
**THE SCOPE AND LIMITATION OF CDM
TOWARDS IMPROVING THE GLOBAL
ENVIRONMENT**

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INTRODUCTION

No issue is more global than global warming. To the scientific community, the evidence on climate change has, of course, been overwhelming for more than a decade and a half.

A striking fact about climate change is that there is little overlap between the countries that are most vulnerable to its effects – mainly poor countries in the South that can ill afford to deal with the consequences – and the countries, like the US, that are the largest polluters.¹

To an economist, the problem is obvious: polluters are not paying the full costs of the damage they cause. Pollution is a global externality of enormous proportions. What is at stake is in part a moral issue, a matter of global social justice.²

The Kyoto Protocol represented the international community's attempt to begin to deal with global warming in a fair and efficient way.

The Kyoto Protocol of the U.N. Framework Convention on Climate Change calls for industrialized countries (listed in Annex I to the UNFCCC) to reduce their Green House Gas (GHG) emissions to levels below those generated in 1990 by the period 2008 - 2012.

¹ Stiglitz, Joseph(2004) "*A Cool Calculus of Global Warming*" available at [http:// www.project-syndicate.org/contributor/184](http://www.project-syndicate.org/contributor/184). Lat visited on 27th November,2007.

² Stiglitz, Joseph(2004) "*A Cool Calculus of Global Warming*" available at [http:// www.project-syndicate.org/contributor/184](http://www.project-syndicate.org/contributor/184). Lat visited on 27th November,2007.

Clean Development Mechanism (CDM), Joint Implementation (JI) and Emission Trading (ET) are the three "Flexible Mechanisms" of the Kyoto Protocol designed to enable the Annex I countries to achieve their quantified emission reduction targets at lower costs.³

The goals of CDM as defined in article 12 of the Kyoto Protocol are:

- . to contribute to sustainable development in non-Annex I countries;
- . to contribute to the ultimate objective of UNFCCC: the absolute mitigation of climate change;
- . to assist Annex I parties in complying with their emissions reduction commitments.⁴

The CDM was an important feature of the negotiations leading up to the Kyoto Protocol. International emissions' trading was proposed to satisfy demands for flexibility and cost effectivity in reducing emissions.

³ Kyoto Protocol

⁴ *Ibid*

CHAPTER ONE

OUTLINE OF THE PROJECT PROCESS AND THE SCOPE

As the researcher has stated in the introduction, with the help of CDM, countries that have set themselves an emission reduction target under the Kyoto Protocol (Annex-I countries) can contribute to the financing of projects in developing countries (non-Annex-I countries), which do not have a reduction target. These projects⁵ should reduce the emission of greenhouse gases while contributing to the sustainable development of the host country involved. Subsequently, the achieved emission reductions can be purchased by the Annex I country in order to meet its reduction target.⁶

An industrialized country that wishes to get credits from a CDM project must obtain the consent of the developing country hosting the project. It has to satisfy the developing country that it will contribute to sustainable development. Then, using methodologies approved by the CDM Executive Board (EB)⁷, the applicant (the industrialized country)

⁵Projects eligible for CDM would include renewable energy, such as wind, solar, geothermal, hydro and biomass (clean) energy; energy improvement; transportation improvement; recovery and utilization of methane from waste landfills and coal mines and/or fossil fuels-switching to less carbon-intensive sources (example: from coal to natural gas).

⁶ IETA, "*Position Paper Strengthening the CDM for COP 11 & COP/MoP 1*" available at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=1942>

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⁷ The CDM Executive Board (EB) is an independent body, which operates under the authority and

must make the case that the carbon project would not have happened anyway -- establishing additionality. In addition it must also establish a baseline estimating the future emissions in absence of the registered project.

The case is then validated by a third party agency, called a Designated Operational Entity (DOE), to ensure the project results in real, measurable, and long-term emission reductions. The EB then decides whether or not to register (approve) the project. If a project is registered and implemented, the EB issues credits, called Certified Emission Reductions commonly known as **carbon credit**, equivalent to one metric tonne of CO₂ reduction), to project participants based on the monitored difference between the baseline and the actual emissions, verified by the DOE.⁸

For many government s and firms worldwide, the carbon market and emissions trading have become a central means to manage the financial risks and opportunities in complying with greenhouse gas emissions obligations. For many countries CDM provides the opportunity to mobilise significant inward investment for ‘climate friendly’ actions.

Statements from the G8 Gleneagles Summit and by the World Economic Forum’ s G8 Climate Change Roundtable have clearly endorsed market-based approaches such as the CDM and have called for more work on emissions trading mechanisms.

As stated earlier in CDM, specifically projects in developing countries that reduce emissions, and would not have occurred in the absence of the CDM, are considered an acceptable offset to emission reductions that could occur in industrialized countries with

guidance of the Conference/ Meeting of the Parties (COP/MOP) to the United Nations Framework Convention on Climate Change (UNFCCC). The EB is appointed by COP to supervise CDM and to establish a framework for smooth implementation.

⁸ IETA, *“Position Paper Strengthening the CDM for COP 11 & COP/MoP 1 ”* available at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=1942>

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Kyoto emissions targets. Developing countries sit outside the cap and trade program of Article 17 of the Kyoto Protocol. They do not have emissions targets. The CDM provides additional tradable units into the overall system, i.e. more supply to the carbon market that has been created by the Protocol.⁹

The Clean Development Mechanism (CDM) is primarily an offsets program dealing with the creation of tradable credits, so they are sometimes called credit-trading programs. The denomination of the credit can be tonnes of emissions or some other measurement that is directly related to the nature of the obligation set out in the management program. As there are willing buyers and sellers of the tradable credits a market exists.

The focus of these proposals is credit-generating initiatives in developing countries. They therefore sit within the broader carbon market established by targets in industrialized countries. The targets of industrialized countries would set the value of the commodity as this in turn sets the market demand. The greater the supply of credits from a CDM-type mechanism the lower will be the overall marginal cost per tonne.¹⁰

In theory the CDM means that developing countries already face the opportunity cost¹¹ of

⁹ Ward, Murray(2005) *“The Role of the Carbon Market in Proposals for addressing Climate Change post-2012”* available at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=1258>.

Last visited 23rd November,2007.

¹⁰ Ward, Murray(2005) *“The Role of the Carbon Market in Proposals for addressing Climate Change post-2012”* available at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=1258>.

Last visited 23rd November,2007.

¹¹ The opportunity cost of any given choice is *the most valuable forgone alternative* that is, the second best alternative. A focus on opportunity cost rather than measures of **accounting cost** is a central characteristic of economic reasoning. In theory the CDM means that developing countries already face the opportunity cost of the carbon market for all emissions – if they can reduce them, they can get CDM credits. Equalising opportunity costs without imposing a cost of emissions is fundamental to the CDM ‘credit generating’ mechanism.

the carbon market for all emissions – if they can reduce them they can get CDM credits. In practice this is constrained by the reach and efficacy of the CDM; this means considerable limits to this theoretical situation. It is for this reason that there is a wide range of proposals to enhance the CDM.

The general view is that, while a useful beginning, the current CDM is too constrained by its current project-by-project nature and institutional framework to influence more than just a very small percentage of the capital investments occurring. This is the key problem that ideas for CDM enhancements are addressing.

The scope of the CDM is multifold. Besides bringing GHG emissions under control and safeguarding the environment, it also contributes to transfer of technology to developing countries to ensure sustainable development. There are various that greatly increases the viability of using the CDM in contrast to other market mechanisms.

➤ **Flexibility**

Firms that are emitters can be expected to prefer flexibility over rigid policy prescription. They know that if they are called on to make emission reductions, policy mechanisms that provide *where* and *when* flexibility will be less costly than policies that do not.¹² Some major firms have first hand experience of how emissions trading provide a financial incentive to do more than simply comply; it has promoted collaboration among their technical innovators and financial management, where previous policy frameworks did not.

Of course, some firms may prefer completely voluntary policy approaches that do not put them in the position of needing to seek flexible lower cost means. But others may prefer a more universally regulated policy environment (with flexibility) to ensure a more level playing field that minimizes ‘free riders’.¹³

¹² *Where* flexibility relates to the location of emission reductions, *when* flexibility to the timing.

¹³ IETA, “Position Paper Strengthening the CDM for COP 11 & COP/MoP 1” available at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=1942>

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Firms that are ‘solution providers’ (including the supporting financial industry sector) can be expected to prefer the broader scope for business opportunities that *where* flexibilities provide. Exceptions may be firms that believe governments are likely to pick them as ‘winners’ in a prescriptive policy approach; for them, flexibility merely opens up the solutions market in their countries to competition. Moreover, the solutions may now also be found in other countries.

Connected with this point is that for countries that host solutions, *where* flexibility may open up important new sources of finance and institutional support for the deployment of climate friendly technologies.¹⁴

Given the relationship between transferring clean technology and sustainable development, those actors involved in international development can be expected to welcome this new source of public and private sector resources. To the extent that flexibility extends across many sources and sectors, the reach of these market resources can touch on many development imperatives (e. g. sustainable energy, land- use, forestry).

➤ **Innovation**

Due to the flexibility allowed for in complying with the emission levels a great deal of innovative steps can be implemented can be taken in doing so.

Under the Clean Development Mechanism (CDM) of the Kyoto Protocol, industrialized countries (so-called “Annex I countries”) have the right to purchase certificates of carbon sequestration from reforestation projects undertaken in developing countries and use

¹⁴ IETA, “*Position Paper Strengthening the CDM for COP 11 & COP/MoP 1*” available at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=1942>

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them to offset up to 1% of their 1990 greenhouse-gas emissions from industry, transport and housing. Although this represents a small fraction of the effort needed from industrialized countries to fulfill the Kyoto Protocol's goals by 2012, it would help significantly in improving forest and land use around the world.

It would also help if all the parties to the Kyoto Protocol amended the post-2012 CDM rules. In particular, three changes are necessary: the relaxation of the 1% rule, the expansion of eligibility criteria to include more than just reforestation, and the removal of the 60-year replacement rule (which mandates the replacement of temporary with permanent credits after 60 years, regardless of the state of the underlying forests).

The first change would enable Annex I countries to satisfy a greater share of their increasing climate responsibilities using credits from land-use projects implemented in non-Annex I countries. The second change would allow forestry and land-use projects that are eligible to issue carbon credits to include such activities as re-vegetation, forest restoration, and improved agricultural management. The third change would eliminate a perverse rule, by which parties to CDM contracts can liquidate forests to buy replacement credits.

This has in particular been successful in Africa but has been constrained from achieving its entire potential due to the above mentioned limitations.

CHAPTER TWO

LIMITATIONS OF CDM PROJECT PROCESS

In early 2007 an issue that had by then already been known for a while erupted in major media. A study published in Nature found that the main type of CDM projects paid as much as 50 times more for the emission reductions than the costs alone would warrant, with the excessive profits ending up with the factories and the carbon traders.

This article spoke of refrigerant-producing factories in non-Annex-1 countries particularly China that generate the powerful greenhouse gas HCFC-22 as a by-product. By destroying the HFCs, the factories can earn CER credits. Destroying the HCFCs requires a simple and relatively cheap piece of equipment called a scrubber. The reality is that it would cost only €100 million to pay producers to capture and destroy HCFC-22 compared with €4.6 billion in CDM credits.¹⁵

While this is still cheaper than the standard cost of reducing emissions in industrialised countries, it is seen as a major loophole in the carbon trading system and undermines the tenet of emission trading being as a cost-effective tool for reducing emissions. Ironically HCFC-22 emitters have the potential to earn almost twice as much from the CDM credits as from selling refrigerant gases – by any measure a major distortion of the market. This created a perverse incentive to build more HCFC-22 production facilities just to get the revenues from selling CDM credits.

¹⁵ Ward, Murray(2005) "*The Role of the Carbon Market in Proposals for addressing Climate Change post-2012*" available at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=1258>.

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In response to this study published by Nature, Halldor Thorgeirsson, Director of Sustainable Development Mechanisms at the UNFCCC claimed, "The idea of easy money is out of proportion." He also stated that the loophole is now closed and that new HCFC-22 facilities will no longer be eligible for CDM credits.¹⁶

This may have closed the door on HCFC-22 producers in particular but negotiators have not yet been able to agree on whether, or how, carbon capture and storage projects should be allowed under the CDM.

In response to concerns of unsustainable projects or spurious credits, the World Wide Fund for Nature and other NGOs devised a 'Gold Standard' methodology to certify projects that uses much stricter criteria than required, such as allowing only renewable energy projects¹⁷.

The NGO CDM Watch argues that a majority of the CDM projects so far (2005) would have happened anyway, referring among other reasons to project activities completed before final approval as CDM projects, and arguing that these would be viable without the CDM financing, and therefore non-additional.

For example, a South African brick kiln was faced with a business decision; replace its depleted energy supply with coal from a new mine, or build a difficult but cleaner natural gas pipeline to another country. They chose to build the pipeline with SASOL. SASOL claimed the difference in GHG emissions as a CDM credit, comparing emissions from the pipeline to the contemplated coal mine.

During its approval process, the validators noted that changing the supply from coal to gas met the CDM's 'additionality' criteria and was the least cost-effective option. However, there were unofficial reports that the fuel change was going to take place

¹⁶ Ward, Murray(2005) "*The Role of the Carbon Market in Proposals for addressing Climate Change post-2012*" available at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=1258>.

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¹⁷NGOs have criticized the inclusion of large hydropower projects, which they consider unsustainable, as CDM projects.

anyway, although this was later denied by the company's press office.

Thus, we note that there are several limitations and loopholes to the CDM. These relate mainly to initially insufficient institutional resources. But others are more fundamental; these relate to the 'approved activity by approved activity' nature of the CDM. However the greatest limitation is incomplete formalizations of the procedures governing the implementation of CDM. These deal with:

Establishing additionality

- To avoid giving credits to projects that would have happened anyway ("freeriders"), rules have been specified to ensure additionality of the project, that is, to ensure the project reduces emissions more than would have occurred in the absence of the project. There are currently two rival interpretations of the additionality criterion:
- often labelled 'environmental additionality' has that a project is additional if the emissions from the project are lower than the baseline. It generally looks at what would have happened without the project.
- In the other interpretation, sometimes termed 'project additionality', the project must not have happened without the CDM.

A number of terms for different kinds of additionality have been discussed, leading to some confusion, particularly over the terms 'financial additionality' and 'investment additionality' which are sometimes used as synonyms. 'Investment additionality', however, was a concept discussed and ultimately rejected during negotiation of the Marrakech Accords. Investment Additionality carried the idea that any project that surpasses a certain risk-adjusted profitability threshold would automatically be deemed non-additional. 'Financial additionality' is often defined as an economically non-viable project becoming viable as a direct result of CDM revenues.¹⁸

¹⁸ Netherlands Ministry of Housing, Spatial Planning and the Environment, Available at <http://www2.vrom.nl/pagina.html?id=7396> last visited on 21st November

Many investors argue that the environmental additionality interpretation would make the CDM simpler. Environmental NGOs have argued that this interpretation would open the CDM to free-riders, permitting developing countries to emit more CO₂ while failing to produce emission reductions in the CDM host countries.

It is never possible to establish with certainty what would have happened without the CDM or in absence of a particular project, which is one common objection to the CDM. Nevertheless, official guidelines have been designed to facilitate uniform assessment by the CDM Executive Board for assessing additionality.

Problems associated with Flexibility

Observers have expressed concerns about both *where* and *when* flexibility, i.e. preferring to see action at home now – not later and not abroad.

Beyond what may be primarily environmental-based concerns, there can be economics-based concerns about *where* and *when* flexibility – namely that deferring or displacing action may lead to a loss of focus on the need for short-term action and hence will lead to greater overall costs in the medium to longer term.¹⁹

Establishing a baseline

The amount of emission reduction, obviously, depends on the emissions that would have occurred without the project. The construction of such a hypothetical scenario is known as the baseline of the project. The baseline may be estimated through reference to emissions from similar activities and technologies in the same country or other countries, or to actual emissions prior to project implementation. At times project implementers endeavor to establish a baseline with high emissions, which would yield a risk of awarding spurious credits. Independent third party verification is meant to ameliorate this

¹⁹ United Nations Framework Convention on Climate Change available at <http://cdm.unfccc.int/Reference/index.html> Last visited on 22nd November, 2007.

potential problem.²⁰

The risk of spurious credits

However, it was recognized from the beginning that if projects that would have happened anyway are registered as CDM projects, then the net effect is an increase of global emissions as the spurious credits will be used to allow higher domestic emissions without reducing emissions in the developing country hosting the CDM project. Also, manipulation of credits has led to excessive profits.

However, it was recognized from the beginning that if projects that would have happened anyway are registered as CDM projects, then the net effect is an increase of global emissions as the spurious credits will be used to allow higher domestic emissions without reducing emissions in the developing country hosting the CDM project. Similarly, spurious credits may be awarded through overstated baselines, causing the same problem. Supplementing these limitations is the fact that black markets are inevitable, and that corruption is becoming an increasing factor. In addition, there are fears that trading of emissions rights could become so money oriented that concentration will shift from actual progress in emissions reduction.²¹

However, the greatest limitation is the fact that both Australia and the USA have not ratified the Kyoto Protocol and thus, do not participate in emissions trading. Since they produce about half of the worlds emissions it will be hard to dramatically reduce GHG emission levels and in turn safeguard the environment.

²⁰ Netherlands Ministry of Housing, Spatial Planning and the Environment,
Available at <http://www2.vrom.nl/pagina.html?id=7396> last visited on 21st November

²¹ Ward, Murray(2005) *“The Role of the Carbon Market in Proposals for addressing Climate Change post-2012”* available at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=1258>.

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Officially the Protocol entered into force after ratification by 55 countries, whose combined total GHG emissions account for at least 55% of global emissions. Although the majority of nations around the world have already ratified the Protocol, as mentioned earlier some of the largest polluters, Australia or the United States, still need to ratify. While the United States who were pro-actively involved in the climate change negotiations and contributed significantly to more flexibility in the Kyoto Protocol for Annex-I Parties to achieve their targets, they perplexingly enough withdrew from ratification in 2001.²²

Developed countries such as Europe and Japan have shown their commitment to reduce global warming by imposing costs on themselves and their producers, even if it places them at a competitive disadvantage. The biggest obstacle until now has been the United States. The Clinton administration had called for bold action as far back as 1993, proposing what was in effect a tax on carbon emissions; but an alliance of polluters, led by the coal, oil, and auto industries beat back this initiative.²³

Seemingly dramatic changes in weather patterns – including the melting of glaciers in Greenland and the thawing of the Siberian permafrost – had at last convinced most business leaders that the time for action is now.

However, Bush heard the call of his campaign contributors from the oil and coal industries, and that he has once again put their interests over the global interest in reducing emissions. If he were truly concerned about global warming, how could he have endorsed the construction of coal-fired electricity plants, even if those plants use more efficient technologies than have been employed in the past?

²²United Nations Framework Convention on Climate Change available at <http://cdm.unfccc.int/Reference/index.html> Last visited on 22nd November,2007.

²³ Stiglitz, Joseph(2004) *“The Changing Climate On Climate Change”* available at <http://www.project-syndicate.org/contributor/184>. Lat visited on 27th November,2007.

America is the world's largest polluter, accounting for roughly a quarter of global carbon emissions. Claims by Bush that America cannot afford to do anything about global warming ring hollow: other advanced industrial countries with comparable standards of living emit only a fraction of what the US emits per dollar of GDP.

As a result of this reluctance, American firms with access to cheap energy are given a big competitive advantage over firms in Europe and elsewhere. Some in Europe worry that stringent action on global warming may be counterproductive: energy-intensive industries may simply move to the US or other countries that pay little attention to emissions. And there is more than a grain of truth to these concerns.

CHAPTER THREE

THE WAY FORWARD

A striking fact about climate change is that there is little overlap between the countries that are most vulnerable to its effects – mainly poor countries in the South that can ill afford to deal with the consequences – and the countries, like the US, that are the largest polluters. This particular scenario can perhaps be cited as one of the most pertinent instances in explaining the ‘Tragedy of the Commons’.²⁴ Here there is over exploitation of a common resource-the environment- by the United States creating negative externalities in the form of the harm it is causing to the global environment as also nations at large. What is at stake is in part a moral issue, a matter of global social justice.²⁵

²⁴ The Tragedy of the Commons is a type of social trap, often economic, that involves a conflict over resources between individual interests and the common good. The "Tragedy of the Commons" is a structural relationship between free access to, and unrestricted individual demand for a finite communal resource. The metaphor illustrates how free access and unrestricted demand for a finite resource ultimately structurally dooms the resource through over-exploitation. The excessive emissions of GHGs into the atmosphere in pursuance of economic activities has caused great environmental degradation.

²⁵ Stiglitz, Joseph(2004) “*A Cool Calculus of Global Warming*” available at [http:// www.project-syndicate.org/contributor/184](http://www.project-syndicate.org/contributor/184). Lat visited on 27th November,2007.

As the Stern report points out, as usual, the poor are the most vulnerable. A third of Bangladesh will be underwater by the end of this century. The Maldives and a host of Pacific Island states will disappear: our own twenty-first-century Atlantis. To an economist, the problem is obvious: polluters are not paying the full costs of the damage they cause. Pollution is a global externality of enormous proportions. The advanced countries might mean Bangladesh and the disappearing island states no harm, but no war could be more devastating.²⁶

The Kyoto Protocol represented the international community's attempt to begin to deal with global warming in a fair and efficient way. But it left out a majority of the sources of emissions, and unless something is done to include the US and the developing countries in a meaningful way, it will be little more than a symbolic gesture.

What is required, first and foremost, are market-based incentives to induce Americans to use less energy and to produce more energy in ways that emit less carbon. But Bush has neither eliminated massive subsidies to the oil industry nor provided adequate incentives for conservation.

Although President George W. Bush says he believes in markets, in this case he has called for voluntary action. But it makes far more sense to use the force of markets – the power of incentives – than to rely on goodwill, especially when it comes to oil companies that regard their sole objective as maximizing profits, regardless of the cost to others.

But the incentive to comply can be created by means of both 'sticks' and 'carrots'.²⁷

²⁶ Stiglitz, Joseph(2004) "*A Cool Calculus of Global Warming*" available at [http:// www.project-syndicate.org/contributor/184](http://www.project-syndicate.org/contributor/184). Last visited on 27th November,2007.

²⁷ Strategy often used in negotiations where one side offers the other something it wants while threatening negative sanctions if the other side does not comply with its requests. Thus a union could offer wage concessions in exchange for better workrule provisions while threatening to strike if no accommodation can be reached. This is the approach specified by Stiglitz to achieve compliance from the American government.

Countries across the world committed to preserving our environment could agree to impose taxes on products from the US, that are produced in ways that unnecessarily add substantially to global warming. What is at stake is not protection of domestic producers, but protecting our planet.

A global externality can best be dealt with by a globally agreed tax rate. This does not mean an increase in overall taxation, but simply a substitution in each country of a pollution (carbon) tax for some current taxes. It makes much more sense to tax things that are bad, like pollution, than things that are good, like savings and work.²⁸

Carbon taxes²⁹ are normally seen as the economic alternative to emissions trading. So while they are a market-based economic instrument there is no associated tradable market commodity.³⁰ Carbon tax is an example of an economic instrument policy tool that inseparably involves both opportunity cost and cost. A cost is imposed on each tonne of emissions, with the expectation that those on whom it is imposed will seek out all opportunities to reduce emissions in their operations up to that cost per tonne. In this way, so the theory goes, a carbon tax equalizes the opportunity cost of emissions and results in an economically efficient least cost outcome.

The greatest advantage of a common tax approach is that it avoids the difficulty of figuring out the extent till which a country should reduce its emission. Additionally each country while providing adequate tax incentives not to emit, garners for itself the revenues from the taxes. With the current framework it will be extremely difficult to find

²⁸ Ward, Murray(2005) *“The Role of the Carbon Market in Proposals for addressing Climate Change post-2012”* available at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=1258>.

Last visited 23rd November,2007.

²⁹ Carbon taxes impose a common tax on all carbon emissions. Firms and households would respond to this tax by reducing usage, and thus emissions.

³⁰ Murray Ward (2005) *The role of the Carbon Market in proposals for addressing climate change post-2012* available at <http://www.ieta.org/ieta/www/pages/getfile.php?docID=1258>. Last visited on 20th November 2007.

emissions reduction targets that are acceptable to both the United States and the developing countries.

CONCLUSION

There is no generally acceptable principle regarding rights to usage. Should those who polluted more in the past be allowed to pollute more in the future? Or should they face larger reductions in their emission allowances, to compensate the world for past damages? Should the allowances be established on a per-capita or a per dollar basis? Carbon taxation will solve all these problems that have till date been the international community's failure to deal with global warming. Thus, by means of this tax emitters will be made to pay for the full social cost of what they are doing.

Infact, the country as a whole might be better off as it can use revenue from the carbon tax to reduce other taxes, such as those on savings, investment, or work. These lower taxes will stimulate the economy. The researcher reiterates the general economic pricnciple—it is better to tax things that are bad (pollution) than things that are good (savings).

CDM as a mechanism is not completely workable as the circumstances of each country differs. Thus, it is impossible to set target levels for each country that are fair. The United States might claim that distances in their country are greater and GDP higher, thus it should have the license to pollute more. France may claim that since its pollution rate per capita is already one-third of the United States it is unreasonable to demand that it cut its emissions further. The developing countries would claim that since they are poor and racing to catch up with the standards of the developed world it would be tough for them to reduce emissions.

Setting target levels is extremely contentious as allowing a country high emission levels is tantamount to giving it money—a fact that has been highlighted by the researcher through the HCFC-22 example. A higher emission target means that a country either has more emission rights to sell or has to pay less to other countries to compensate for the shortfall. All these issues are avoided under carbon taxation.

Members of the developing world should perhaps be the most proactive as it is in our own interests, for we are the ones that stand to lose the most and will perhaps be the worst hurt by global warming!

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