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**Folder Title:**  
Climate Change International COP 6 [Conference of the Parties]: Compliance

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| <b>Stack:</b> | <b>Row:</b> | <b>Section:</b> | <b>Shelf:</b> | <b>Position:</b> |
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## Compliance Pump Group

- Our public position has been subtracted of tons w/ penalty.
- Europeans have proposal w/ blank price per ton penalty. We could move this to a compliance proposal and leave the issue until later.
- Lawrence - wants to leave ~~open~~ open question of \$ and present it as a ~~penalty~~ <sup>openness</sup> to a penalty provision

compliance/costs



Joe\_Goffman@environmentaldefense.org

10/03/2000 05:15:23 PM

Record Type: Record

To: Roger S. Ballentine/WHO/EOP

cc:

Subject: Material on the Compliance Issue

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Roger -- Thanks for the call. Here are some short pieces on the automatic deduction of AAUs (supporting the U.S. proposal), and compliance funds/cost caps. The first of these documents is only the most recent one we've put out endorsing the US automatic deduction/restoration of tonnes approach.

One of the main points of the other documents is that a cost cap not only threatens the integrity of the Annex B emissions cap, but that, if set too low, it threatens the capacity of any emissions cap and trade system to manage and reduce costs. The U.S. SO<sub>2</sub> emissions trading program is only the most dramatic of the numerous examples of U.S. Clean Air Act programs which have achieved compliance at much lower than predicted costs. All of these programs depended on, in effect, forcing the affected sectors of the economy to put all of their compliance-related investment and resources into achieving emissions reductions and doing so as inexpensively as possible. Firms were not given the option of using those resources to "pay their way out". The only paths they could follow entailed searching out and investing in the least expensive ways to reduce pollution and making sure that the full measure of emissions reductions was delivered.

What is environmentally worrisome about a compliance fund is simply that if the fund pay-in level or cost cap is not set at drastically high levels, it easily could have the effect of diverting resources that would otherwise go to creating low-cost reductions. At all but very high levels a compliance fund "fee" could offer firms and sovereigns the not irrational option of restraining their emissions reduction investments (especially since many such investments involve spending near term money as opposed to making a post-2012-compliance fund fee payment). If they exercised that option, then the supply of reductions could be diminished, making the overall cost of compliance that much higher -- and, of course, making reliance on the compliance fund mechanism, rather than on direct investment in achieving the actual reductions needed for compliance, that much more tempting.

I guess one of the things that has been enormously frustrating in previous discussions of the nexus of compliance fund and cost cap issues (starting back in 1997) is the glossing over of the difference between the way economic forecasting models (such as those that would be used to set the cost cap or fee) operate, and the way markets do. In the latter, I'm convinced, the presence of a not-high-enough cost cap or compliance fund fee would have huge feedback effects that could lead, paradoxically, to higher compliance costs than would occur in a compliance system/emissions

trading market that provided participants no way out other than to make (or buy) reductions. (Again, this is based on the belief that forcing societies and businesses to invest in the full measure of needed reductions, together with the dominant imperative that those reductions be low-cost, is what has made programs like the SO2 program both economically and environmentally successful.)

*Does anyone else think this?*

Unfortunately, the high-compliance-cost outcome would have serious environmental consequences -- and that's the real concern. Give governments and firms the option of paying a compliance fund a "reasonable" fee (especially if they don't have to make that payment until after 2012) and you lose a lot of investment in low-cost reductions. Again, the less of the latter kind of investment, the greater the impetus to rely on compliance funds. In the end, the consequence of emissions reduction investment, made sluggish by compliance-fund-fee diversions, would be lots of payments to compliance funds AFTER 2012 but not nearly enough reductions to meet the Annex B emissions limits by the end of 2012.

Thanks, again. Joe

(See attached file: COP 6 Hague Restoration of Tonnes.doc)

(See attached file: COP 6 Cost containment.doc)

(See attached file: COP 6 Lyon Compliance fund EU.doc)

(See attached file: co2 CEILING PRICE November revisions memo.doc)



- COP 6 Hague Restoration of Tonnes.doc



- COP 6 Cost containment.doc



- COP 6 Lyon Compliance fund EU.doc



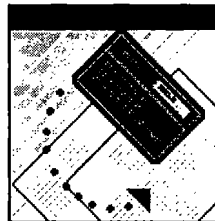
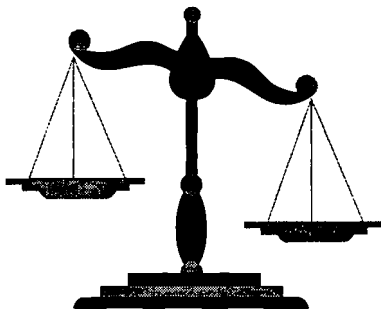
- co2 CEILING PRICE November revisions memo.doc

# The Kyoto Protocol:

## Maintaining the Dynamic Balance (Excerpt)

an Environmental Defense Working Paper

Draft 4.0, September 2000\*



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\* Note: This Working Paper is a discussion document only and not a "position statement" as such. The Working Paper seeks to recognize, draw upon, and bring forward the number of very useful concepts developed in various contributions to the evolving body of work on liability and compliance, including submissions of Parties, the Post-Verification Trading Proposal of the Government of Switzerland, the January 2000 Submission by the US Climate Action Network in Response to the Note by the Chairman of the Contact Group on Mechanisms, the World Wildlife Fund-Center for International Environmental Law publication "Restoring the Balance," the proposals of Greenpeace, the International Emissions Trading Project of the Electric Power Research Institute ("EPRI") (R. Rosenzweig & K. Danish, June 2000), the Model Evaluation of the Cost and Environmental Impacts of Liability Proposals (E. Haites and F. Missfeldt, June 2000), and others. The paper builds upon ideas first developed in the EDF paper, "Cooperative Mechanisms Under the Kyoto Protocol: The Path Forward (EDF, June 1998). Comments and suggestions are welcome. Please contact Annie Petsonk or Joe Goffman, Environmental Defense, [apetsonk@environmentaldefense.org](mailto:apetsonk@environmentaldefense.org), [jgoffman@environmentaldefense.org](mailto:jgoffman@environmentaldefense.org).

### **3. The Essential Elements of a Balanced Liability and Compliance System**

#### **A. Make the Atmosphere Whole.**

The fundamental obligation that compliance rules should create is that of ensuring that the atmosphere is "made whole" against a Party's excess emissions. The compliance rules must require, automatically, that if, at the end of the compliance period, a Party fails to "true-up" its total actual GHG emissions and its net assigned amount (by purchasing AAUs, ERUs, or CERs), then the Party must reduce its future emissions. The required reduction, *additional* to reduction obligations in the second budget period, must equal the number of tonnes by which the Party's emissions exceeded its net assigned amount. The required additional reduction must also include an incremental "premium" or penalty both to compensate for the damage that the environment suffers as a result of the non-compliance and to discourage non-compliance in the first place. This requirement would be implemented through an automatic deduction from the non-complying Party's assigned amount for the subsequent compliance period, again, in an amount equal to the product of (1.X) multiplied by the number of tonnes by which the Party's GHG emissions exceeded its net assigned amount. As a result, this requirement would ensure that the Party's legal obligation to limit its total GHG emissions to its net assigned amount for each compliance period would persist until the Party achieved full compliance.<sup>1</sup> Aside from its compliance aspects, this requirement is also essential to the mechanism of international emissions trading under *Article 17*. Only through a rule automatically imposing a continuing obligation for offsetting any emissions in excess of the aggregate Annex B emissions limit can the mechanisms rules establish the environmental legitimacy of AAU transfers.<sup>2</sup>

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<sup>1</sup> To address concerns that next-budget-period penalties could inadvertently encourage Parties to adopt inflated next-budget-period targets, COP-6 should decide that it will adopt the target for the second budget period not later than 2007, and decide that deficits cannot be rolled forward more than one budget period without further consequences and penalties.

<sup>2</sup> See Environmental Defense Fund, Cooperative Mechanisms Under the Kyoto Protocol: The Path Forward, June, 1998.

## Cost containment

Perhaps the issue that looms largest over the Kyoto Protocol is that of cost. The same was true for policy makers in the United States throughout the acid rain debate. In the end, Congress rejected every temptation to reach for a “quick fix,” such as a price ceiling, to limit costs. Instead, it designed a program to take full advantage of market mechanisms to allow the market itself to act as the bulwark against unacceptably high compliance costs. This commitment was key both to the environmental integrity and economic performance of the program. No lesson may be more important for international negotiators confronting the challenge of limiting GHG emissions, especially because the size and diversity of the potential GHG emissions trading market imparts the critical mass and strength that allows all successful markets to do what markets do best: lower cost. That promise could be jeopardized, however, if negotiators create distortions in the market—distortions that would inevitably result from attempts to inject explicit limits on costs.

Congress constructed the SO<sub>2</sub> program with a firm cap and gave power plants a variety of compliance options, including emissions trading. In addition, an important element of this construct was an automatic penalty of \$2,000 per ton of excess emissions. The amount, so much greater than the actual cost of achieving an incremental ton of reduction, compelled all sources to achieve or acquire through trading the reductions necessary to be in compliance. “Paying to pollute” is simply not a rational option under the SO<sub>2</sub> program.

Congress did include some provisions aimed at addressing concerns about dependence on the emissions trading market as a low-cost compliance option. These provisions were designed, however, to favor direct emissions reduction and emissions trading for compliance. Specifically, the EPA is required to withhold from the annual budget approximately 2.8% of the total number of allowances. About half of these are auctioned annually through the Chicago Board of Trade. Neither a floor nor a ceiling price is set for these allowances. As a result, participants must bid at or above a market-clearing price to obtain allowances. In effect, the auction is simply a segment of the overall market for emissions allowances.

The remainder of the withholding must be offered for “direct sale” at a price specified in the legislation—\$1,500 per ton. Congress selected this price precisely because it was *50% higher* than the highest per-ton compliance cost estimates offered during the legislative debate. By setting the direct sale price at this level, Congress deliberately created a stark disincentive to participating in the direct sale option in lieu of purchasing allowances in the emissions trading market. The design was so successful that the EPA, by regulation, suspended the direct sale account simply because of lack of participation.

The most obvious benefit of this “no exit” strategy of the SO<sub>2</sub> program is that it guarantees the environmental integrity of the program. Even if both the auction and

the direct sale program were fully subscribed, total emissions would not exceed, even by a single ton, the program cap. This is because every allowance transferred through these provisions is deducted from the total amount allocated. These mechanisms are but emissions trading—under the cap—by other means. The “no exit” approach may also be key to the economic success of the program, as demonstrated by its lower-than-predicted costs. Not only are allowances available through the auction and direct sale deducted from the total budget, but both the automatic penalty and the direct sale price are set so high above expected (and actual) market prices for allowances as to be economically intolerable. Consequently, the resources of the power plants and of other investors are directed exclusively at finding the *lowest cost methods of achieving actual reductions*.

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***The most obvious benefit of the “no exit” strategy is that it guarantees the environmental integrity of the program, and it may be the key to economic success.***

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One of the most striking aspects of the 7.3 million tons of over-control achieved during Phase I is that those reductions represent the willingness of power plant operators and other investors to expend present-day capital. In return, they are creating or receiving assets (the saved allowances) whose value will emerge only in the future, when, according to their assessments, compliance costs would be high enough, and operational flexibility needs great enough, to make a bank of these allowances valuable. At the same time, these early, low-cost reductions are integral to the success of an emissions trading market in driving down costs. Early investment in low-cost reductions produces a supply of relatively cheap allowances, which, in turn, ignites greater market demand and thus stimulates fundamental, cyclical market forces.

A prescribed ceiling price on trading, or “cost cap,” at so-called “reasonable” levels would likely deter the cycle of early investment in a supply of low-cost reductions. If power plants in the SO<sub>2</sub> program could have counted on their costs being capped at a “reasonable” level, their incentive for making investments in early, bankable, low-cost reductions would have been greatly reduced. In the absence of robust investment in early low-cost reductions, the market and the attendant cost-reducing dynamic would have been slower in forming. A slowly forming market, in turn, would have signaled to firms to place their reliance in the future cost cap and to delay or eschew the search for, and purchase of, near-term low-cost reductions. With the investment in low-cost reductions not being made the market’s cost-reducing capacity would dwindle. Furthermore, any cap on costs arbitrarily set by a political process introduces unaccountable uncertainty into any investment process, further dimming the interest in over-control. Thus, ironically, a cost cap could have made the SO<sub>2</sub> program *more* expensive than the actual outcome that emerged in an emissions trading market free of regulatory price distortions.

## **Compliance fund**

In the ongoing effort by negotiators to formulate rules for compliance under the Kyoto Protocol, some have offered proposals to levy fees on noncomplying parties, and to use the fees to purchase GHG reductions that would offset the excess emissions. The details of the proposals vary; some would specify in advance the amount of the penalty, while others would calculate the penalty by levying a tax on GHG reductions transferred in the global emissions trading market. Such "compliance fund" proposals have been advanced for possible adoption at the global level, at national levels, and at regional levels among groups of nations. For evaluating these proposals, the design and initial success of the acid rain program offer a point of comparison that suggests these conclusions:

- The fees paid into any compliance fund should be high enough to ensure that parties and private firms have a strong incentive to invest in and achieve sufficient low-cost reductions (including through flexible market mechanisms), before subscribing, either voluntarily or involuntarily by dint of noncompliance, to one or more official, non-private compliance funds.
- The fees should be high enough to ensure that the compliance fund mechanism has more than adequate resources to invest in and acquire the full amount of additional GHG emissions reductions needed to offset all excess GHG emissions. The fees would also have to cover administration expenses for managing the fund, with all expenses recorded in a transparent manner.
- The rules that govern the compliance fund mechanism should be integrated into those that govern the other flexible mechanisms of the Protocol in order to ensure that the reductions acquired by the fund represent true, additional GHG reductions that offset excess emissions and achieve the goal of avoiding dangerous anthropogenic interference with the climate system.

The Kyoto Protocol already provides for a variety of distinct "flexibility mechanisms" that represent the pillars of a potential international emissions trading system. Those mechanisms and the market they purport to create will be the most likely sources of compliance for nations that choose not to achieve the full measure of emissions reductions domestically. Furthermore, the creative energy engendered by this market will produce the affordable and effective solutions needed to permanently address the global warming problem. From this perspective, a Protocol-sanctioned compliance fund may be viewed as wholly superfluous, if not compromising of the environmental effectiveness of the Protocol. Still, the notion of a compliance fund mechanism may find support among Parties committed to fulfilling their obligations, but uncertain about their own ability to take full advantage of the flexibility

mechanisms. Thus the impetus to provide those Parties with an additional voluntary pathway in the form of a compliance fund may prevail. Lest fears of crippling costs and infeasibility become the reality, however, a compliance fund should not be allowed to curtail the potential of the market itself to meet the demand for low-cost reductions.

Regardless of the choices made by the COP, what is critical in assessing designs for a compliance fund is that the COP adopt a “no exit” strategy similar to that in the SO<sub>2</sub> program. Such an approach ensures that no matter how high the level of participation in the compliance fund, the full measure of GHG reductions mandated under Article 3 and Annex B will be achieved. At the same time, the mechanism likely would reinforce incentives to use the primary means of compliance—policies to reduce GHG emissions, direct investment in such reductions, and participation in the emissions trading system—which make up the Protocol’s flexibility mechanisms. The more those means are used, the greater the likelihood that the Protocol will produce full compliance, and do so at the lowest possible cost. Conversely, the less these means are used by governments and firms, whose resources would be diverted simply to paying compliance fund fees rather than directing their resources to the creation of low-cost reductions, the greater the risk that the Protocol would either fail to meet its environmental goal or create unnecessarily high costs – or both.

Accordingly, the COP should ensure that a compliance fund does not become, *de facto*, a path by which Parties can simply “pay to pollute.” In that case, the Protocol would simply fail to achieve the full measure of GHG reductions mandated in Article 3. In addition, the key economic and environmental functions of the flexibility mechanisms and the overall global GHG emissions trading market—the stimulation of successful investment in low-cost reductions—would be frustrated. The paradoxical effect would not only be to make all compliance unnecessarily expensive, but also to leave even the fund managers with reduced options for finding an affordable supply of GHG reductions adequate to offset excess emissions. In the end, no compliance fund should function in a way that makes it a competitor to the primary compliance options that foster low-cost compliance.

The key, then, for an effective compliance fund mechanism is that the fee for noncompliance, or voluntary participation, must be set at a high level. First, and foremost, this would ensure that the fund had adequate resources to acquire all of the GHG reductions necessary to offset the excess emissions generated by Parties opting to use the fund in lieu of complying by other means. At the same time, through the use of a high fee, a compliance fund would be able to serve what would perhaps be its most important function: steering governments and firms toward their own active pursuit of low-cost reductions. That, in turn, would ensure that a compliance fund truly reinforced the critical function of the global GHG emissions trading system itself: driving public and private energy and investment directly toward the ongoing harvest of sufficient and affordable GHG reductions. After all, it is the bounty of that harvest that

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***The COP should ensure that a compliance fund does not become, de facto, a path by which Parties can simply “pay to pollute.”***

*Then why do it?*

will determine whether the Protocol meets both its environmental and economic objectives.

Finally, during 1989 and 1990, Congress weighed a variety of arguments from stakeholders that the emissions trading market would not deliver an adequate supply of low-cost SO<sub>2</sub> reductions. In addition, some power companies asserted that participating in an SO<sub>2</sub> emissions trading market was outside of their core business capacities. In the end, Congress rejected all compliance mechanisms that would directly compete with, and divert investment and energy from, the SO<sub>2</sub> emissions trading market itself. It concluded that if the program was based on a “no exit” structure, then even if concerns about participation in the market proved valid, the emissions trading market itself would generate solutions. The results of Phase I strongly suggest that the market has performed precisely this task with respect to the achievement of low-cost emissions reductions. At the same time, during Phase I, the market succeeded in prompting several private firms to establish brokerages and other mechanisms to aid power plants and reduce transactions costs that otherwise might stymie participation in emissions trading and other means of compliance.

This experience, too, should inform the deliberations of the COP if and when it focuses on the question of establishing a compliance fund. Perhaps the COP, too, will conclude that in a market as potentially diverse and deep as an international GHG market, Parties and firms will devise *their own* compliance fund mechanisms. These could range from insurance instruments created by private legal entities to mutual assistance agreements among parties with existing political and economic affinities and parallel interests. Indeed, it is hard to imagine that such tools will not be established, and they are likely to be more robust if the COP refrains from devising its own compliance fund that competes directly with the proposed flexibility mechanisms.

## Compliance Fund – Critical Design Issues

In the ongoing effort by negotiators to formulate rules for compliance under the Kyoto Protocol, some have offered proposals to levy fees on noncomplying parties, and to use the fees to purchase GHG reductions that would offset the excess emissions. For the purpose of evaluating these proposals, the following considerations are key:

- The fees paid into any compliance fund should be high enough to ensure that *Parties* and private firms have the strongest possible incentive to invest in and achieve compliance.
- The fees should be high enough to ensure that the compliance fund mechanism has more than adequate resources to invest in and acquire the full amount of additional GHG emissions reductions needed to offset all excess GHG emissions. The fees would also have to cover administration expenses for managing the fund, with all expenses recorded in a transparent manner.
- The rules that govern the compliance fund mechanism should be integrated into those that govern the other flexible mechanisms of the Protocol in order to ensure that the reductions acquired by the fund represent true, additional GHG reductions that offset excess emissions and achieve the goal of avoiding dangerous anthropogenic interference with the climate system – and that Parties do not use the fund mechanism to economically “game” mechanisms like the CDM.

if parties pay  
all the way up  
parties just do it  
d. 100%  
The fund will be  
enough

The Kyoto Protocol already provides for a variety of distinct “flexibility mechanisms” that represent the pillars of a potential international emissions trading system. Those mechanisms and the market they purport to create will be the most likely sources of compliance for nations that choose not to achieve the full measure of emissions reductions domestically. Furthermore, the creative energy engendered by this market will produce the affordable and effective solutions needed to permanently address the global warming problem. It is essential, at the very least, that a compliance fund not be allowed to curtail the potential of the market itself to meet the demand for low-cost reductions.

- What is critical in assessing designs for a compliance fund is that the COP adopt a “no exit” strategy.
- Such an approach ensures that no matter how high the level of participation in the compliance fund, the full measure of GHG reductions mandated under Article 3 and Annex B will be achieved.
- Only under this approach would the mechanism reinforce incentives to use the primary means of compliance—policies to reduce GHG emissions, direct investment in such reductions, and participation in the emissions trading system—which make up the Protocol’s flexibility mechanisms. The more

those means are used, the greater the likelihood that the Protocol will produce full compliance, and do so at the lowest possible cost.

- Conversely, the less these means are used by governments and firms, whose resources would be diverted simply to paying compliance fund fees rather than directing their resources to the creation of low-cost reductions, the greater the risk that the Protocol would either fail to meet its environmental goal or create unnecessarily high costs – or both.

**Accordingly, the COP should ensure that a compliance fund does not become, de facto, a path by which Parties can simply “pay to pollute.”** In that case, the Protocol would simply fail to achieve the full measure of GHG reductions mandated in Article 3. In addition, the key economic and environmental functions of the flexibility mechanisms and the overall global GHG emissions trading market—the stimulation of successful investment in low-cost reductions—would be frustrated. The paradoxical effect would not only be to make all compliance unnecessarily expensive, but also to leave even the compliance fund mechanism itself with reduced options for finding an affordable supply of GHG reductions adequate to offset excess emissions. In the end, no compliance fund should function in a way that makes it a competitor to the primary compliance options that foster low-cost compliance.

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***The COP should ensure that a compliance fund does not become, de facto, a path by which Parties can simply “pay to pollute.”***

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- **The key, then, for an effective compliance fund mechanism is that the fee for noncompliance must be set at a high level.**
- First, and foremost, this would ensure that the fund had adequate resources to acquire all of the GHG reductions necessary to offset the excess emissions generated by Parties opting to use the fund in lieu of complying by other means. At the same time, through the use of a high fee, a compliance fund would be able to serve what would perhaps be its most important function: steering governments and firms toward their own active pursuit of low-cost reductions.
- That, in turn, would ensure that a compliance fund truly reinforced the critical function of the global GHG emissions trading system itself: driving public and private energy and investment directly toward the ongoing harvest of sufficient and affordable GHG reductions. After all, it is the bounty of that harvest that will determine whether the Protocol meets both its environmental and economic objectives.
- Only with an effective fee level and other provisions to ensure the environmental integrity of GHG emissions reductions invested in by a compliance fund could such a mechanism be compatible with the main pillar of Party noncompliance obligations -- Party restoration-of-tonnes. Otherwise, a fund would risk providing non-complying Parties with a time-delay/“pay to pollute” alternative to achieving their full required measure of real and timely reductions.

## MEMORANDUM

### Re: Failure of "Ceiling Price" on Emissions Permits as a Climate Change Policy Tool

**Introduction.** In January, 1997, the U.S. government formally proposed that any international protocol to control the emissions of greenhouse gases (GHG) be structured in a way that imposed total GHG emissions "budgets", covering multi-year periods, on each participating nation. Nations could meet their budgets by trading surplus GHG emissions reductions with each other, and, presumably, permit their affected firms to do the same in private GHG emissions trading markets. There are a wide range of decisive environmental and economic advantages to this approach. Chief among these is that the global GHG emissions trading market that such a structure would unleash could be expected to do what markets do best: lower costs and spur (cost-saving) innovation. By defining nations' obligations as meeting actual budget limits for their total GHG emissions, the U.S. proposal is the single most effective way of ensuring the achievement of the "binding commitments" which many world leaders, including President Clinton, have pledged to make.

Unfortunately, despite the U.S. experience with its own market economy and with highly successful pollution markets, such as the sulfur dioxide emissions allowance trading system used to curb acid rain, some in the Clinton Administration have proposed the inclusion of a "ceiling price" in the U.S. proposal. Under this approach, the U.S. government would specify a cost-per-ton ceiling price for GHG emissions reductions. If the cost of making GHG reductions, or, presumably, the market price, rose above that level, then, the U.S. would be excused from making additional GHG emissions reductions even if that resulted in U.S. failure to meet the national GHG emissions budget. This approach would apply as well to individual firms, which would be required to pay the "ceiling price" for each ton of GHG emissions *in lieu* of making GHG emissions reductions.

The ostensible purpose of this proposal is to protect the U.S. economy from excessive costs in implementing its national GHG budget obligation. Ironically, the inclusion of a "ceiling price" in a GHG emissions trading program could have the perverse effect of impeding the capacity of an otherwise unfettered emissions trading market to maximize cost-savings. If that were the case, then the "ceiling price" proposal would actually make the cost to the U.S. economy of meeting its GHG emissions obligations more, rather than less, expensive.

Key to the success of an emissions trading market is the ability of competition to drive costs down. Two critical elements of competition are risk and reward. Firms take risks (e.g. developing new technologies, banking early reductions) because in their calculation they perceive the value of a specific business decision to be positive. Under the "ceiling-price" proposal both risks and rewards are capped at the level of the ceiling price. As a result there is only limited competition. Worse still, since the risk/reward calculation is based on estimating a variety of unknown variables, the presence of a known ceiling price will tend to encourage firms to estimate an even higher risk premium when evaluating new technologies with unknown costs or other near-term emissions reduction action with uncertain future returns. This distortion of the risk/reward

calculation is therefore likely to preclude much initial investment in the development of cost-saving reductions, even at the start of the program. At the same time, the costs added by this approach would not even enhance the environmental performance of the program. On the contrary, since the payment of the ceiling price would result in emissions increases, the proposal would all but ensure that the U.S. would not meet its GHG emissions budget.

**1. The "Ceiling Price" Would Prevent the GHG Emissions Trading Market from Achieving the Full Measure of Potential Cost-Savings.** The ability of firms to make and "bank" emissions reduction credits in the early years of a trading program for use in later years is almost universally regarded as critical to the success of trading programs (assuming that such treatment is compatible with environmental effects of the pollutant being managed). One of the reasons for this is that banking is instrumental to market formation – and to the process of achieving cost-reductions. If firms know that at least eventually there will be a market in which surplus reductions will be in demand, then they will be able to identify a financial incentive to find and make such reductions, even if the firms are "banking" surplus reductions simply for their own future use. The reductions they make, especially early on, tend to be relatively inexpensive; as a result, investment in such reductions begins the market dynamic of limiting the cost of compliance. Thanks to these near-term low-cost surplus reductions, the compliance program can "start off" with low-cost compliance options readily available. As the market becomes more active, firms find themselves subject to continuous signals favoring ongoing investment in cost-effective reductions, particularly reductions that can be achieved *below* whatever the market price is, or is anticipated to be.

Part of the confidence that banking instills in investors in surplus reductions comes from the knowledge that all affected sources have no compliance option other than to achieve emissions reductions themselves or to purchase surplus emission reductions from others who can make them at less expense. As a result, all expenditures made in connection with program compliance will either be made on the demand side to purchase reductions, or on a competitive supply side to achieve the most cost-effective reductions. The "ceiling price" approach undermines confidence in banking because it gives all affected sources an "out", and in so doing, unravels the dynamic of cost-reduction that a soundly designed emissions trading market can create.

Specifically, a "ceiling price", not connected in any way to the purchase of additional surplus reductions, is a vicious competitor to early reduction investment strategies. With a ceiling price present as an alternative to participation in an emissions reduction market, potential investors in early reductions, no matter how low cost, must alter their calculus radically. They cannot simply weigh, as they would in a sound emissions trading market, the cost of current investment in low-cost emissions reductions against the value (admittedly discounted) of a future return on that investment. Such return would take the form either of sales of their reductions or of the use of their reductions to avoid future higher compliance costs or of the overall flexibility for the firm's operations afforded by an available bank of surplus reductions – all outcomes whose current value is increased by a premium created by firms' uncertainties about future cost and changing economic conditions. Because these uncertainties are amply justified, the ability to pin down costs as well as increase flexibility through the

creation of a supply of low-cost reductions is especially valuable. In contrast, in the presence of a "ceiling price" escape path, firms contemplating near-term reduction options must compare the cost, including opportunity costs, of near-term investment in emissions reductions, against the discounted value of avoided future costs, but they must do so in a context where the "ceiling price" creates an artificial certainty as to future costs. As a result, the rationale for investing in those same near-term reductions whose low cost is key to market formation and to the market's overall capacity to drive costs down is drastically undercut.

In theory, obviously, the ceiling price could be set high enough so as to preserve and ensure the value of the investment in early reductions. Unfortunately, the "ceiling price" proposal is, almost by definition, a political artifact, designed to ease the adverse pressure on decision-makers sensitive to claims that a GHG emissions budget would damage the U.S. economy. Consequently, as an administration official has already acknowledged – unaware, apparently of the internal contradiction – proponents of the ceiling price approach anticipate that the price would be set at a relatively modest level, precisely for the purpose of creating the needed economic assurance and thus relieving the political pressures decision-makers are now facing. Again, the effect would be the perverse one of all but precluding the kind of early investments so critical to cost-reduction in the first place.

*but they  
its political  
interests*

At best, then, the introduction of a ceiling price "escape valve" complicates and creates grave uncertainties as to the outcome of firms' near-term reduction investment calculus. At the very least, it would contribute to a wait-and-see attitude that would divert some investment in low-cost early reductions that might otherwise be made. More troubling, if acknowledged political imperatives prevail, then the ceiling price will be set at a modest level; as a result, its discounted value will swamp the risk/reward calculations of many would-be investors in low-cost near-term reductions. Without this plentiful supply of low-cost reductions, the market will lose a significant portion of its power to contain and lower compliance costs by forcing compliance alternatives to compete with each other. As a result, actual compliance costs will rise to the level of the ceiling price and will do so much more quickly than otherwise – and, again, the costs will be that much higher than they would be were a greater amount of investment in near-term, bankable low-cost reductions made.

The presence of a ceiling price escape hatch defeats the cost-saving capacity of an emissions trading market at the higher end of the cost curve as well. As reduction costs rise, firms increasingly will find themselves simply paying the ceiling price and foregoing the achievement or purchase of additional reductions. As a result, the market will simply cease to generate incentives that would otherwise drive innovators and investors to find or use the means to bend high-end costs down. Many potential purchasers of the reductions generated by such innovations will simply pay the ceiling price and "escape" compliance. In their absence, the financial incentive that an emissions trading market would otherwise create to apply downward pressure over the entire cost curve will disappear.

For these reasons, the introduction of a ceiling price does not simply provide a beneficent outer bound on compliance costs. Rather, it fundamentally undermines the power of emissions trading markets to minimize compliance costs and generate cost-

savings. The optimism that many have that an emissions trading market and the technologies, whose development and use such a market fosters, can keep costs "below the ceiling price" depends on the very cost-saving capacities that the ceiling price subverts. At the same time, the "ceiling price" proposal creates a perverse trade-off: the economic certainties demanded by current decision-makers, and many traditional economists dependent on conventional analytic tools, are won at the price of the future economy's incurring real costs that could be avoided if the emissions trading market were permitted to work at its full capacity.

**2. The Ceiling Price Transforms the Emissions Trading Program into a Tax Program, with the Attendant Economic Drag.** With the cost-saving dynamics of the emission trading market seriously compromised by the ceiling price escape option, compliance costs over time would approximate the ceiling price level. Increasingly, firms would simply find themselves doing nothing but paying a GHG pollution tax in the form of the "ceiling price" payment to the government. This transfer would operate as a non-productive drag on economic performance *without* contributing to further reductions in the cost of compliance, or, for that matter, producing the economic and environmental benefits that emissions reductions would. The economic "drag" created by this tax becomes clear in contrast to the productive yield of an emissions trading market. In a trading market, companies that invest in surplus pollution reductions can earn credits that they can then sell in the trading market or bank for future use. Not only do these companies earn a return on their pollution reduction investment, but they provide the companies that buy their credits a lower cost compliance alternative. At the same time, this "cycling" of financial resources through buy-sell transactions contributes to the dissemination of lower cost compliance alternatives for the entire economy. Under the ceiling price proposal, however, companies with high compliance costs would not be contributing resources through the buy-sell cycle to support investment in low-cost compliance. Instead, they would simply be paying the government a fee for pollution, a payment that would come out of their bottom line, disconnected from any incentive to reduce GHG emissions, and would have the effect of deflating the value of investment in actual reductions.

**3. The "Ceiling Price" Would Defeat an Early Reduction Program.** On October 6, at the White House Conference on Climate Change, the Vice-President stressed his and the President's determination to establish a program, presumably relying on early reduction credits, to achieve GHG emissions reductions *prior* to the beginning of the first compliance period. The Vice-President's determination is well-founded. Achieving early GHG emissions reductions can provide critical environmental and economic benefits. Because GHG remain in the atmosphere for many decades and thus speed the warming process throughout their long lifetimes, slowing their build-up can be critical to restraining some of the adverse effects of rapid climate change. At the same time, slowing the build-up of GHG emissions during the period *prior* to the time that the U.S. had to comply with an international GHG emissions mandate will also soften any economic dislocations that might occur in connection with meeting that mandate.

Accordingly, a strategy that gives private firms a positive incentive for making early GHG reductions before mandatory compliance periods is critical. If successful, this strategy would not only provide the environmental and economic benefits associated with slowing GHG emissions build-up in the atmosphere and with lessening economic

dislocation, but it could also spur and speed investment in the development and use of the kinds of innovative technologies that can reduce pollution while increasing economic performance, including by minimizing costs.

One way to create such incentives is by awarding to firms that achieve early, surplus reductions GHG emissions credits that they could bank and use against future compliance requirements. The results of the acid rain emissions trading program, under which utilities have achieved more than 30% more sulfur dioxide reductions than required – and thus created a substantial bank of surplus emissions reductions – provides strong evidence of how powerful an incentive device early reduction credits can be.

Unfortunately, the ceiling price escape option would fatally blunt that incentive. Again, this option would throw into serious question for many firms the financial wisdom of incurring present-dollar expenditures in the face of an alternative of spending future dollars to meet a fairly modest price to "buy out" of compliance. Because an strategy using early reduction credits is purely an incentive program, the administration simply cannot afford to muddy the incentive signal by forcing firms to contend with the ceiling price option.

At the same time, ironically, the success of such a program in inducing early reduction activity would provide precisely the kind of economic assurance that many are seeking through the "ceiling price" approach. A robust early reduction program not only would soften the increase in GHG emissions prior to the compliance period, thus smoothing economic dislocation and adjustment, but would furnish the economy with a reserve supply of low-cost reductions for meeting compliance.

**4. The "Ceiling Price" Eschews a Key Design Lesson of the Acid Rain Program.** Some have claimed that a similar "ceiling price" approach was included as part of the acid rain program. This is simply not true. Under the acid rain program, sources do have the option, after a perverse fashion, of paying the government instead of making the required reductions – but the price they must pay is set at penalty levels far higher than the cost of making reductions or purchasing reductions from other sources. More important, such sources would be paying the government not for the privilege of escaping, or being excused from, pollution control obligations. Under one provision, sources would be paying for additional emissions reductions needed to offset the sources' emissions increases, and they would be *purchasing* from the EPA surplus emissions allowances that had been set aside from the initial allocation by the EPA. Under another provision the sources themselves would be required to make the additional emissions reductions immediately after making the payment, since any excess emissions would be deducted immediately from their emissions allowance allocation. The high penalty encourages sources to find low-cost means of reducing emissions through the emissions trading market, indeed in its both of its first two years the acid rain program has experienced 100% compliance. The fact that they are paying for, or are required to achieve, additional reductions themselves, ensures that the environment remains whole – and that market itself and its cost-saving dynamics remain whole.

**5. The "Ceiling Price" Approach Does Save Costs – But at the Expense of the Environment.** To be sure, there is a manner of cost-savings created by the ceiling

price escape hatch. Once costs reached a certain level, sources would never have to pay more than at that level. This price-ceiling would be sustained, however, at the direct expense of the environment, since with every "ceiling price" payment GHG emissions would rise above the emissions budget level. Ultimately, then, costs would be saved by not requiring that the program perform to the full extent of the U.S. GHG emissions budget commitment. Again, this approach all but turns the emissions market on its head, since in emissions trading, cost-savings are achieved only by actions that save costs *while also* achieving the required reductions. Perhaps even more obvious, however, is that the "ceiling price" approach turns the President's commitment to "binding" targets on its head. With the ceiling price escape option in place, the U.S. would defeat its own commitment to achieve a GHG emissions target.



# RESTORING THE BALANCE

*Using Remedial Measures to Avoid and Cure Non-Compliance Under the Kyoto Protocol*

Glenn M. Wiser and Donald M. Goldberg  
Center for International Environmental Law

Prepared for World Wildlife Fund

June 2000

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# **Restoring the Balance: Using Remedial Measures to Avoid and Cure Non-Compliance Under the Kyoto Protocol**

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## **I. INTRODUCTION**

As Parties to the UN Framework Convention on Climate Change continue to develop a compliance system for the Kyoto Protocol, there is growing acceptance that an effective system will address cases of non-compliance by resorting to a broad range of responses from the treaty institution. This acceptance is reflected in the January 31, 2000 submissions from Parties in response to the Joint Working Group on Compliance Co-Chairs' "Elements" paper,<sup>1</sup> in which Parties voiced their support for numerous types of consequences.

This paper seeks to further the debate by reviewing several of the possible compliance consequences, or measures, listed in the Elements paper, as well as other related proposals that are currently receiving the Parties' attention. We concentrate on measures designed to avert or cure non-compliance with the core Annex I obligation contained in Article 3.1.

Compliance responses generally can be divided into three categories: facilitative, remedial and punitive. Facilitative responses are those that provide assistance to Parties to achieve, maintain, or return to compliance. Remedial responses are designed to enable a Party, through its own efforts, to avert impending non-compliance or quickly restore itself to compliance and, in the process, "make the climate whole."<sup>2</sup> Punitive responses are used to pressure recalcitrant Parties that fail to avert non-compliance or cure it in a timely manner to change their behavior. These responses generally represent the steps of last resort in a compliance system. In practice, their main value is to deter, rather than punish, undesirable behavior.

This paper focuses on remedial measures. It does not discuss facilitative responses, which may include such measures as providing incentives, advice or assistance. The paper contains

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<sup>1</sup> UNFCCC, Joint Working Group on Compliance, *Co-Chairmen's Compilation of Elements for a Framework of a Compliance System Under the Kyoto Protocol* (Feb. 11, 2000) [hereinafter "Elements" paper].

<sup>2</sup> For the purposes of this paper, "make the climate whole" means returning the carbon accounts of Annex I Parties to balance so that their aggregate emissions—adjusted as permitted through the cooperative mechanisms—do not exceed the levels they committed to under the Kyoto Protocol.

a brief discussion of punitive measures to explore how they can work in tandem with remedial measures. Punitive measures are the compliance “backstop” that ensure Parties take their commitments seriously and fully implement remedial measures if they are required.

Part II of the paper will discuss the role of remedial measures during the true up to the commitment period. During this time, Parties will have an opportunity to balance their GHG ledgers and “true up,” if need be, by purchasing Kyoto mechanism credits on the open market. Part II will begin by describing and evaluating an internationally managed *Compliance Fund*.<sup>3</sup> In the event there are insufficient Kyoto mechanism credits available during the true up to satisfy demand, Parties with overage can avert non-compliance by purchasing credits from the Fund. The Compliance Fund then uses those receipts to mitigate the overage by investing in highly reliable, “gold standard” abatement projects. Our discussion will provide an overview of how the Fund might work, including what institution might administer it, what types of projects it might underwrite, how the price of Fund credits could be set, and under what circumstances credits should be made available.

While we envision the Compliance Fund as a mechanism administered at the international institutional level, some Parties are discussing the possibility of a fund that could be controlled domestically, by the Party with overage. Part II will conclude by identifying some of the forms such funds could take, and then evaluating their strengths and weaknesses.

Part III will discuss the role of remedial measures *after* the true up, when they will be used to cure, rather than avoid, non-compliance. The Part will begin with financial penalties, and will note that proceeds from financial penalties will “make the climate whole” only if they are used to underwrite GHG mitigation. Accordingly, we recommend that financial penalties be paid into the Compliance Fund. This section will also discuss the merits of setting financial penalties by using a “dynamic” or floating per-tonne rate, or by using a fixed rate, which may tend to function as a “price cap” for the commitment period.

Next, Part III will review the proposal for “subtraction of tonnes,” also known as “borrowing” or “reduction of future assigned amount.” This consequence to non-compliance permits Parties to “pay” for overage in one commitment period by reducing their assigned amount in the next period by the same amount, but increased by a penalty. Subtraction of tonnes allows Parties to defer action to eliminate their overage to the next commitment period. It contains the possibility that Parties will repeatedly “roll over” their overage by borrowing from commitment period to commitment period, and may provide an incentive for non-compliance. These deficiencies make it an unacceptable consequence to non-compliance under the Protocol.

Part III concludes with the proposal that a non-compliant Party’s remediation include preparation of a *compliance action plan*. The plan would demonstrate how and why the

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<sup>3</sup> Parties generally recognize that a true up or grace period of some kind will be necessary at the close of the commitment period. See Elements Paper, *supra* note 1, at 4. However, the JWGC has not yet taken up the matter in any depth. While the precise nature of the true up is beyond the scope of this paper, we acknowledge that its timing—precisely when it occurs and for how long—will have implications for the Compliance Fund. We intend to examine these implications at a future time.

Party will be able to change its implementation strategy to ensure that it can repay its first commitment period debt while simultaneously meeting its second commitment period target.

Part IV discusses how the compliance system might employ punitive measures to enforce compliance in the event a Party refuses voluntarily to cure its non-compliance through remedial measures. The Part first notes the value of “shaming,” or publicizing non-compliance. It next discusses the suspension of treaty privileges, including suspending a Party’s right to engage in emissions trading. Finally, the Part closes by briefly exploring how trade measures might be used in the Kyoto Protocol context.

## **II. REMEDIATION DURING THE TRUE UP**

### **A. THE COMPLIANCE FUND**

#### **1. The Basic Idea**

The Compliance Fund is designed to help Annex I Parties maintain compliance with their basic Protocol obligations. While domestic action should be at the core of Annex I Parties’ compliance strategies for the first commitment period and beyond, at the close of a commitment period the opportunity for a Party to accomplish further domestic reductions for that period will no longer be available. The Protocol allows Parties to use credits from the Kyoto mechanisms to satisfy part of their obligations. Many Parties assume they will be able to eliminate any overage they have at the end of the commitment period by raising their assigned amounts through the purchase of Kyoto mechanism credits. However, there is no way of knowing in advance whether these mechanisms will provide the market with enough credits to satisfy the Parties’ needs. If there are insufficient credits available during the true-up to the commitment period, Parties could be faced with breaching their Protocol obligations, even if they have the will to comply.

In that event, Parties can pay into the Compliance Fund and avoid being out of compliance when the true-up ends.

Fees collected by the Compliance Fund are used to underwrite highly reliable, “gold standard” GHG mitigation projects throughout the world. The Fund sets fees on the basis of actual estimated mitigation costs, plus a surcharge to account for administrative costs, funding for adaptation, and the risk of project failure. The surcharge also serves to make the price of Fund credits high enough to dissuade Parties from relying upon them as a first choice for their commitment period implementation strategies.

Upon payment of the fee, the Party receives emissions credits equivalent to the amount of its overage. The Party adds the credits to its assigned amount, thereby ensuring that its

aggregate emissions no longer exceed the amount and that it is in compliance with its Article 3.1 obligation.<sup>4</sup>

## **2. No New Legal Requirement**

It is important to make clear that the Compliance Fund will not create any new legal requirement for Parties. The fundamental legal requirement Annex I Parties have under the Protocol is to ensure that their emissions over the course of the commitment period do not exceed their assigned amounts. Should they fail to do this, they will face a finding of non-compliance and an appropriate consequence. During the true up, the Compliance Fund serves as a means of permitting Parties with overage to avoid non-compliance by purchasing Fund credits. If a Party elects not to use the Fund, it will need to find an alternative way to remedy its overage. If it fails to find an alternative—and thus fails to remedy the overage—it will face a non-compliance consequence. However, the Party's choice not to use the Compliance Fund would not, in and of itself, lead to the imposition of any additional penalty.

## **3. Fund Administrator**

As the rules for implementing the Protocol take shape, many Parties have expressed concern that creating too many new international institutions will lead to increased complexity, expense, and bureaucratic red tape. We believe the Compliance Fund can be implemented without creating a wholly new institution. Considering the role the clean development mechanism (CDM) will play in using mitigation projects to assist Annex I Parties achieve their emissions targets and non-Annex I Parties achieve sustainable development, the Compliance Fund could be administered as part of the CDM.

The CDM is already charged with assisting “in arranging funding of certified project activities as necessary.”<sup>5</sup> Compliance Fund moneys could be integrated into this funding structure. The only additional tasks needed for operating the Fund would be determining what classes of CDM projects would be eligible for underwriting from the Fund, setting the price for Fund credits, and collecting payments from Parties.

While it should retain an oversight role, the CDM executive board would probably not be appropriate for administering the Fund, because it likely will meet only intermittently and would seem to be too high level a body to manage Fund activities on a day-to-day basis. Instead, a qualified operational entity or entities could provide the needed administrative services, provided there are adequate safeguards to prevent possible conflicts of interest. For example, it would be incumbent that the entity not have a financial stake in any CDM projects. Neither should the entity charged with approving or selecting projects be responsible for verification or certification of GHG reductions as they accrue.<sup>6</sup>

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<sup>4</sup> The Compliance Fund can also play a role in remedying cases of non-compliance after the true up is over. See discussion *infra* p. 15.

<sup>5</sup> Kyoto Protocol art. 12.6.

<sup>6</sup> Protocol Article 12.5 specifies that “[e]mission reductions resulting from each project activity *shall be certified by operational entities* to be designated by the [COP/MOP]. . .” (emphasis added). In our view, this language allows certification of emissions reductions to be carried out only by designated operational entities.

Other existing institutions that have experience with greenhouse gas abatement projects could be considered for Compliance Fund administration. These might include the GEF, the World Bank, and/or regional development banks such as the EBRD.

#### **4. Recommended Project Types: “Gold Standard” Projects**

Because the Compliance Fund may award credits before a project produces any actual climate benefits, the overwhelming consideration for mitigation projects underwritten by the Fund should be reliability. The Fund will be viable as a mechanism for “making the climate whole” only if collected payments result in genuine GHG reductions equal to or greater than the amount of overage for which a Party is given credit. Consequently, the Fund should invest only in those project types that have the lowest risk of leakage and project failure, and that have well-established methodologies for determining baselines and additionality. Examples of appropriate project types might include demand-side technologies like energy efficient domestic appliances to reduce energy consumption, or renewable energy sources such as solar, wind, or bio-gas to replace fossil fuel-generated electric power.

#### **5. Setting the Price**

The price of Fund credits during the true-up period should be high enough to 1) fully remove emissions in a quantity at least equal to a Party’s overage, and 2) neutralize any economic incentive Parties might have to delay making timely reductions on their own. Vigorously stressing reliability over cost-effectiveness will mean that credits obtained through the Fund likely will cost more than credits Parties might have obtained through the other Kyoto mechanisms. This higher cost should dissuade Parties from using the Fund as an option of first resort.

The Compliance Fund credit price may be calculated as follows:

(base price) x (1 + multiplier) = Compliance Fund credit price where  
the multiplier = (administrative expense surcharge rate) + (adaptation  
surcharge rate) + (project risk rate).

The base price is derived by reviewing price-per-tonne data from CDM projects of appropriate technologies reported through the end of the commitment period.<sup>7</sup> The price data is then averaged by project or technology type. The Compliance Fund administrator identifies and quantifies the anticipated opportunities for CDM project investment, including the proportional mix by project or technology type, that will be available after the commitment period ends. The administrator then uses those proportions to arrive at a weighted average of all the price data for the appropriate-technology projects. That is the base price.

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However, it does not require, nor should it be interpreted to require, *all* CDM operational entities to engage in certification activities.

<sup>7</sup> Optimally, this type of data will be collected and compiled pursuant to the regular reporting requirements for CDM participants and the reviews performed by operational entities in the verification and certification procedures.

For the multiplier, the administrative expense and adaptation surcharge rates could be the same respective rates used for CDM projects pursuant to Article 12.8. The project risk rate may be very low if there are a sufficient number of projects from which the base price data is derived, because project risk would presumably be reflected in the reported data.<sup>8</sup> However, the risk rate should also account for the additional environmental damage caused by the delay between when the Party *should* have accomplished its reductions (i.e., before the true up) and the time they will actually be accomplished.

## 6. Availability of Compliance Fund Credits

As discussed above, the purpose of the Compliance Fund during the true up is to assure there is “liquidity” in the system: If Parties with overage face a declaration of non-compliance because there are insufficient Kyoto mechanisms credits available on the open market during the true up, they can purchase enough credits from the Compliance Fund to honor their Article 3.1 commitments and stay in compliance.

Simply assuming that a point will arrive at which there are *no* credits—and that that is when Fund credits should be offered—is unrealistic. There will probably always be *some* credits available. Some Parties or private entities may speculatively hold back their excess credits, waiting to offer them at extreme prices when Parties in need have no other options. Indeed, should the market price become high enough, some Parties may be willing to sell parts of their assigned amounts that they had held back for their own compliance purposes, if they believe that the price they receive will exceed the risks of any penalty they might face under Article 18.<sup>9</sup> As these examples show, the number of credits that are available or unavailable on the open market can probably not form a coherent basis for deciding whether Parties should be able to purchase Compliance Fund credits.

Instead, Compliance Fund credits should be available at a fixed price throughout the true up. As the commitment period comes to a close, the Compliance Fund administrator would calculate the price of Fund credits by using the formula described above. Then, when the commitment period ends (and the true up presumably begins), the administrator or secretariat would publicly announce the Fund price and offer to sell Fund credits at that price to any Annex I Party, upon demand. This would provide stability for the market price of Kyoto mechanism credits during the true up. However, because the price of Fund credits will be set high enough to ensure that they will underwrite genuine emissions reductions, the environmental integrity of the commitment period should be preserved. The higher price will also assure that the availability of Fund credits does not inappropriately interfere with the market for the other Kyoto mechanisms.

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<sup>8</sup> Projects that fail or perform poorly will deliver few (or no) CERs per dollar invested. So long as data from all relevant CDM projects—including those that failed—is evaluated, risk will be incorporated into the weighted average price, because failures and poor performers will increase the average per-tonne price for that type of project.

<sup>9</sup> To minimize the risk of this possibility, emissions trading should be conducted under a buyer or hybrid buyer-seller liability rule. See Donald Goldberg, Steven Porter et al., *Responsibility for Non-Compliance Under the Kyoto Protocol's Mechanisms for Cooperative Implementation* (Center for International Environmental Law 1998).

## 7. Strengths and Weaknesses

Ideally, the Protocol's compliance-related tools should "make the climate whole," eliminate the economic benefits of non-compliance, and provide clear incentives for timely compliance. The merit and feasibility of such tools should be determined by evaluating them from environmental, economic, and political perspectives.

### *a. Environmental and Economic Perspectives: Reliable, Efficient; Enhances Assurance*

The Compliance Fund is effective from environmental and economic perspectives because it is reliable and efficient. By using collected fees to underwrite only carefully designed projects that bring actual, verified GHG reductions, the Fund assures that carbon ledgers for the commitment period will ultimately balance. This attribute of the Fund is essential when Parties have overage and thus bear the responsibility of recouping a specific number of tonnes. Similarly, because it directly accomplishes quantifiable, verifiable mitigation by reducing emissions at their source through projects, the Compliance Fund will be an efficient way to correct specific amounts of overage. Regulatory approaches such as policies and measures or carbon taxes should form the foundation of a Party's implementation strategy during each commitment period; however, these approaches may be more broad than necessary when the need is to recoup a specific number of tonnes.

The Compliance Fund's effectiveness is also enhanced by its relative simplicity, which should make it cost-effective to implement and administer. Because it can be operated as a division of an existing institution, the Fund should require little additional rulemaking or institutional capacity. Moreover, because a Party's liability for overage ends once it tenders payment to the Fund, there will be no need for the Protocol's compliance institution to maintain prolonged, expensive (and potentially confrontational) oversight over the Party to ensure that it eventually restores or corrects its assigned amount.

The Fund can increase the assurance of other Parties and, in turn, increase their confidence in the treaty institution as a whole. Parties that utilize the Fund will be paying for "gold standard" projects that are among the most reliable for delivering reductions. Because the most important criterion for selecting these project types will be quality rather than cost, Fund prices should be high enough so that Parties who use the Fund do not obtain an economic advantage from delay. This will help assure those Parties who accomplish their reductions in a more timely manner during the commitment period that their economic competitiveness will not be undercut by non-complying Annex I Parties.

Most importantly, the Compliance Fund can enhance assurance because it does not require other Parties to wait for five or more years to see if a Party with overage will take steps to cure it. When a Party tenders payment in full to the Fund, its compliance question will be resolved, and it will no longer be responsible for correcting the overage. Instead, a disinterested institution will be charged with using the payment to underwrite the Fund's abatement projects. Therefore, the question of whether or not others will have to rely on the Party's promise to fix the problem will be moot, and a potential source of distrust will be removed.

***b. Political Perspective: A Question of Will***

The main challenge for the Compliance Fund comes from the political part of the evaluation. The Fund can provide a strong means of assuring Parties that their compliance efforts or economic competitiveness will not be undercut by others' under-compliance. Accordingly, it should be embraced by Parties that share this concern. But some Parties are equally or even more concerned that they may be unable to achieve their own targets. Some of these Parties may be unwilling to accept a compliance tool that could conceivably result in their "signing a check" and delivering it to a multilateral organization. It is widely known, for instance, that the United States Congress has for years resisted and delayed appropriating the money for U.S. dues to the United Nations.

Ultimately, this is a political decision that each Party must make for itself based upon its individual circumstances and its relationships with other states. Governments and their citizens must decide how important the threat of climate change is to them, and how much they are willing to commit themselves to taking the necessary steps to address it. Parties' willingness to commit to serious mitigation strategies will likely increase as the climate change threat becomes more apparent over time. The compliance system should, in turn, be designed with the expectation that it will evolve to respond to these changing political and environmental conditions. However, for those Parties that presently *do* have the will, the effectiveness, reliability and efficiency of the Compliance Fund should make it a useful tool for remedying overage during the true up and beyond.

**B. VARIATIONS ON THE THEME: A DOMESTIC "CLIMATE CHANGE FUND"**

**1. The Basic Idea**

Some Parties have suggested that the best way to address this question of political will would be to set up a fund that is administered by the Party with overage.<sup>10</sup> During the true up, a Party could commit itself to allocating moneys to develop projects that would mitigate GHGs equivalent to the overage. The Party itself would retain these moneys, thereby eliminating the need to "sign a check" and make payment to an international organization.

The domestic fund could be authorized under the Kyoto Protocol in two very different forms. At one extreme, Parties would be free to set up and manage their individual funds in any manner they chose. This would essentially be an unregulated fund, and would be designed according to the preferences and individual circumstances of each Party. A far more reliable and efficient form would be one closely patterned after the Compliance Fund as it is described in the previous section of this paper.

**2. The Self-Designed Domestic Fund**

While a self-designed domestic fund would give individual Parties the greatest degree of flexibility and autonomy in dealing with their overage, any meaningful international

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<sup>10</sup> This idea has been discussed within the Umbrella Group and at the recent Montreaux meeting, February 9-11. To the best of our knowledge, it has not yet been developed in detail by any Party.

oversight of the Party's performance could be difficult or impossible, due to the nearly infinite ways in which Parties could manage and implement their funds.

**a. *Capitalizing and Managing the Fund***

In a self-designed domestic fund, moneys could be raised and administered by any number of means. They could be appropriated from general revenues and set aside in a restricted trust or escrow account at the time the Party made the election to use the fund. They could be appropriated whenever they were actually needed to underwrite a project, and not actually held in a special account at all. Or they could be raised over time by taxing or penalizing the Party's regulated entities that were adjudged to be responsible for the overage.

In fact, it would be unclear on what basis a per-tonne price would be determined for a self-designed and administered fund. This would, in turn, make it unclear exactly how much money a Party would be required to appropriate to the fund. Would there be any actual requirement? What if projects turned out to be more or less expensive than the moneys that had been allocated to pay for them? Would Parties be able to return any excess moneys to their general revenues? Would they be required to commit more moneys for under-budgeted projects?

In the absence of standardized international rules, a self-designed domestic fund could be managed and accounted for in as many ways as different governments manage and account for any of their other revenues. Opportunities for governments to "game the system" through creative bookkeeping would thus be myriad. It would obviously be exceedingly difficult or impossible for the Protocol's compliance system to provide any meaningful oversight in such a situation. This type of fund would, in our view, be little more than a promise from a Party with overage that it would somehow correct the overage sometime in the future. If by electing to use this kind of fund during the true up a Party with overage could avoid facing a compliance proceeding and finding of non-compliance, then the fund would essentially be the same idea as the version of "borrowing" that was rejected by the Parties soon after it was proposed by the United States, which would have allowed Parties to stay in compliance with their commitment period obligations by simply promising to make up the difference in subsequent periods.<sup>11</sup>

**b. *Eligible Project Types***

The self-designed domestic fund could similarly take many different approaches towards mitigating the Party's overage. We assume Parties would be limited to funding *project-based* mitigation, and that broader based programs such as enhanced policies and measures would not be eligible for the domestic fund.<sup>12</sup> Projects might include domestic projects located within the Party's national territory, foreign-sited projects, or a combination.

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<sup>11</sup> It is not our contention here that Parties are actually proposing a domestic fund that would be free of any international rules. We do believe, however, that it is important for Parties to appreciate how easily a domestic fund could become a serious compliance loophole.

<sup>12</sup> We make this assumption because only projects will be able to result in specifically quantifiable GHG abatement. Nevertheless, enhanced policies and measures will play an important—perhaps the most

However, unless they are strictly regulated in a manner similar to CDM projects, there will be a moral hazard that projects may be defined in environmentally and economically lax ways, or that they may be selected for political rather than environmental reasons, so that their claimed mitigation benefits are not truly additional. This could be especially so if the project selection and approval process is not tempered by the influence of a foreign partner, as will generally be the case in JI and CDM projects.

### **3. The Internationally Designed Domestic Fund**

As discussed earlier, the main impetus behind a domestic “climate change fund” is that it would not require the politically unpredictable act of “signing a check” and making payment to an international compliance institution. We do not believe, however, that the reluctance of some Parties to empower Protocol institutions with the means of enforcing Article 3 commitments should serve to create a new loophole that allows Parties to evade those commitments. Consequently, we argue that, should the COP/MOP elect to authorize the use of domestically administered funds, it should require them to be operated under rules closely patterned after the Compliance Fund, as described earlier in this paper and as reviewed below.

#### ***a. Suspension of Compliance Proceeding; Continued Liability***

One central aspect of the Compliance Fund should not apply to a domestically administered fund. Under the Compliance Fund, a Party that makes full payment during the true up receives emissions credits equivalent to the amount of its overage. It then can add the credits to its assigned amount, ensuring that its aggregate emissions no longer exceed the amount and that it is in compliance with its Article 3.1 obligation. Because the Party is relinquishing all control of the payment, and because the payment will be used to underwrite only “gold standard” mitigation projects that will also not be under control of the Party, the environmental integrity of the commitment period is protected, and the Party earns the privilege to use the Fund credits immediately for compliance purposes even though they represent future, rather than accrued, GHG reductions.

Under a domestic fund, by contrast, the Party with overage will surrender neither the moneys for, nor control of, project development and implementation. Because the needed emissions mitigation remains the responsibility of a Party that proved unable to adhere to its target during the commitment period, the performance of the domestic fund will be less certain than that of the Compliance Fund. Hence, it would be imprudent to award emissions credits to the Party before any mitigation actually occurs. Instead, a Party’s verified, timely payment to a domestic fund should suspend, or stay, a finding of non-compliance. So long as the domestic fund produces mitigation at an approved rate, the finding would remain in suspension. But if the Party’s fund failed to perform, then the finding would be triggered. Conversely, when the fund has accomplished verified mitigation in an amount equal to or greater than the overage,

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important—role in assuring that Parties with overage in one commitment period avoid a similar situation in the next. Consequently, if Parties are permitted to use a domestic fund, it may be advisable for them to submit a *compliance action plan* that demonstrates specifically how they will meet their target in the subsequent commitment period. See compliance action plan discussion, *infra* p. 22.

then the Party should no longer be liable for the overage nor subject to a finding of non-compliance.

***b. Capitalizing the Fund; Oversight***

The key to the Compliance Fund is that Parties with overage during the true up can avoid non-compliance by tendering full payment for Compliance Fund credits. Tendering payment demonstrates good faith, provides the money to remove the overage, and places Parties on a level economic playing field with their trading partners.

Should the COP/MOP elect to authorize the use of domestic climate change funds, this same principle should guide their capitalization. As explained above, use of either the Compliance Fund or a domestic fund should be considered a privilege intended to accommodate a Party with overage during the true up. It should not be viewed as a right. Accordingly, a Party electing to use a domestic fund to facilitate its compliance should be permitted to do so only if it fully capitalizes the fund in the prescribed amount at the time of its request, during the true up. Any other rule could lead to delay and uncertainty as to whether the Party has actually complied with its commitments, and will provide an incentive to those Parties who may be inclined to treat their Article 3.1 obligations laxly to continue doing so, while increasing the uncertainty of those Parties and private actors who take their obligations seriously.

Rules will thus need to be adopted establishing a framework for how and when a domestic fund will be capitalized, how and by whom it will be administered, and how the home Party will provide assurance to other Parties that it is adhering to the rules. At a minimum, approval of a domestic fund should require:

- Escrow or trust account. Moneys for a domestic fund must be held in a discrete, protected account that may be used only by the fund. Parties applying to use a domestic fund during the true up must provide documentation of the account's existence.
- Integrity of the fund; disbursements. Applicant Parties must provide details of how the integrity of the escrow or trust account will be protected from misappropriation, diversion, or any "off budget" use. Details should include how disbursements from the account will be monitored.
- Capitalization. Parties electing to use a domestic fund for compliance purposes may suspend or stay a compliance proceeding only after presenting proof that the designated account has been fully capitalized with the requisite amount of money.
- Independent auditing. This will be a key feature of any domestic fund. All applicant Parties must submit to the Protocol's compliance institution the results of independent audits of their domestic fund. Audits should contain sufficient information to confirm that a Party has complied with all international rules governing its domestic fund. The audits should be conducted by internationally recognized and approved operational entities, and should be submitted at the time of the application during the true up, and at regular intervals for the life of the fund.

Potential supporters of a domestic fund should note that the political palatability gained by retaining fund moneys and thereby not “signing a check” to an international institution will have its own financial and political price. Implementing and enforcing the rules will necessarily increase the role international institutions must play in monitoring how a Party manages its domestic fund. Compared to the Compliance Fund, this will increase costs for both the Party and the compliance system at large. It will also require a higher degree of international involvement in fiscal activities that ordinarily would be under the sole prerogative of the Party.

*c. Approved Project Types; Oversight*

To avoid allowing a domestic fund to become a mere promise to engage in CDM or JI projects in the future, and to help stimulate Annex I Parties to take meaningful domestic mitigation action, projects underwritten by a Party’s domestic fund should be sited in that Party’s national territory.

As discussed above, Parties taking advantage of a domestic fund must not receive “credit” simply by making payment to their fund during the true up. Instead, they should remain liable for their overage until the fund’s GHG abatement has fully accrued. This fundamental difference between the Compliance Fund and a domestic fund implies that it may be less important for domestic fund projects to be as reliable as Compliance Fund projects will need to be. However, because use of a domestic fund would (1) entitle the Party to a suspension or stay of compliance proceedings, (2) obligate the Party to mitigate a specific number of tonnes, and (3) create a moral hazard that the Party would define and implement projects in environmentally and economically lax ways, domestic fund projects must be subject to strict baseline, additionality, monitoring and verification rules.

Under the ongoing negotiations to develop rules for the Kyoto mechanisms, some Parties have suggested that there is no substantive difference between Article 6 JI and Article 17 emissions trading activities. They accordingly propose that JI projects should be subject to whatever rules the home and host Party agree to, rather than the strict, internationally mandated rules that will (presumably) apply to CDM projects. We strongly disagree with this proposal and instead support the notion that JI projects should be evaluated under terms as rigorous as CDM projects. However, even if JI rules ultimately do not require rigorous, independent evaluation, projects implemented under a domestic fund will need to be subject to the same level of oversight as CDM projects. In particular, this should include strict additionality rules and verification of all claimed GHG mitigation by independent, certified operational entities. Strict oversight will be essential, given the fact that claimed benefits from such projects will represent satisfaction of the Party’s climate debt for which—but for the domestic fund—it would have been subject to a finding of non-compliance.

As for project quality, a “gold standard”—e.g., renewables such as solar, wind, bio-gas or geothermal, with an emphasis on mitigation that accrues reliably and quickly—should apply to projects whether they are implemented under the Compliance Fund or a domestic fund. Even though the use of a domestic fund will not entitle a Party to credit in advance (as will be the case with the Compliance Fund), enhanced project reliability will help assure that the domestic fund accomplishes its required mitigation quickly and with less chance of project

under-performance or failure. This will promote timely resolution of the Party's compliance question. Timely resolution will, in turn, lead to lower compliance-related costs for both the Party and the Protocol's compliance system, less possibility that the domestic fund may create a loophole in the Protocol's environmental objectives, and increased confidence of other Parties in the Protocol as a whole.

*d. Setting the Price*

As pointed out earlier, it could be difficult under an unregulated domestic fund to develop any coherent standard for setting a per-tonne price for compliance purposes. In our view, a domestic fund without a price standard would provide no basis upon which compliance could be judged, and would likely represent little more than a promise from the Party that it would make up for its overage sometime in the future.

Because the fundamental purposes of the Compliance Fund and a domestic fund should be the same—facilitating a Party in mitigating its overage when there are insufficient Kyoto mechanisms credits available on the open market—we believe the per-tonne price should be set in the same manner, regardless of which form of the fund is used. (For the specifics of how the price should be set, please refer to “Setting the Price” *supra* p. 5.)

The two fund types will be different in an important way, however. For the Compliance Fund, the per-tonne price serves as a liberal estimation of the cost of mitigating a Party's overage; timely and full payment absolves the Party from any further liability for that overage. By contrast, payment into its domestic fund will not absolve a Party of liability. Rather, the Party should remain liable for its overage until its domestic fund fully accomplishes the requisite mitigation. Hence, if the per-tonne price proves to be inadequate, the Party will have to replenish the fund with enough money to produce the necessary mitigation.

It may be reasonable that the reverse of that scenario should also apply—i.e., that the Party should be able to redeem or “cash in” any surplus remaining in its fund after its overage is fully mitigated. Such a rule could risk providing an incentive to Parties to “game the system” by rent seeking or manipulating the apparent performance of their projects. Whether or not that risk could be avoided would depend on the ability of the relevant Protocol institution to verify the performance of a given Party's fund.

### III. REMEDIAL MEASURES TO CURE NON-COMPLIANCE

After the commitment period and true up end, Parties that have failed to cure their overage will be out of compliance with Article 3.1. Such Parties will be subject to a non-compliance proceeding that could lead to facilitative, remedial or punitive responses.<sup>13</sup> As has been widely noted in the sessions of the JWGC and the Parties' various submissions, and exemplified by the Montreal Protocol's Non-Compliance Procedure, facilitation may

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<sup>13</sup> The rules may provide that Parties can waive their right to such a proceeding, especially where non-compliance with Article 3.1 is clear and the response is automatic.

constitute an important approach for helping Parties that lack technical or economic capacity bring themselves into compliance or avoid going into non-compliance in the first place. However, there may come a point at which open-ended facilitation no longer serves its intended purpose, and there may be some non-complying Parties for whom facilitation is inappropriate.<sup>14</sup> To be effective in these situations, the compliance system must contain provisions for more decisive responses.

The purpose of such responses in the Kyoto Protocol should be, first and foremost, to encourage Parties to comply by deterring them from non-compliance. However, should the possibility of a non-compliance finding and response fail to deter a Party from breaching its obligations, then it should be subject to a consequence that (1) restores atmospheric GHG accumulations to where they would have been had the Party complied and (2) results in the Party disgorging the economic benefit of its non-compliance. A *remedial measure* can provide the means by which the atmospheric and economic harm can actually be cured. If the non-complying Party fails to use the remedial measure to fix the harm, a *punitive measure* may be needed to induce the Party to do what it otherwise is disinclined to do.

Punitive measures, such as public “shaming,” suspension or loss of treaty privileges, and imposition of trade measures may convince a Party to change its behavior. (These measures will be discussed in more detail in Part IV, *infra*.) Nevertheless, a repentant Party will still need a means of translating its decision into actions that will mitigate its overage and disgorge the economic benefits of its non-compliance. Paying a fine or monetary assessment may accomplish the latter task; however, fines cannot, in and of themselves, repair the damage to the climate. A mechanism such as the Compliance Fund is necessary to do that. Similarly, the “subtraction of tonnes” or “reduction of future assigned amount” proposal also listed in the Co-Chairs’ “Elements” paper could, in theory, bring about a balancing of climate ledgers.

## **A. FINANCIAL PENALTIES**

### **1. Role of Financial Penalties in the Kyoto Protocol**

Financial penalties have been authorized as responses to non-compliance in few multilateral agreements to date. Perhaps the most noteworthy of these is the North American Agreement on Environmental Cooperation (NAAEC),<sup>15</sup> which contains detailed provisions for imposing “monetary enforcement assessments” against non-complying parties. Parties that are adjudged to have persistently failed to enforce their domestic environmental laws can be liable for the assessment if they fail to remedy the situation. For the first year in which the NAAEC entered into force, such assessments were not to exceed US\$20 million. Now, they may be no greater than .007% of the total trade in goods between the parties for the most recent year in which data is available.<sup>16</sup>

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<sup>14</sup> This could be the case particularly for wealthy Annex I Parties whose uncured overage can be traced to a lack of political will, rather than economic or technical capacity.

<sup>15</sup> North American Agreement on Environmental Cooperation, Sept. 14, 1993, 32 I.L.M. 1480 (1993).

<sup>16</sup> See *id.* annex 34.

Despite the limited number of international precedents, Parties negotiating rules for the Kyoto Protocol's compliance system recognize that the profound threat of global warming—and the fact that taking meaningful action may impose significant costs upon their economies—warrant consideration of a full range of compliance measures, both to ensure the environmental integrity of the agreement and to provide assurance that Parties' individual efforts will not be undercut by “free riders.” The Co-Chairs' “Elements” paper reflects this by including “financial penalties” among the list of potential outcomes or consequences to non-compliance.

As noted above, a financial penalty levied against a non-complying Party can result in the Party forfeiting the economic benefit it enjoyed from its non-compliance, provided the fine is carefully tailored to the circumstances and the treaty institution has the authority to enforce the Party's obligation to pay by imposing punitive measures. Without such authority, the treaty institution must rely upon the good will of the Party to satisfy the levy—which may be unrealistic, given that the Party allowed itself to go out of compliance in the first place.

## **2. Relationship to Compliance Fund**

Even if a Party to the Protocol is willing to pay a financial penalty for non-compliance in full, the payment will not be remedial—that is, it will result in no benefits to the climate—unless it is tied to a means of mitigating the overage that caused the non-compliance. Therefore, proceeds from financial penalties should be paid to the Compliance Fund to be used for abatement of greenhouse gas emissions.

## **3. Dynamic or Floating Financial Penalty**

### ***a. Computing the Penalty***

As discussed earlier in this paper, the price of Compliance Fund credits should be computed using a dynamic or floating formula, based upon the costs of developing “gold standard” mitigation projects.<sup>17</sup> A financial penalty for non-compliance could be computed in a similar manner. However, such a penalty should be increased so that it is automatically more expensive than Fund credits are during the true up. This increase will reflect the serious implications that non-compliance with the Protocol should carry (as opposed to preventing non-compliance by voluntarily curing overage during the true up), as well as the added costs that delay will impose on the environment, other states, and administration of the compliance system. Moreover, like an interest penalty for overdue taxes, financial penalties under the Protocol should continually increase as long as they remain outstanding.

The formula for a dynamic financial penalty for non-compliance could thus be:

Compliance Fund credit price<sup>18</sup> x (1 + penalty rate) x (1 + (monthly/daily interest rate x months/days overdue)).

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<sup>17</sup> See “Setting the Price” *supra* p.5.

<sup>18</sup> See *id.*

## **b. *Strengths and Weaknesses***

The strengths of using a dynamic formula for computing financial penalties for non-compliance are similar to those identified in the discussion of the Compliance Fund earlier in this paper. Because the formula is pegged to the actual costs of reliable mitigation projects, it will result in assessments that are high enough to underwrite projects capable of making the climate whole. This, combined with the additional non-compliance penalty rate and monthly interest rate factors of the formula, will also serve to make the assessment clearly more expensive than timely compliance would be, thereby assuring that the existence of the assessment will not have the perverse effect of giving Parties an incentive to delay. The penalty and interest could be used to purchase additional reductions to compensate for the environmental harm from delay.

The weakness of the dynamic formula is that it may raise prices above a level that Parties are willing to accept, which could create a significant impediment both to ratification and implementation. Particularly during the first commitment period, when the implementation of their obligations will to a significant degree be a learning experience, some Annex I Parties may resist exposing themselves to the possibility of open-ended liability, especially if they believe their non-compliance could be beyond their control. Such Parties may also be reluctant to empower an international institution with the authority to mete out non-compliance responses that could be perceived as reparations. Accordingly, we recommend that negotiators who are advocating financial penalties stress their important role in making the climate whole and neutralizing the unfair trade and other economic advantages of non-compliance.

## **4. Fixed-Rate Financial Penalty**

### **a. *The Basic Idea***

For those Parties who fear price uncertainty, penalties set at a fixed per-tonne rate determined before the commitment period begins may provide a more politically palatable option than those that use the dynamic formula. Under this arrangement, a Party with overage at the close of the commitment period and true up would be subject to a formal finding of non-compliance with Article 3.1.<sup>19</sup> As a consequence of its non-compliance, the Party would be assessed a fee determined by multiplying the tonnes of overage by the fixed per-tonne rate. The Party's non-compliance would be considered cured upon payment of the fee, and the

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<sup>19</sup> At least one commentator has noted that the fixed-rate penalty would tend to shift the meaning of Article 3.1 compliance from meeting one's emissions target to instead meeting a per-tonne "level of effort" denominated in money. See Raymond J. Kopp, *Definitions of Kyoto Compliance: Reducing Uncertainty and Enhancing Prospects for Ratification* (Resources for the Future, revised Dec. 1999). A true "level of effort" compliance rule would mean that any Party that could show it had expended the required effort would be in compliance with the Protocol. For example, if the required level of effort were \$50 per tonne, a Party that had implemented a carbon tax of \$50 per tonne on all its sources would automatically be deemed in compliance. However, the compliance rule as adopted in Article 3.1 requires Annex I Parties to emit less than their assigned amounts; if a Party has overage after the commitment period and true up end, that Party will be in non-compliance, regardless of what level of effort it devoted towards mitigation. Accordingly, the availability of a fixed price penalty—even a very low one—will not, in and of itself, enable Parties to avoid a finding of non-compliance.

Party would not be subject to any further compliance proceedings. The need to “make the climate whole” would be addressed by directing the collected fee to the Compliance Fund.<sup>20</sup>

***b. Fixed-Price Penalty as a Price Cap***

Such a fixed rate could tend to function as a price cap or ceiling for the commitment period as a whole. Because the per-tonne costs of non-compliance would be known in advance, Parties and their domestic entities might endeavor to achieve domestic emissions reductions or purchase Kyoto mechanism credits only so long as the per-tonne price does not exceed the fixed rate. Depending on a Party’s circumstances, other consequences of non-compliance (for example, suspension of the right to sell AAUs) could mitigate against this tendency.

***c. Strengths and Weaknesses***

The main strength of using financial penalties based upon fixed per-tonne rates is their predictability. While Parties may not know in advance precisely how their commitment period performance will compare to their targets, they would know how much each tonne of overage would cost them. Hence, a fixed rate could provide significant price certainty to Parties and their public and private entities.

If the fixed-rate penalty was set at a high enough level, it could still act as a strong deterrent to non-compliance, could result in a Party relinquishing the economic benefits of its non-compliance, and could raise revenues sufficient to underwrite projects that could mitigate the Party’s overage for the commitment period. However, for Parties whose commitment to taking meaningful action against climate change is uncertain, such a rate would present some of the same political problems as the dynamic rate; namely, it would require them to commit in advance to devoting potentially significant financial resources toward GHG mitigation, either during the commitment period or after.

By contrast, a fixed-rate penalty that was set at a relatively low rate could enhance the Parties’ will to adopt binding consequences to non-compliance. Any provision for financial penalties in an environmental regime with as broad membership as the FCCC and Protocol would represent a major step forward in the development of compliance remedies for international environmental agreements as a whole. Once Parties accomplish this hurdle, and as they gain more experience with their implementation of the Protocol, they may become more amenable to raising the rate to environmentally effective levels. A broad willingness on the part of Parties to satisfy financial penalties levied against them would help Parties avoid the necessity of implementing more punitive and divisive methods of inducing non-compliers to remedy their breach.

The weakness of fixed penalties is that, to the extent they function as a price cap, they could limit environmental effectiveness. If the rate is set too low, Parties will have an incentive to ignore their targets and go into non-compliance, especially if they believe other Parties will

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<sup>20</sup> To ensure that the majority of the fee goes to mitigation rather than extraneous costs, a Party found to be in non-compliance should also be responsible for the administrative costs of the compliance proceeding as well as interest computed from the time of the non-compliance finding through the date that payment of the fee is received.

do the same, and if they believe being subject to a compliance proceeding and finding of non-compliance will not carry significant political costs. This dynamic would be especially detrimental if countries that otherwise would be willing to invest relatively high amounts to meet or even exceed their targets, decide to take the cheaper route of a price-capped penalty solely because it is offered to them.

A low per-tonne rate would not result in sufficient revenues to underwrite high quality projects capable of mitigating the overage. Instead, penalty fees would be able to accomplish full mitigation only if they were invested in projects that were high-risk or unproven technologies, or were subject to lax baselines, additionality, monitoring and verification rules. But relying on such projects to mitigate overage would be little more than gambling. Inevitably, project failure and under-performance would lead to greater atmospheric GHG concentrations than would have been the case had all Parties complied with their targets. Even though a low fixed rate could increase “technical” compliance, it would most likely lead to diminished accomplishment of the Protocol’s environmental goals.

Too low a fixed rate could also have the effect of diverting capital flows from the Kyoto mechanisms, particularly from the CDM. A penalty price cap known throughout the commitment period will tend to serve as a per-tonne cap on the price of mechanisms credits. This implies that the only projects that would be able to attract funding would be those that could promise credits priced below the cap. Accordingly, a fixed penalty rate could result in fewer and lower quality CDM and JI projects and, in turn, lower levels of funding for the sustainable development needs of developing countries and economies in transition. For those who espouse the virtues of these market-based approaches to GHG control, and who anticipate that these approaches will be key to induce “meaningful participation” from non-Annex I Parties, a poorly conceived price cap could threaten both strategies.<sup>21</sup>

## **B. “SUBTRACTION OF TONNES”**

### **1. The Basic Idea**

The notion of allowing a Party to cure its overage from one commitment period by reducing its assigned amount from the next has been an element of compliance proposals since before the Protocol was adopted. Originally, the idea was presented as “borrowing,” which would have allowed Parties with overage at the end of the commitment period *avoid non-compliance*. Before the close of the commitment period or true up, such Parties would declare that they were taking parts of their assigned amounts from the next commitment period and adding those parts to their current assigned amount, so that their aggregate emissions no longer exceeded their assigned amount and they were thus in compliance with their core obligations. The Party would then figure out how to “make up the difference” during the course of the subsequent commitment period.

The Parties rejected borrowing before COP3 and it was not included in the adopted Protocol. Instead, the proposal resurfaced in the form of “subtraction of tonnes” or “reduction of future

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<sup>21</sup> Under some circumstances, reduced reliance by Annex I Parties upon reductions achieved overseas will mean that such Parties are taking greater reduction actions at home. This will obviously not be the case, however, if Parties can buy their way out of non-compliance at a lower cost than taking domestic action.

assigned amount.” The key difference between these latter-day iterations of borrowing and the original idea is that borrowing was viewed as a way to *avoid* non-compliance, while subtraction is now proposed as a *consequence* to non-compliance.

Under the current proposal, a Party that does not cure its overage during the true up would be subject to a finding of non-compliance. Upon such a finding, the Party could “subtract” part of its assigned amount from the next commitment period. The amount subtracted would equal the overage multiplied by a penalty factor, e.g. 1.3.<sup>22</sup> This non-compliance consequence could be applied automatically, with a minimum of administrative and legal process, or, if the Party disputed the allegation of overage, as the outcome of a full compliance proceeding.

## **2. Strengths and Weaknesses**

### ***a. Political Feasibility; Potential Effectiveness***

The attraction of subtraction of tonnes is that it allows Parties to support a consequence to non-compliance without exposing themselves to any immediate “pain” should they find themselves in non-compliance after the commitment period and true up. For those Parties that are unsure of their ability to garner domestic political support for the Protocol, this “soft” consequence might serve to balance the demands of constituencies who would prefer no binding commitments at all against those who recognize the need to move beyond the unquantified, unenforceable standards of the Framework Convention.

Moreover, if a Party subject to reduction of tonnes actually makes good on its promise and emits no more than its reduced assigned amount during the next commitment period, then the atmosphere will be “made whole” (or even slightly improved, considering the added penalty amount), all in a relatively short period of time and without recourse to punitive or other confrontational measures.

### ***b. Deferred Action***

That condition—if the Party makes good on its promise—is also the proposal’s great weakness. Unlike remedial measures like the Compliance Fund and financial penalties, subtraction of tonnes does not require the non-compliant Party to take any specific action at any particular time. Rather, it consists of a promise from a Party lacking the will or wherewithal to honor its past commitments that it will somehow discover the means to meet its future targets—*decreased* by the amount of its present overage.

Subtraction thus provides little assurance that the environmental debt will be repaid or that the overage will not become a permanent addition to total atmospheric accumulations. Because it allows a Party to delay the “day of reckoning” until the end of the next

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<sup>22</sup> See United States, *Compliance-Related Issues: Submission of the United States* (Jan. 31, 2000) [hereinafter U.S. Compliance Submission (recommending that in cases of overage after the true up, Party’s “assigned amount for the subsequent commitment period should be reduced by a number of tonnes equal to [1.3] the number of tonnes by which it exceeded its assigned amount”)]; see also Tim Hargrave et al., *Defining Kyoto Protocol Non-Compliance Procedures and Mechanisms* 20 (Center for Clean Air Policy Oct. 1999).

commitment period (or forever, if overage can continue to be rolled over into future commitment periods), its effectiveness as a remedy cannot be thoroughly assessed until years after the Party goes into non-compliance.

The uncertainty as to how long it will take to make a determination of non-compliance after a commitment period ends further exacerbates this problem. Current estimates for the time needed for Parties to compile and submit their final inventories and then for the compliance system to review those inventories and make a conclusive finding of compliance or non-compliance range as high as thirty-eight months.<sup>23</sup> If those estimates are accurate, then a determination of non-compliance might not be possible until over three years into the next commitment period. Unless a Party with overage began implementing its “payback” strategies well in advance of the finding of non-compliance, it would likely not have adequate remaining time in the commitment period to do so, thereby assuring that it would need to delay fully mitigating the overage until at least a *third* commitment period.

### *c. Minimal Deterrence*

If the payback penalty is set too low, the deterrent value of subtraction will be minimal. In fact, a rational Party may view subtraction as an incentive *not* to comply if the penalty is lower than the discount rate over the course of the next commitment period. (Of course, a Party’s calculation whether to comply will depend on its consideration of the full suite of compliance responses, including possible punitive measures.)

One proponent of subtraction has noted that effective deterrence requires that the punishment times the probability of being punished must be greater than the gain from non-compliance, where all amounts are expressed in present values.<sup>24</sup> An effective deterrent against overselling AAUs or avoiding their timely purchase would thus require that the penalty a Party anticipates be greater than the present gains of non-compliance, adjusted by the discount rate and the period of time before the penalty would be paid.

In its most recent submission on compliance-related issues, the United States proposed a payback rate, or punishment, of 1.3.<sup>25</sup> A Party resorting to subtraction of tonnes at the end of one commitment period could conceivably “pay back” the penalty by purchasing assigned amount units as late as the last year of the following period (or even during the true up). That means that a Party with overage could have at least five years before it needed to make good on the penalty, assuming it did not have the option of using subtraction to roll that penalty into a *third* commitment period. The length of time could be as long as ten years if the Party’s overage could be traced to overselling in the early part of the first commitment period.

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<sup>23</sup> [cite to JWGC workshop, March, statement by Dennis Turpac].

<sup>24</sup> See Hargrave, *supra* note 22, at 20.

<sup>25</sup> See U.S. Compliance Submission, *supra* note 22.

At about 5.25%, the discount rate in the United States is currently much lower than the twenty year average (though it is rising).<sup>26</sup> In countries with higher interest rates, the discount rate will be higher.

Using a “best case scenario”—a Party *one hundred percent certain* that it will be punished for its non-compliance, the discount rate staying at 5.25%, and the payback period no longer than five years—the deterrence formula described above shows that a payback rate of 1.3 might be just enough to dissuade a Party from choosing non-compliance over compliance. But if the Party believes there is a possibility it will not be punished (because, for instance, it can continually roll the overage into a new commitment period), or if the discount rate rises or the Party can extend the payback time beyond five years, then the payback rate will need to be much higher, lest it serve as an *incentive* for non-compliance rather than disincentive.

**d. Cascading/Rollover Overage**

Even if the payback penalty is set at an amount ostensibly high enough to deter non-compliance, it will provide no deterrence whatsoever if a Party can “rollover” its overage by using the subtraction of tonnes “consequence” for commitment period after commitment period. Allowing Parties to “payback” their overage and penalties by repeatedly borrowing from the next commitment period would be like allowing a consumer to pay off his credit card debt by repeatedly borrowing from newly opened accounts. Just as when a credit card pyramid scheme collapses and leaves creditors with worthless bankruptcy claims, successive use of the subtraction of tonnes option would likely leave other Parties holding worthless promises and climate ledgers forever out of balance. Yet the various subtraction of tonnes proposals have been moot on this point.

**e. Impact on Subsequent Budgets; Assurance to Other Parties**

An oft-repeated objection to the borrowing and subtraction of tonnes proposals is that they would provide Parties with an incentive to inflate their budgets in the next commitment period. This risk is a genuine one. The amount of reductions a Party thinks it can reasonably achieve in the coming commitment period will be diminished by the number of tonnes it must subtract from its assigned amount in that period. To the extent a Party can anticipate its overage, it will have an incentive to inflate its next budget by that amount multiplied by the payback rate. This could have a corrosive effect on negotiations, as other Parties might seek to protect themselves by inflating their own budgets.

Subtraction of tonnes poses an additional and equally dangerous threat to the integrity of subsequent budgets. One of the most important functions of a compliance system is to provide assurance to other Parties. As explained above, subtraction provides minimal deterrence, little guarantee of making the climate whole, and little or no financial sacrifice on the part of the non-complying Party. In turn, it will provide little assurance to Parties that their own efforts to comply will not be undermined and their economic competitiveness undercut by “free riders.” With diminished assurance, all Parties may become less inclined to take the steps needed to meet their targets. Or they may become less inclined to accept

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<sup>26</sup> See Woodrow Federal Reserve Bank of Minneapolis, *Discount Rates—Historic Through Present*, <<http://woodrow.mpls.frb.fed.us/economy/bankdir/disc.html>> (visited Feb. 23, 2000).

aggressive budgets for themselves, on the belief that the apparently strict budgets adopted by others will be meaningless if they can be circumvented by borrowing or subtraction.

This dynamic could be exacerbated if subtraction is applied as a remedial measure in an automatic fashion, allowing the Party to use it without going through a public and potentially costly compliance proceeding. If combined with the opportunity for unlimited rollovers from commitment period to commitment period, the automatic application of a subtraction-of-tonnes consequence—without the attendant political and financial costs of a compliance proceeding, the provision of a compliance action plan, or the oversight of the compliance system—could amount to allowing Parties unilaterally to re-negotiate their budgets.

### **3. Borrowing/Subtraction: Summary of Arguments**

In a limited sense, subtraction of tonnes is an improvement over the original idea of “borrowing,” because it is proposed as a consequence of non-compliance instead of a way to circumvent a finding of non-compliance. Nonetheless, we believe subtraction is unacceptable, because it retains most of borrowing’s pitfalls. In particular, subtraction fails because it:

- Allows Parties to defer taking action to eliminate their overage;
- Could lead to Parties inflating their subsequent commitment period budgets;
- Contains the possibility that Parties will repeatedly “roll over” their overage by freely borrowing from commitment period to commitment period, thereby destroying the integrity of the commitment period;
- May provide an incentive, rather than disincentive, for non-compliance if the penalty payback rate is set too low;
- Provides little assurance to other Parties that the environmental harm and economic benefits of non-compliance will be corrected, thus potentially diminishing the will of those Parties to comply with their own targets.

### **C. COMPLIANCE ACTION PLAN**

As we have noted throughout this paper, remedial compliance measures such as the Compliance Fund or financial penalties will optimally preserve or restore the environmental integrity of a Party’s budget and prevent or eliminate any economic benefits of non-compliance. By using these measures, a Party with overage can provide assurance to other Parties. By contrast, measures such as a domestic fund or subtraction of tonnes, which depend on the Party’s pledge to implement the corrective measure over time, may provide other Parties with significantly less assurance that the measure will ultimately be successful.

One way of addressing this shortcoming would be to require Parties that use these latter, self-directed measures to negotiate a *compliance action plan* with the compliance body. Before obtaining approval to use the measure, or within a specified period of time, the Party with overage would submit a clear and detailed plan demonstrating how and why it will be able to change its implementation strategy to ensure that it can repay its first commitment period debt while simultaneously meeting its second commitment period target. The plan, in the

form of a binding contract between the subject Party and the COP/MOP as a whole, would be subject to approval and/or amendment by the compliance body as necessary.

A Party's preparation and submission of a plan would not, in and of itself, bring the Party back into compliance with its Article 3.1 commitment. The Party would be deemed to be in compliance only after it had successfully remedied its overage. Additionally, incentives or disincentives could be used to ensure compliance with the plan. For example, the Party's remedial obligations under the plan could be increased by a predetermined amount in the event the Party failed to perform. If at the end of the first year of the plan it was demonstrated that the Party had not fully implemented the prescribed measures, then whatever penalty the Party was subject to (e.g., obligation to "payback" under subtraction of tonnes) would be increased by, say, ten percent. This surcharge could be applied against outstanding overage for any year in which the Party failed to adhere to its plan in a timely fashion.

#### **IV. ENFORCING COMPLIANCE WITH PUNITIVE MEASURES**

As we discussed earlier in this paper, a suite of effective "consequences" to non-compliance will include (1) a remedial function, which provides the means by which the harm caused by the non-compliance will actually be fixed; and (2) a punitive function, which actually induces the Party to do something it would not otherwise be inclined to do. The Compliance Fund, domestic funds, financial penalties (with proceeds going towards reductions) and subtraction of tonnes are examples of proposals that could serve the remedial function. But these tools will work only if the non-complying Party agrees to use them. In the event the Party fails to do so, then a "stick" or punitive approach will be necessary to apply pressure on the Party until it changes its position. These approaches include, *inter alia*, issuing reports/applying public pressure, suspending treaty privileges, and implementing trade-related measures.

The purpose of such responses should be, first and foremost, to encourage Parties to comply by deterring them from non-compliance. Deterrence will be most successful when Parties believe their non-compliance will be met with a timely and proportionate response and when the disincentives contained in the response are clear and known well in advance. At a minimum, a Party should be confident that its non-compliance will be discovered and publicized, it will fully forfeit any economic benefit it might enjoy by its failure to comply, and it will be in a marginally worse overall position after non-compliance than it will be if it complies. For an environmental agreement like the Kyoto Protocol, successful deterrence prevents the environmental damage of non-compliance, which is nearly always more costly to correct than avoiding the damage in the first place.

If deterrence fails and a Party goes out of compliance, remedial measures provide an opportunity for the Party to repair the breach. But remedial measures, by design, are more costly than avoiding non-compliance. Thus, Parties may be disinclined to utilize such measures unless there is a credible threat that punitive measures will be imposed. Assuming Parties will generally take the easiest or least costly compliance route, the disincentives of the punishment must be more painful than the remedy.

## **A. ISSUING REPORTS/PUBLIC APPROBATION**

The most commonly used punitive measure for many multilateral treaty regimes is public approbation—broadcasting a treaty violation to other parties and/or the public at large. By identifying, publicizing, and making recommendations for those cases in which state parties are failing to comply with their obligations, treaty institutions help maximize transparency, permitting other states, non-governmental organizations and the public to bring pressure upon governments, while deterring some states from violating their obligations in the first place. Public approbation may thus be most effective as an enforcement tool in states that have a tradition of civic activism and a political structure that is responsive to civil society. In countries where the government is more insulated from direct public influence, public reports and approbation may be less successful in influencing state behavior.

Compliance proceedings under the Kyoto Protocol can play a key role in focusing public pressure on non-complying Parties. Such proceedings should be fully transparent and open to the public, so that they may harness civil society's considerable influence in inducing Parties to comply with their obligations. In this regard, Parties should beware allowing automaticity of consequences to become a means for non-complying Parties to avoid the public scrutiny that a compliance proceeding will entail.

However, where a Party admits to non-compliance, for example, by self-reporting or acknowledging the findings of a review team, compliance proceedings probably can be dispensed with. Nevertheless, it is important that details of the Party's non-compliance be publicized. The Convention on International Trade in Endangered Species (CITES)<sup>27</sup> publishes a periodic "Alleged Infractions Report" that lists parties that are failing to adequately regulate trade in endangered or threatened wildlife species.<sup>28</sup> Similarly, all information on the state of a Protocol Party's compliance should be broadly disseminated. Expert reviews should be published and available on the UNFCCC website. The secretariat should also publish an annual list of Parties that are not in compliance.

## **B. SUSPENSION OF TREATY PRIVILEGES**

Like the use of reports and public approbation, suspension of treaty privileges is a staple of compliance response approaches employed in multilateral agreements. Suspension can range from a restriction of voting rights, or loss of rights to participate in meetings, to loss of access to information or a service provided under the agreement. To a certain degree, suspension of rights can be viewed as a strong form of public approbation, because its punitive character partly stems from the threat that a state party will lose face and influence should suspension be implemented against it.

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<sup>27</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, 12 I.L.M. 1085 (1973) [hereinafter CITES or Endangered Species Convention].

<sup>28</sup> See John Lanchbery, *Long-Term Trends in Systems for Implementation Review in International Agreements on Fauna and Flora*, in *THE IMPLEMENTATION AND EFFECTIVENESS OF INTERNATIONAL ENVIRONMENTAL COMMITMENTS: THEORY AND PRACTICE* 57, 71 (David G. Victor, Kal Raustiala, and Eugene B. Skolnikoff eds., 1998).

In light of the fact that states have broadly accepted suspension of treaty privileges in numerous multilateral environmental and other agreements, we presume that Kyoto Protocol Parties will support their inclusion as consequences for non-compliance with Article 3.1.<sup>29</sup> The more interesting question is what role suspension of privileges to engage in the various Kyoto mechanisms—especially Article 17 emissions trading—will play in the compliance system.

The integrity of assigned amount units sold via emissions trading will obviously depend on whether the selling Party complies with its target at the end of the commitment period. If some Parties “oversell,” so that their adjusted assigned amount is less than their aggregate emissions, then the overall goal of Annex I Parties reducing their emissions by at least five percent will not be met. Because the compliance status of sellers will be so critical to whether the Parties collectively meet their objective, any Party that is found to be in non-compliance because of overage should be prohibited from selling in the next commitment period.

Such a sanction will have deterrent value only for potential sellers. It will be ineffective against Parties that are unable to sell or that intend to bank their excess emissions for use in later commitment periods. We strongly support including loss of trading rights among the indicative list of consequences to non-compliance. However, we caution that it will not serve as a deterrent for all classes of Parties and will thus be inadequate should the Parties fail to authorize the use of other punitive measures.

### **C. TRADE-RELATED MEASURES**

Trade-related measures, especially trade sanctions, are among the strongest “sticks” in the compliance response arsenal. Optimally, they could serve under the Protocol as both a punishment intended to force a recalcitrant Party to alter its behavior and as a means of fixing the harm caused by non-compliance.

The punitive aspects of trade sanctions are obvious—broad based, multilaterally implemented sanctions have been used by the international community on numerous occasions against states whose behavior was adjudged to violate international norms. Such sanctions generally have been reserved for the most egregious of circumstances, such as the invasion of Kuwait by Iraq.

Finely targeted trade measures may be a more effective and politically acceptable means of pressuring recalcitrant Parties to correct their behavior and relinquish the economic benefits of non-compliance.<sup>30</sup> Unlike broad-based sanctions, targeted trade measures can enjoy

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<sup>29</sup> The January 31, 2000 compliance submissions of Argentina, Australia, Brazil, China, Japan, Poland, AOSIS, South Africa, Switzerland, and the United States recommend some form of suspension-of-privileges consequence.

<sup>30</sup> As a means of “making the climate whole,” trade measures might serve to diminish the production in a target Party of goods associated with high GHG emissions. Yet they would be a vastly blunter instrument for that purpose than the project-based reductions of the Compliance Fund, or even a negotiated policies and measures plan adopted as part of a reduction of tonnes arrangement. Accordingly, while we believe targeted trade measures could, in some cases, directly result in reduced GHG emissions, we do not believe they should be

significant political support from a country's commercial entities, because those entities may believe such measures will protect them from costs they might bear if foreign producers with whom they compete do not have to comply.

Targeted trade measures have been used effectively under the Montreal Protocol<sup>31</sup> and the Endangered Species Convention<sup>32</sup> against non-complying parties and non-parties to restrict their trade in regulated substances or goods when the trade threatens the objectives of the agreements. Similarly, the World Trade Organization (WTO) authorizes members to use targeted trade measures in lieu of compensation when they have been harmed by the unfair trade practices of another WTO member.<sup>33</sup> Examples of targeted trade measures under the Kyoto Protocol could include restrictions on a Party's right to export electricity, energy-intensive goods or fossil fuels, and to import inefficient energy-consuming products and technologies.

#### **D. THE QUESTION OF "DE MINIMIS" VIOLATIONS**

A rule that applies punitive measures to all Parties that are out of compliance with Article 3.1 raises the question how the compliance system should account for "de minimis" violations. For example, if a Party has overage of 5000 tonnes of CO<sub>2</sub> equivalent out of a total budget of 100 million tonnes, would it be unfair or overly harsh to bar that Party from selling AAUs because of the relatively de minimis violation?

On its face, this may seem a "hard" question. In fact, it has a very simple answer. Any Party discovering during the true up that it has de minimis overage should be expected to immediately cure that overage by purchasing sufficient mechanism credits on the open market or from the Compliance Fund. Should the Party fail to do so, it will presumptively demonstrate its lack of good faith, and should thus be subject to the full range of available consequences, including loss of selling privileges in the next commitment period.<sup>34</sup>

### **V. CONCLUSION**

We have identified several measures that would enable Parties facing imminent or actual non-compliance with Article 3.1 to remedy the situation. The Compliance Fund and domestic funds could allow Parties during the true up to avert non-compliance. Financial penalties (with proceeds applied toward GHG reductions) and borrowing/subtraction of

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regarded as a substitute for these more expedient means, nor should they be designed in the expectation that direct GHG mitigation will be their primary accomplishment.

<sup>31</sup> Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, composite text including 1990 amendments, 21 INT'L ENV'T REP. (BNA) 3151 (1993).

<sup>32</sup> CITES, *supra* note 27.

<sup>33</sup> See Agreement Establishing the World Trade Organization, annex 2, Understanding on Rules and Procedures Governing the Settlement of Dispute *in* LEGAL INSTRUMENTS — RESULTS OF THE URUGUAY ROUND, Apr. 15, 1994, 33 I.L.M. 1125

<sup>34</sup> Should the review procedures of the compliance system reveal after the true up that a Party has de minimis overage, we believe the Party should have the opportunity to cure through mechanism or Fund purchases, so long as it does so before a compliance proceeding is initiated against it.

tonnes would be intended to enable them to cure it afterwards. The needs and circumstances of individual Parties—tempered by the will of the COP/MOP to create an environmentally effective compliance system—will dictate how individual Parties use these measures to satisfy their Protocol commitments and, in turn, whether the Parties collectively achieve the Protocol’s objectives.

The Compliance Fund gives Parties certainty that they will have access to additional assigned amount if they have overage and the market cannot adequately provide Kyoto mechanisms credits. By making full payment into the Fund, Parties will no longer be liable for their overage. Parties that wish to limit their exposure to internationally imposed consequences will find this feature attractive, as will those that want to give a high degree of assurance to other Parties. Compared to a domestic fund, the international Compliance Fund may be a preferred mechanism for Parties facing relatively high domestic mitigation costs (assuming that domestic funds are restricted to investing in domestic projects).

Domestic funds may be preferred by Parties that have political difficulties supporting international institutions. Domestic funds also may appeal to Parties that have the governmental capacity to identify and invest in domestic mitigation projects efficiently, particularly if many of those projects are relatively inexpensive. However, such funds may present significant challenges for effective international oversight and verification.

Financial penalties could enable non-compliant Parties to return to compliance. This will be especially useful to Parties that did not discover and correct their overage during the true up. If financial penalties are capped (i.e., if the penalty price is fixed and known well in advance), they will give Parties an incentive to limit their level of effort to an amount equal to the cap. Although this may be helpful to Parties seeking assurance that their financial exposure during the commitment period will not be open-ended, it could result in significant amounts of overage becoming a permanent addition to atmospheric GHG accumulations.

Borrowing/subtraction also may offer advantages to some Parties; however, the open-ended nature of the subtraction proposal could make its environmental cost unacceptable. The dangers that it could be used from commitment period to commitment period, that it could induce Parties to inflate subsequent targets, and that the “penalty” rate will be so low as to economically favor Parties that utilize it could mean that subtraction’s costs to the environment outweigh its advantages to the non-complying Party.

A compliance action plan could provide additional safeguards, especially if a Party utilizes remedial measures that are implemented over time. By clearly articulating the actions the Party would take to remedy its overage and avoid future overage, the plan would ensure that the Party had thought through its compliance strategy, and it would provide other Parties with greater assurance that the overage would be addressed. Additionally, because the action plan would include a timeline for when the Party would accomplish specific actions, it would provide a benchmark against which the Party’s remediation efforts could be assessed.

The respective advantages and disadvantages of these remedial measures suggest that an optimal compliance system will rely on more than one of them. The rules might permit individual Parties to utilize a combination of measures. For example, a Party with overage

might identify a limited set of cost-effective domestic mitigation opportunities that it wishes to take advantage of through a domestic fund. If these opportunities are not sufficient to cure its overage, it may want to obtain the rest of the needed reductions through the international Compliance Fund. For similar reasons, Parties desiring flexibility and price certainty may wish to have access to both a Compliance Fund, with its dynamic price determined by the actual cost of reductions, and a fixed-price penalty. We caution, however, that Parties should resist allowing price certainty to be purchased at the cost of the environment. We also note that the environmental integrity of a menu approach will only be as strong as the individual remedial measures that are available under it. We recommend that Parties not allow a menu approach to advance flexibility and low cost at the expense of effectiveness.

Carefully designed remedial measures may be key to enabling Parties to meet their commitments under Article 3.1. By adopting remedial measures that enable Parties to avert or cure their non-compliance in a timely and assured manner, Parties will demonstrate that they are serious about fulfilling their commitments and meeting the objectives of the Protocol. But Parties must recognize that remedial measures alone may not be enough. To ensure the success of the Kyoto Protocol, they should adopt carefully tailored, sufficiently stringent punitive measures as well.

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