisms will rely on reporting provisions to determine whether the yellow light should be switched on.

Whichever responsibility regime is chosen however, it is important that Parties are free to purchase allowances even if they are in a situation of imminent non-compliance, so as to prevent themselves being out of compliance at the end of the commitment period. For this reason the approach taken under Article 6.1 (c) should be rejected for Article 17.

3. The Clean Development Mechanism (Article 12)

There is no clear indication in Article 12 as to what responsibility regime should apply to the CDM. On the face of it, it seems impossible at present to implement a seller responsibility regime, as non-Annex I countries are not yet subject to any quantified emissions reduction or limitation obligations. This does not necessarily follow however, because host countries can be threatened with suspension from participating in the CDM. The need to assign responsibility could be reduced if CERs are issued, to the extent possible, on an ex-post basis (i.e., only after the emissions reductions are realized and certified).

However, as mentioned earlier in relation to Article 6 JI, there are several situations in which CERs can be put in question even after they are issued, such as where baseline or leakage problems come to light. It seems inevitable that some projects will not be as successful as others, and that certificates may not always accurately reflect the quantity of emissions reductions or removals achieved. The most appropriate approach is to keep estimates conservative. If either a project developer or a host country believes that the estimate was too conservative, it should be able to apply to have the project re-valued at a later period, when initial assumptions can be tested. It is a reasonable assumption that if initial estimates about projects are always conservative, the total numbers of CERs sold through the CDM will be less than the aggregate amount of emissions reductions achieved through CDM activities.

If provisions for auditing projects and certifying emission reductions are sufficiently stringent, a GYR system could be applied to CDM projects. This system would operate much like the scheme laid out in Article 6.4 (and elaborated in this paper). However, there are some important differences between the CDM and Article 6 JI that make CDM transactions somewhat riskier and may necessitate modifications to the scheme. A transfer of ERUs under Article 6 is always accompanied by corresponding adjustments to the assigned amounts of the participating Parties.¹⁵ Obviously, there can be no counterpart in CDM transactions, since the host Party has no assigned amount to transfer. Furthermore, sanctions applicable to Annex I countries that exceed their assigned amount probably will not be applicable to non-Annex I host countries. Therefore, verification and certification of CDM projects and emission reductions may need to be more stringent than those under Article 6 JI. If host countries adopt national or sectoral baselines, project-based scrutiny might be relaxed somewhat.

4. Joint Fulfillment of Commitments (Article 4)

Joint fulfillment (JF) under Article 4 of the Protocol effectively established its own responsibility regime independent of schemes described above. Although initially conceived as a way of responding to the concerns of the European Community as a regional economic integration organization (REIO) wishing to attain its GHGs reduction commitments as a whole, the article's final wording permits other Parties to the Protocol with emission reduction targets to form JF agreements.

Under a JF arrangement, the participating Parties can agree to set emissions levels for each Party as they see fit, providing that the total emissions level does not exceed the total assigned amounts for the Parties involved. It is clear from Article 4 that, once the agreement has been registered with the secretariat, the commitments agreed to cannot be revisited during the remainder of the commitment period in question.¹⁶

¹⁵Articles 3.10 and 3.11

¹⁶Article 4.3, Parties must notify the secretariat of the terms of the agreement when they deposit their instruments of ratification, acceptance, approval, or accession. Article 4.2.

Article 4 contemplates specific compliance consequences for REIO and non-REIO arrangements. For REIO JF agreements, each REIO member *and* the organization itself is responsible for the member's level of emissions as a result of the agreement notified to the Protocol.¹⁷ This means that where a REIO country fails to meet its obligations under the terms of the agreement, both that Party and the REIO itself are held accountable. This is the only case in the Protocol where a responsibility regime analogous to joint-responsibility is prescribed. In this case, resources contributed by all REIO members to the REIO might be used to purchase allowances to bring the whole REIO into compliance.

Non-REIO responsibility is different. Article 4.5 determines that only the breaching Party—and not the other Parties under the JF agreement—is responsible for its non-compliance with Protocol obligations. This situation is similar to pure seller responsibility and thus subject to the considerations and concerns discussed above with regard to this paradigm. In the case of REIOs, the incentive for non-compliance is offset by joint responsibility. By contrast, non-REIO agreements represent a situation where ‘selling’ Parties are solely responsible, at least to the Protocol, for their own non-compliance. The Parties may thus have a strong incentive to fall short of compliance, since ‘buying’ Parties have no incentive to demand compliance, for their emission commitment has already been set in the JF agreement.

The Parties may want to impose some form of joint responsibility on non-REIO's. A system of joint responsibility could be used to allow members of a non-REIO JF agreement to work out between themselves an arrangement to bring the whole JF group into compliance. The advantage of such a system is that it would allow economically stronger JF members to take some of the responsibility for the failure of weaker members to meet their agreed emissions targets. Such an approach might alleviate some of the concerns countries with economies in transition may have about entering into JF arrangements.

¹⁷Article 4.6. The EC, for instance, has in place an internal compliance and enforcement system capable of closely monitoring and penalizing Member States for non-compliance with their obligations, particularly if such non-compliance has repercussions for the performance of the Community as a whole. However, even the Community itself may have to increase its competence as regards a Community-wide strategy for combating climate change and fulfilling the objectives of the Kyoto Protocol.

3. Institutional Considerations Relevant to Responsibility under the CI Mechanisms

A. Triggering the yellow light: An Oversight Framework

One of the main principles underlying the green/yellow/red light regime is that it provides for continuous assessment of Parties' implementation during the commitment period. It is easier to ensure that a Party will be within its assigned amount at the end of the commitment period if its implementation has been scrutinized at several points beforehand, and errant parties have been given opportunities to bring their emissions back into compliance. A further benefit of intermediate assessment of implementation is that Parties have been given opportunities to bring their emissions back into compliance. A further benefit of intermediate assessment of implementation is that Parties are much more likely to agree to substantial emission reduction commitments for a later commitment period if their emission reduction performance in the current commitment period is identified and certain. More specifically, intermediate assessment in the manner suggested below could substantially weaken the incentive for countries to conduct mass selling at various points, such as when a yellow light assessment is imminent, or when parties are willing to pay exorbitant prices nearing the end of the commitment period.

Possibly the greatest single benefit of the rigorous ongoing assessment required by the GYR scheme is the transparency it would inject into the entire compliance system. This transparency will benefit investors, who need to know where they can most safely invest, as well as NGOs and third-Parties, who will want assurances that the system is sound.

To conduct the required assessment, regulators will need a yardstick by which to measure implementation. As part of their regular national communications Parties should submit for approval a detailed plan of how they intend to achieve their emission reductions. For Annex I Parties, this might involve a domestic "cap and trade" system, a tax on carbon emissions, or a system of command and control legislation. It could also consist of a whole raft of policies and measures along the lines of those mandated under Article 2 of the Protocol. An expert review will determine whether these regulatory frameworks have been satisfactorily implemented, and are working effectively. The review team also should measure the effect of these regulatory frameworks and policies on emissions, and the success of these measures in achieving emissions reductions should determine how much of its assigned amount the Party in question can sell under Article 17.

The objective is to ensure that the monitoring system applies an ex post approach wherever possible. Emissions allowance trading should occur only where a country has demonstrated that it is likely to over-comply with its Article 3 obligations. The quantity of assigned amount that is approved to be saleable would be the quantity that can be sold under the green light. Any excess over this would be sold under the yellow light.

It should be recognized, however, that Parties may wish to begin trading immediately upon the start of the first commitment period, in which case it would not be possible for sales of

allowances to be entirely ex-post. However, Parties could still be required to submit national plans and have those plans approved by expert review teams before they are allowed to begin trading. The review teams would then determine, on an annual basis, whether the national plans are being implemented and are succeeding.

There is no reason why such a system of planning and monitoring as a precondition for trading should interfere with the flexibility of the Article 17 regime. Before they are allowed to begin trading, Parties could purchase futures in “green” emissions allowances, that would enable them to build up a reserve stock of future emissions allowances that could reduce the risk of non-compliance. The futures would be recorded with the secretariat but not “scored.” Once the emission reductions claimed by the selling Party are sufficiently certain to obtain approval, the emissions allowance subject to the futures could be “scored” with the secretariat.

An alternative approach to basing intermediate assessment on the monitoring of regulatory success would be to prescribe an emissions trajectory for each Party, whereby Parties have to reach a certain emissions milestone at prescribed points during the commitment period. Trades will be approved as long as Parties are within their emissions trajectory and demonstrate that they will stay within an emissions trajectory that will take them to their assigned amount (net assigned amount sold).

There could be several auxiliary grounds for switching on the yellow light. The clearest should be where a Party fails to submit national communications. In such an instance, the monitoring process cannot get off the ground in relation to that country, and this should trigger an automatic yellow light. If a Party sells allowances before approval has been obtained, this should also trigger an automatic yellow light assessment, or perhaps even a red light.

Another important role for the yellow light could be as a mechanism to respond to the problem of “hot air.” Hot air refers to a part of a Party’s assigned amount that is in excess of what the country would emit even if it took *no* measures to reduce its emissions. Several countries, notably Russia and the Ukraine, are believed to have significant hot air in their budgets. If a Party that has experienced reduced emissions since 1990 (due to economic contraction) tries to profit from the sale of emissions allowances, it should be monitored to ensure that it is implementing policies and measures to reduce emissions to an extent equivalent to the allowance sold. If it does not demonstrate sufficient policies and measures, the yellow light should be switched on.

B. The Article 8 procedure

Under Article 6.4 of the Protocol, the Article 8 review process is the means by which implementation problems are identified prior to a yellow light assessment. The question is whether the Article 8 review process is actually capable of doing this.

Under Article 8, Parties’ annual inventories and national communications are examined by expert review teams. The COP/MOP considers the reports of the expert review teams, any

implementation questions listed by the expert review teams, and the annual inventories and national communications themselves.

There are two reasons why this procedure is not yet sufficiently developed to support the yellow light procedure in the Article 17 allowance trading context. First, the frequency of national communications under the Protocol has not yet been determined. Second, information about a Party's plans for compliance with its quantified emissions limitation or reduction commitment is needed for a proper determination of whether the yellow light should be switched on. Guidelines have yet to be developed as to what new information annual inventories and national communications must include as a result of the Protocol (Article 7.3). In order to make sure that the yellow light is turned on as swiftly as possible after the relevant implementation problems are identified, country information must include current emissions and removals, predictions of emissions and removals, and plans to purchase emissions allowances or other instruments issued under CI. That country information must be submitted regularly to the review process.

The alertness of the review process to implementation problems is essential to make sure that countries do not have the opportunity to sell large numbers of allowances or ERUs before the yellow light goes on. If countries do get this opportunity, the threat of discounting could be largely evaded by participants in CI. It would help to add to the system of yearly reporting a duty on host countries to immediately submit to the secretariat any information that comes to light that is relevant to, or inconsistent with, information submitted in earlier reports. This could give the expert review teams and the COP/MOP enough information to make swift determinations of whether the yellow (or red) light should be switched on.

The problems with the Article 8 procedure are particularly acute in relation to Article 6 JI. Surprisingly, this is the only mechanism for which the procedure is explicitly invoked. Article 6 JI projects are likely to be numerous, and require on-site monitoring of projects to obtain a true picture of emissions reductions and GHG gas removals achieved. The Article 8 procedure is therefore unsuited to the JI context unless certain modifications are made to it. The procedure might benefit from an additional connected body or committee designed to make regular assessments of JI projects. Alternatively, a certification and verification scheme similar to the CDM system, perhaps involving independent auditing, might prove workable.

APPENDIX 1

MECHANISMS FOR COOPERATIVE IMPLEMENTATION IN THE KYOTO PROTOCOL

Article 4

1. Any Parties included in Annex I that have reached an agreement to fulfil their commitments under Article 3 jointly, shall be deemed to have met those commitments provided that their total combined aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of Article 3. The respective emission level allocated to each of the Parties to the agreement shall be set out in that agreement.

2. The Parties to any such agreement shall notify the secretariat of the terms of the agreement on the date of deposit of their instruments of ratification, acceptance or approval of this Protocol, or accession thereto. The secretariat shall in turn inform the Parties and signatories to the Convention of the terms of the agreement.

3. Any such agreement shall remain in operation for the duration of the commitment period specified in Article 3, paragraph 7.

4. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization, any alteration in the composition of the organization after adoption of this Protocol shall not affect existing commitments under this Protocol. Any alteration in the composition of the organization shall only apply for the purposes of those commitments under Article 3 that are adopted subsequent to that alteration.

5. In the event of failure by the Parties to such an agreement to achieve their total combined level of emission reductions, each Party to that agreement shall be responsible for its own level of emissions set out in the agreement.

6. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization which is itself a Party to this Protocol, each member State of

that regional economic integration organization individually, and together with the regional economic integration organization acting in accordance with Article 24, shall, in the event of failure to achieve the total combined level of emission reductions, be responsible for its level of emissions as notified in accordance with this Article.

Article 6

1. For the purpose of meeting its commitments under Article 3, any Party included in Annex I may transfer to, or acquire from, any other such Party emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases in any sector of the economy, provided that:

(a) Any such project has the approval of the Parties involved;

(b) Any such project provides a reduction in emissions by sources, or an enhancement of removals by sinks, that is additional to any that would otherwise occur;

(c) It does not acquire any emission reduction units if it is not in compliance with its obligations under Articles 5 and 7; and

(d) The acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3.

2. The Conference of the Parties serving as the meeting of the Parties to this Protocol may, at its first session or as soon as practicable thereafter, further elaborate guidelines for the implementation of this Article, including for verification and reporting.

3. A Party included in Annex I may authorize legal entities to participate, under its responsibility, in actions leading to the generation, transfer or acquisition under this Article of emission reduction units.

4. If a question of implementation by a Party included in Annex I of the requirements referred to in this Article is identified in accordance with the relevant provisions of Article 8, transfers and acquisitions of emission reduction units may continue to be made after the question has been identified, provided that any such units may not be used by a Party to meet its commitments under Article 3 until any issue of compliance is resolved.

Article 12

1. A clean development mechanism is hereby defined.
2. The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.
3. Under the clean development mechanism:
 - (a) Parties not included in Annex I will benefit from project activities resulting in certified emission reductions; and
 - (b) Parties included in Annex I may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitments under Article 3, as determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol.
4. The clean development mechanism shall be subject to the authority and guidance of the Conference of the Parties serving as the meeting of the Parties to this Protocol and be supervised by an executive board of the clean development mechanism.
5. Emission reductions resulting from each project activity shall be certified by operational entities to be designated by the Conference of the Parties serving as the meeting of the Parties to this Protocol, on the basis of:
 - (a) Voluntary participation approved by each Party involved;
 - (b) Real, measurable, and long-term benefits related to the mitigation of climate change; and
 - (c) Reductions in emissions that are additional to any that would occur in the absence of the certified project activity.
6. The clean development mechanism shall assist in arranging funding of certified project activities as necessary.

7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, elaborate modalities and procedures with the objective of ensuring transparency, efficiency and accountability through independent auditing and verification of project activities.

8. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall ensure that a share of the proceeds from certified project activities is used to cover administrative expenses as well as to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation.

9. Participation under the clean development mechanism, including in activities mentioned in paragraph 3(a) above and in the acquisition of certified emission reductions, may involve private and/or public entities, and is to be subject to whatever guidance may be provided by the executive board of the clean development mechanism.

10. Certified emission reductions obtained during the period from the year 2000 up to the beginning of the first commitment period can be used to assist in achieving compliance in the first commitment period.

Article 17

The Conference of the Parties shall define the relevant principles, modalities, rules and guidelines, in particular for verification, reporting and accountability for emissions trading. The Parties included in Annex B may participate in emissions trading for the purposes of fulfilling their commitments under Article 3. Any such trading shall be supplemental to domestic actions for the purpose of meeting quantified emission limitation and reduction commitments under that Article.

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