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A Proposal for a Cap and Trade and Global Carbon Levy Instrument

1. Introduction

This proposal sets forth outline proposals for: firstly, a combined cap and trade and carbon levy system, and second, a stand alone carbon levy. Both are designed with the goal of causing a reduction in carbon emissions worldwide through the use of financial incentives.

In the build up to the Copenhagen Conference of the Parties and in the hope of contributing to post-Kyoto 2012 implementation of greenhouse gas emissions reductions it is an appropriate time to consider what regulatory and policy instruments would work best in the future. This proposal addresses a hybrid instrument approach to the said reductions on the basis that a stand alone greenhouse gas emissions trading scheme has not proven itself to be the silver bullet for addressing climate change. For those that may be reticent about emissions trading we also present the key elements of a carbon levy proposal.

The carbon levy would be "global" in the sense that it would be based upon a certain harmonized architecture of components that are globally accepted among states. It would also be "global" because a portion of its revenues would be dedicated to the existing international Adaptation Fund and it would be operated in a globally accepted currency such as dollars or euros. Otherwise, implementation and administration of the levy could take place primarily at the national level for the purpose of promoting creation or implementation of effective greenhouse gas mitigation and abatement technologies (including techniques and processes).

From the outset, we should also indicate that to the extent that the content of this proposal is taken up by regulators at the international, national or sub-national levels, we would enthusiastically provide support to and work further with any interested stakeholder on the development and execution of detailed legislative and implementation frameworks.

In our submission, the proposals herein provide effective methods for achieving carbon reductions. By way of a clarification, a combined hybrid instrument could be implemented as a cap and trade system with a backdrop legislated carbon levy. Accordingly, a cap and trade system would be supported with a "ceiling" enforced by an emissions levy which, realistically speaking, will need to scale rapidly enough to become essentially punitive in nature. Any less drastic levy will likely fail to properly incentivise polluters. We believe that participating nations should be given broad leeway to decide for themselves which industries' participation should be mandatory, though the European Union Emissions Trading Scheme provides a useful example as to scope.

A carbon levy offers relative certainty by allowing a central regulatory figure to set the "price" of emissions. Though our aspiration is to have an internationally harmonized "global" carbon levy based upon certain key principles, it is accepted that state sovereignty arguments would support the use of discretion at the national (or, for federal systems, perhaps even the sub-national) level to adjust this instrument to national conditions. As states are ultimately sovereign within their own territories, it is

conceded that individual nations may take it upon themselves to implement the global carbon levy in different ways. However, in order to prevent "gaming" the system, the following rules should apply:

First, emissions must be accounted for - either by levy or by carbon credits - according to their geographic location, not the "location" of the legal entity which emits them. Thus, an emitter incorporated in the United States, but which owns power plants in Poland, would be levied in accordance with Polish law.

Second, all participating nations should agree that certain industry sectors will be subject to the program. Specifically, high-pollution industries such as coal mining and oil production should be subject to the program in all countries. Other industries can be mandated to participate in the system or not as the individual nations see fit. At least, a minimum of 50 % of a nation's industrial CO2 emissions should be covered in the scheme. However, any one nation's allocation of credits should take into account the number and size of the industries it has caused to participate, in order to avoid generating disproportionate levels of scarcity in that nation's credits. Where a group of nations work in concert on such an issue, a formula for credit attribution based upon respective national industry sector outputs would seem to be sensible.

Third, all participating nations should agree on the "ceiling", the levy which would apply to those who emit a certain amount of carbon, regardless of how many credits they have. Nations must agree both at what threshold the levy would apply (preferably in terms of a percentage of any participant's previous emissions) and how much the levy should be. It would also be useful to adopt as many of the carbon levy components found in Section 6 of this proposal as is possible. This is necessary to prevent geographical disparities, which could lead to market manipulation; adverse impacts on trade flows and foreign direct investment generally. A "race to the bottom" strategy (e.g., for emissions and payment amount thresholds) may well advantage some participants over others and should not be encouraged.

2. The Polluter Pays, Emissions are Reduced and Revenue is Generated

Both cap and trade and a carbon levy system have their strong points. Cap and trade is, plainly stated, the more politically palatable alternative. However, it is also subject to potentially serious flaws. Cap and trade is an unpredictable system that may or may not lead to emissions reductions. This unpredictability stems from the opaque nature of the carbon market, the regulatory difficulties inherent in any cross-border regime, and the uncertain nature of any new, relatively untested market, and how that market may be impacted by unforeseen externalities. Further, it must be noted that cap and trade envisions, as its primary participants, polluters who will have an obvious incentive to depress the market however possible.

In contrast to cap and trade (which can feature price volatility), a carbon levy offers relative certainty by allowing a central regulatory figure to set the "price" of emissions. Of course, a levy is never politically popular, and, in the current economic climate a levy may be a death knell for any proposal. Using a levy as

a ceiling on a cap and trade system will, provided the levy scales quickly enough, remedy many of the difficulties inherent in cap and trade. For example, a polluter could not simply buy its way to higher CO2 emissions without also having to pay a levy as well.

Of course, a levy may not be politically popular, but, certainty over projected revenues and familiarity with the use of levies is universal as is the need to reduce greenhouse gas emissions. Furthermore, it is not obvious that any other instrument has achieved or could achieve comparable benefits. The revenues to be generated under this carbon levy should primarily find its way to a hypothecated climate change mitigation and adaptation technology development and implementation fund that will be introduced in the next section of this proposal.

Our first proposal is to implement a cap and trade system similar to that currently in place in the European Union, with the addition of a "levy" (perhaps more properly thought of as a fine) which will apply to carbon emissions over a certain limit.[1] The cap and trade system will begin with an allocation of "credits" to participating nations based on agreed upon emissions reduction goals. Participating nations will then allocate those credits to the relevant participants. At least half, if not more, of this allocation should be accomplished via an auction, in order to create a base price for the credits. Further, the credits should not expire for at least ten years.[2] Participants can then trade the credits with one another as they see fit, with the understanding that their emissions must be accounted for by "spending" credits. As with other Government revenues to be generated under this scheme, the revenue generated from auctioning the permits should primarily find its way to a hypothecated climate change mitigation and adaptation technology development and implementation fund that will be introduced in the next section of this proposal.

We believe two levies can complement this system. The first is designed to prevent any one participant from increasing its emissions. The second is designed both to penalize those who fail to reduce emissions, and to reward those who do. At the outset, a levy should be imposed upon any carbon emitting facility whose average emissions in a two year period exceeds the average of its emissions in the past five years by more than 5%.[3] This levy should be calculated as dollars per ton of carbon, should be consistent across

[1] We note that a sales tax could also be applied to credits traded in the cap and trade system, effectively creating a "floor" which would allow regulators to fine tune the system in any given year by adjusting the levy. We believe that, in the first instance, free market forces should determine the prices in a cap and trade system, for political as well as practical reasons. However, this option should be kept in mind if it appears that the market is not behaving in accordance with expectations.

[2] These measures are designed to avoid the problems which largely led to the crash in the European market in 2007. There, many credits had been simply given to participants rather than auctioned, and as the time of those credits' expiration drew near, their value plummeted.

[3] Both the two year period and the 5% number can, of course, be changed. The point is to discourage increasing emissions while recognizing that externalities could reasonably cause a spike in emissions in any given single year.

borders, and should be high enough to be an effective deterrent.[4] Where a facility is newly constructed, its emissions should be compared to those of the most efficient facility in the industry of a comparable size. In the event that the "worst performer levy" described below fails to properly incentivise participants to reduce their emissions, then the threshold for this levy should be lowered, such that participants are ultimately penalized not only for increasing their emissions, but for failing to reduce them. Again, the point to this levy is to set an absolute ceiling on emissions - ideally, it will never be collected.

Second, a "worst performer" levy should be applied to the 10% of participants in any given industry who are least efficient in their carbon emissions. While any calculation of "efficiency" will necessarily be industry-specific, the point is to penalize those companies whose processes generate more carbon. Thus, the relevant inquiry is why carbon is being emitted. If, for example, the emissions are in conjunction with the generation of electricity, then an appropriate measure would be the amount of carbon emitted per gigawatt of electricity generated. This levy should, for the first five years, be levied upon those who are least efficient. After that five year period, it should be levied upon those who, on a percentage basis, are least improved in the area of efficiency. This initial five year period is designed to avoid penalizing participants who have already undertaken measures to improve efficiency. As discussed below, many of these companies will ultimately be the beneficiary of the levy collected, due to their own efforts to research cleaner technology. This levy could be phased out as certain emissions standards are met.

It is accepted that in relation to sectoral emissions reduction targets, we appreciate that some sectors (or participants within them) have already taken steps to reduce their CO2 emissions. This is one reason why a baseline year for determining emissions reductions needs to be determined in advance. It may be that this baseline will vary from country to country though an internationally consistent baseline year would be preferred. Selection of the baseline year should be based on an average year in emissions terms, not one that skews results on the basis of higher or lower than average levels of economic activity (i.e., not in recessions or peaks in macroeconomic performance). We also accept that it is more costly for some sectors to effect emissions reductions than others. This is why a sectoral target approach makes sense and that EU experience should be considered in this regard. Sectoral reduction targets will matter both in respect of the emissions permit allocation process and in the determination of leviable non-compliance or relatively poor emissions reduction performance.

3. Revenue Distribution

Although it is tempting for any government to retain the economic benefits of this program (once implemented), to truly effectuate its goals, the program should be revenue neutral. Therefore, the bulk of the revenue acquired by this program should go to a hypothecated fund dedicated to the development and or implementation of climate change mitigation of adaptation technologies with the aim of a low carbon economy in mind. Of course, the first thing revenue should be applied towards is sustaining this program. This may include significant start up costs, and it is at least arguable that it would be appropriate for some

[4] As an alternative to this levy, the price of credits/per emission could scale upwards for each individual participant after a certain point.

countries to create entirely new agencies to oversee the implementation and operation of this system (though this is not required). Within the United States, for example, the system would arguably touch upon the jurisdictions of the EPA and the Department of Energy, among others. Administrative costs should never exceed 10 % of levy revenues, as it is proposed that a minimum of 90% of all revenues would go to the fund (drawing upon the use of transparency provisions in relation to revenues and their flow into the fund).

In any event, once the program begins to actually generate revenue, revenue should be distributed among two primary recipients. Some percentage of the money collected (perhaps 10% or so but states should seek to donate as much as is politically acceptable to their constituencies) should go to the Global Adaptation Fund or one for climate change-related relief - perhaps administered through the good offices of the Climate Change Secretariat. The latter fund would be designed to assist in climate-related emergencies. One example is the current plight of the Maldives and other Small Island Nation States who, due to their low lying coastlines, are literally in danger of being washed away by the increased sea levels resulting from global warming.

The remainder of the money should go to a fund designed to reward those who create and or implement (i.e., scale up) climate change mitigation and adaptation technologies (e.g., perhaps principally renewable energy technologies). At the discretion of the relevant state, that fund could operate as a direct venture capital investor subject to certain guidelines. It could also pay out some portion of money as incentives to those participating companies who are effectively improving the efficiency of their carbon emissions.[5] Perhaps, rather than acting as a venture capital investor, such a fund could provide government subsidies designed to make these technologies as economically feasible (and therefore competitive) as possible. In this regard, annual reporting on greenhouse gas savings from fund-related investments would be mandatory (creating a level of competition related to the performance of such carbon funds worldwide).

The issue of "carbon sinks" in previous proposals has generated some level of controversy, and we take no position on whether such carbon sinks should also be financed through such a fund. To the extent that carbon sinks are found to be desirable, we note only that they could either by financed directly by such a fund, or could also be encouraged indirectly by the provision of cap and trade credits to companies who produce them. We do believe that, if carbon sinks are to be incentivized, they should be rewarded at the time they succeed in eliminating carbon, not based on hypothetical eliminations that will occur in the future.

Whatever other uses such a fund might have for the revenue collected, the only way for such a system to achieve acceptance is if all participating nations agree that some portion of the fund should go to individual consumers in the form of a rebate. It is, obviously, very likely that companies will pass a proportion of the cost of pursuing an emissions reduction scheme on to consumers. This passing on of costs obviates the

[5] Certain rules regarding ownership should be put into place if this idea is adopted. Companies should obviously not be rewarded for simply rearranging their assets so that one subsidiary "owns" the most pollutant facilities while another claims the most efficient.

need for a separate "usage" levy on consumers. Such a levy is, in our view, unlikely to achieve the ultimate long-term goal of finding cleaner energy sources, because most consumers have little or no choice in energy provision. Further, while such a levy may lower per person energy usage, it does not account for the substantial growth in expected population. Therefore, the participating nations should agree on a formula designed to assess how much any price increase in goods created by participating companies can be attributed to this program. The rebate should provide some level of relief to consumers for that price increase. Obviously, such relief could not, and should not, be complete as consumers should also participate in CO2 cost internalization as beneficiaries of the activities that are levied.

4. Proposed Improvements Upon the European Union Emission Trading Scheme (EU ETS)

The cap and trade portion of our proposal bears some obvious similarities to the European Union Emission Trading Scheme (EU ETS). However, as has been widely reported, the EU ETS was subject to certain problems, which (dismayingly) led to a 1.9% increase in total emissions during Phase I (2005 - 2007). We believe some of the primary problems with the EU ETS which contributed to the increased emissions, were as follows:

- **Excess Allowances Issued:** During the EU ETS Phase I, issued permits (allowances) were higher than actual emissions. Consequently, the "cap" was meaningless.

- **Windfall Profits:** Permits were issued for free, yet producers were still charging customers higher prices, which they justified by claiming to be passing on permit costs.

- **Price Volatility**: Emissions credit prices tripled in the first six months of Phase I, dropped 50% in 2006 and then declined to zero over the following year (in part because excess allowances were issued).

In order to avoid problems experienced by the European Union Emission Trading Scheme (EU ETS), we propose the following:

- The emissions cap for any given period must never exceed prior period emissions. For example, if "base year emissions" is 100, then the cap in any subsequent year cannot exceed 100. The only exception to this rule is startup companies which will be subject to a phase-in cap & trade plan.

- The carbon levy emissions ceiling above the cap will effectively limit the number of credits a producer can use. Thus, even if the carbon credit market is depressed, polluters will be unable to hoard credits at relatively low costs while generating significant carbon emissions. Rather, if any one participant hoards credits, it will simply drive up the cost to all other participants.

- All accounting for emissions will occur at the consolidated level. This will prevent companies from simply shifting unfavorable assets to subsidiaries. This will primarily be effective in measuring the efficiency gains of participants for purposes of the "worst performer" levy outlined above.

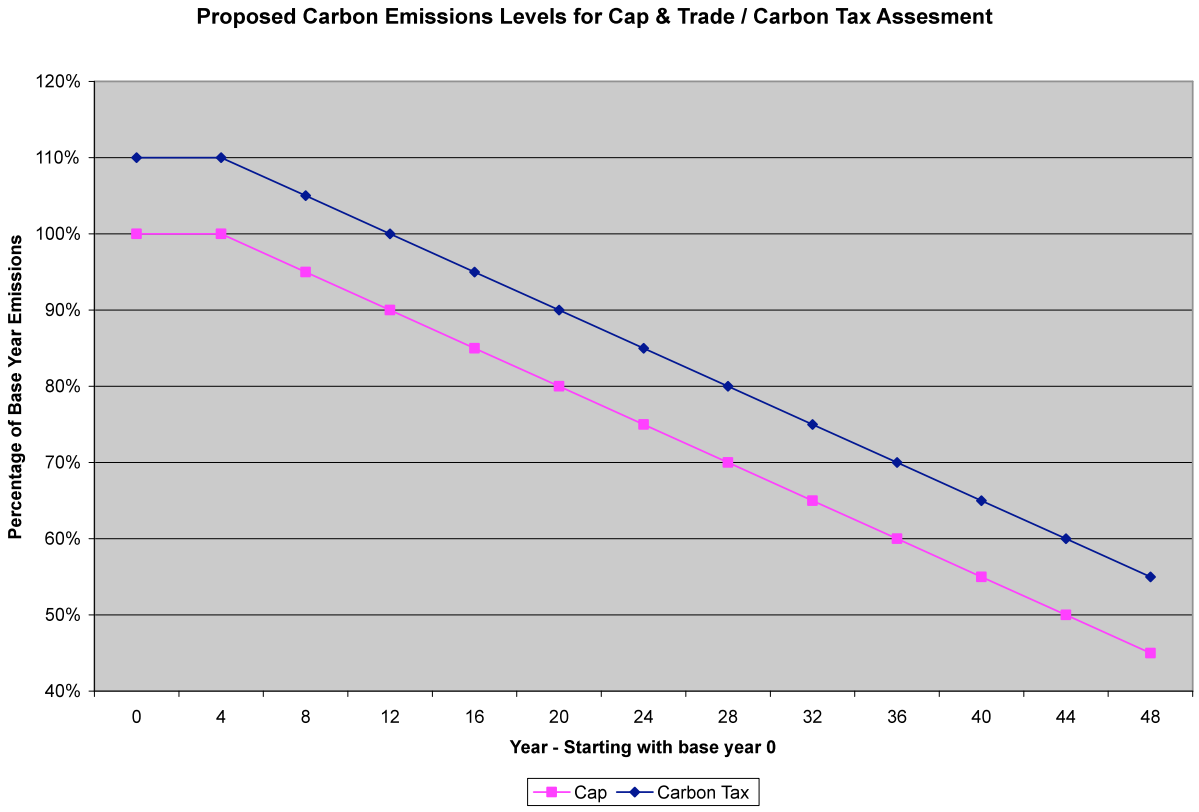
- Allow unused credits to be rolled forward to future periods. Credits will last for about a decade, rather than just a few years. This should keep the market for credits from "crashing" as an expiration date which may render them worthless approaches, as happened in the EU ETS. In this regard, sectoral CO2 reduction targets will have to be carefully designed owing to the longer shelf life of the credits and the inability of a Government to shrink the cap after a shorter period of time (e.g., four years).

- Credits must not initially be distributed for free.

- Allow producers the option of converting carbon credits to income tax credits at a ratio to be set by the respective participating governments. This may also be of assistance in establishing the overall financial neutrality of the scheme.

5. Illustrative Chart Proposing Emissions Cap and Carbon Levy Thresholds

The chart below includes a four year phase-in (grandfather) period which limits carbon emissions to 100% of base year emissions and imposes a levy at about 110% of base year emissions. The chart is in line with the EU ETS for its 3rd trading period - it calls for a 20% decrease in emissions within 16 years. (100% emissions cap until year 4, then an 80% cap at year 20). The EU ETS 3rd trading period calls for a 21% decline in GHG within 15 years.



6. A Stand Alone Carbon Levy

It is accepted that cap and trade schemes may be too complex to implement (particularly on a harmonized basis among states) or may be adjudged not to provide a sufficient guarantee that requisite emissions reductions requirements will be achieved.

Given this and other various reservations that states and their stakeholders may have about emissions trading schemes, a carbon levy may be a more straightforward implementation option. As such, reflecting past European thinking and our work on the subject, certain fundamental elements of an outline global carbon levy are offered in this section.

The levy could be applied on products intended for use as electricity, heating or motor fuels. Conventional examples would include: coal, lignite, peat & derivatives / natural gas / mineral oils / LPG as well as methyl and ethyl alcohol / electricity and heat generated hydroelectrically.

At the discretion of the regulator, fuel wood and charcoal or wood processing by-products or agricultural/vegetable products could be excluded. It is proposed that the levy would not be applied to renewable energy (i.e., wind, wave, tidal, solar, biomass, biofuels, etc.) either because they produce no

greenhouse gases or because they are part of a common policy towards greenhouse gas emissions reductions. The same exemption would apply to hydroelectric installations that are less than 10 megawatts.

The carbon levy could be applied once the extraction or manufacture of these products occurs.

Exemptions could be applied to small amounts of products that are obtained incidentally or where mixing of products occurs where the levy on the basic products has been paid previously (where the mixture is intended for use as heating or motor fuel), or where the amount paid is not less than that chargeable if the mixture were intended for motor/heating fuel use.

In relation to non-obvious exemptions, consumption of heating and fuel products on-site where they are produced might not be chargeable unless the consumption is not related to the production process.

The carbon levy could be applied when products are released for consumption or shortages are recorded.

A levy suspension arrangement could be pre-authorized by the regulator based upon significant carbon dioxide emission reduction performance rates the thresholds of which could be legislated. Such a provision would recognize efforts that firms are already making towards emissions reductions particularly where they are first movers or are otherwise best in class (e.g., sectoral leaders).

Naturally, the levy would apply to any departure from such a suspension arrangement, any extraction or manufacture outside a suspension arrangement or any importation where products are not under a suspension arrangement.

Conditions and rates for the levy would be those in force on the date that the Levy is chargeable. The levy would be applied by countries with relevant collection procedures to be applied to all internal and external products.

The levy would be payable by those who carry out a "leviable" transaction as defined in this proposal (i.e., once the extraction or manufacture of a relevant product occurs or where a product is released for consumption – with double payments to be legislated against).

The carbon levy base shall be applied according to CO_2 emissions (with other greenhouse gases to be added at a later stage to be agreed among states).

In the first year that the levy is to be applied the levy rate could be in the approximate area of $15 per tonne (or currency equivalent). A yearly escalator or $1 per tonne could also be considered.

Given the variations in carbon concentration, coal, peat, lignite and natural gas could be banded as to their carbon content.

Mineral oils (petrol, diesel, aviation fuel etc) would be assessed at standardised CO_2 rates for each fuel type.

Countries should have the discretion to apply a higher rate than that prescribed in this proposal though perhaps it should not be greater than 5%.

The value of the levy in national currency should be fixed once per year. Rates for the following year should be set on 1 October previous to the relevant year. Ideally, the levy should be subject to an automatic yearly escalator of between 10 and 30 % taking account of relevant carbon prices and macroeconomic conditions. The only exceptions to the temporary suspension of the levy should be macroeconomic stabilisation where it is in the national interest or where emissions stabilisation in accordance with international legal requirements has been achieved.

Products subject to the levy could be exempt where they are intended for delivery in the context of diplomatic or consular relations, for national defence and for consumption under an agreement with third countries (where such an agreement is allowed with regard to exemption from a goods and services levy). These three possible exemptions should not be seen as mandatory in nature as there are good environmental policy reasons why there should be no such exemptions. However, law making traditions generally require their consideration.

Full or temporary exemption from the levy may be awarded where a firm has made substantial efforts to reduce CO_2 emissions. In this regard, a legislated minimum threshold could be applied with a level playing field in mind. The actual threshold may be determined on an industrial sector by industrial sector basis or universally to all sectors that are subject to the levy.

By way of a partial rebate / refund, countries could also reduce the amounts payable or grant equivalent refunds for new investment expenditure which improves CO_2 emission reduction performance. The nature and proportion of such a rebate / refund would be subject to more detailed rules to be developed by regulators. It may also be the case that such a levy credit or corresponding entitlement could be carried over into subsequent levy years

In addition to reviewing the overall effectiveness of the carbon levy in achieving emissions reductions every two years special attention could be paid to the consequences of suspension agreements,

exemptions, rebates / refunds or levy incentives for the satisfaction of CO_2 emissions reduction goals with a view to their revision or withdrawal. Ideally, introduction of this carbon levy should have a revenue-neutral impact on payors as adjustments to other levy liabilities should be made in proportion to those that arise under this proposed carbon levy.

In addition to the suspension agreement, rebate / refund and levy incentive structures on place in relation to this proposal, to safeguard the competitive position of firms that are subject to the levy for any given jurisdiction it is proposed that a border levy adjustment regulatory mechanism would be applied to imported products that would otherwise be subject to the levy if produced in the importing state. This regulatory mechanism would levy the imported product where that product is from a jurisdiction which does not apply the said carbon levy. The legal basis for this border levy adjustment has been investigated under WTO law and so the said adjustment can be applied in accordance with relevant international and national laws in a manner consistent with WTO law.

7. Effective Date, Assessment Periods, and Reporting, Payment, and Contribution Deadlines

The Cap and Trade / carbon levy program or a stand alone carbon levy would be effective on January 1, 2012 for all participating nations. The following chart lists the first five assessment periods, reporting deadlines, and due dates for carbon levy payments and hypothecated fund contributions.

Assessment Period	Start Date	End Date	Carbon Tax Reporting Deadline	Hypothecated Fund Contribution Deadline
1	January 1, 2012	December 31, 2013	March 31, 2014	March 31, 2014
2	January 1, 2014	December 31, 2015	March 31, 2016	March 31, 2016
3	January 1, 2016	December 31, 2017	March 31, 2018	March 31, 2018
4	January 1, 2018	December 31, 2019	March 31, 2020	March 31, 2020
5	January 1, 2020	December 31, 2021	March 31, 2022	March 31, 2022

Late Filing Penalty: 5% for each month the carbon tax return is late, up to a total maximum penalty of 25%.

Late Payment Penalty: 0.5% for each month the carbon tax or hypothecated fund contribution is not paid in full.

Interest Charges: Interest rates for late payment can be established using the LIBOR or Treasury Bill as the base rate.