

A Critical Appraisal of The Kyoto Climate Change Regime*

Abstract

This paper does not simply x-ray the Kyoto Protocol document. It also examines in practical terms the climate change regime under the Kyoto Protocol to the Framework Convention on Climate Change two decades after. It evaluates the Kyoto Years, the varying responses to the Kyoto Climate Change Regime as well as the Kyoto flexibility mechanism albeit whether or not the Kyoto Climate Change Regime has achieved its set objectives.

Introduction

The first international effort to address the problem of climate change was the United Nations Framework Convention on Climate Change (UNFCCC)1992,¹ Article 2 spells out its objective as follows:

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

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¹ Hereafter the UNFCCC

The UNFCCC is in itself not binding as it does not set binding limits on greenhouse gas emissions for individual countries and does not contain any enforcement mechanism. It however provides a framework for negotiating specific international treaties called “protocols”, that may set binding limits on greenhouse gases. The UNFCCC opened for signature on May 9, 1992 and entered into force on March 21, 1994 and as of May 2011, the UNFCCC had 194 parties.

By Article 4 paragraph 2, industrialised countries are to take the lead in reducing emissions. The UNFCCC therefore included a legally non-binding voluntary pledge that major industrialised and developed countries would reduce their greenhouse gas emissions to 1990 levels by the year 2000. It became apparent that these nations would not meet the envisaged stabilisation target by their voluntary pledges by the year 2000. Therefore at the first Conference of the Parties (COP 1), held in Berlin in 1995, the parties to the Convention decided to enter into negotiations on a protocol to establish legally binding commitments on reductions of greenhouse gas emissions. The G-77², representing 133 developing countries successfully pushed for a mandate, tagged the “Berlin Mandate” which recognised that:

- Developed nations had contributed most to the concentration of greenhouse gases in the atmosphere;
- Developing countries emissions per capita (average emissions per head of population) were still relatively low; and
- That the share of global emissions from developing countries would grow to meet their developmental needs.

Thus the legally binding commitments agreed upon would be only for developed countries listed in Annex 1 to the UNFCCC.

Since 1995, the parties to the Convention have met annually in Conferences of the Parties to assess progress in dealing with climate change.

The Kyoto Protocol

The agreement known as the Kyoto Protocol is the Protocol to the Framework Convention on Climate Change 1997. The United Nations

² The G-77 at this time was made up of 133 developing countries and China was then not a member but an Associate but has since become a member.

Framework Convention on Climate Change (UNFCCC) was adopted at the Earth Summit in Rio de Janeiro in 1992. As already observed, the UNFCCC itself did not set any legally binding limitations on emissions nor did it provide any enforcement mechanism for such limitation. It left these matters to be resolved at subsequent Conferences of the Parties to the UNFCCC. The Kyoto Protocol was adopted at the third session of the Conference of the Parties (COP 3) in Kyoto, Japan in 1997. Only parties to the UNFCCC can become parties to the Kyoto Protocol.

The Kyoto Protocol established binding obligations for developed countries to reduce their greenhouse gas emissions, but did not give any reduction commitments to developing countries. Negotiation on this issue was tense in view of the large potential for growth in developing countries' emissions³ and this issue has been a sore point in the Kyoto Protocol and the reason the United States has not ratified it to date. It was also for the same reason that Australia did not ratify the treaty until December 3, 2007 and the reason for withdrawal by countries like Canada, Russia, Japan, Belarus and Ukraine, who indicated that they would not commit to a second Kyoto period. This issue is perhaps the greatest set back to the Kyoto Protocol. Although the protocol did not give binding emissions commitments to developing countries, but to ensure the participation of developing countries, a market based flexibility mechanism, the Clean Development Mechanism (CDM) was introduced. The CDM was designed to limit emissions in developing countries, but in such a way that developing countries do not bear the cost of such emissions reduction. The Kyoto Protocol envisaged that developed countries would meet their first round commitment, while developing countries would face quantitative commitments in later commitment periods. The reality today is that this has not happened because some of the key industrialised countries have failed to take up emissions commitment while those who did in the first period have indicated that they will not commit to a second period. While the developing countries, particularly the fast emerging economies like

³ The United States observed and rightly so that the emissions of some developing countries like China were set to meet their own and therefore all must be made to share the responsibility now. It is interesting to note that this prediction has since come true and China has surpassed the United States as the largest emitter of carbon dioxide, the chief culprit in the global climate change phenomenon.

China and India have not taken on any commitments, even in the second commitment period, which commenced in 2013 and would run until 2020. This is in spite of the fact that China and India are the first and third largest emitters of carbon dioxide in the world. The reality of the situation is that the various countries are more interested in fostering their domestic or national interest as opposed to the interest of the collective. Thus the three largest emitters, China, the United States and India (in that order) are not committed to Kyoto standards and this without a doubt spells doom for the Kyoto Protocol climate change regime and the global community. The Kyoto Protocol also envisaged that countries over-achieving in their first commitment period can “bank” their unused allowances for use in the subsequent commitment period. Such countries may also elect to sell such allowances under the emissions trading scheme.

There were disagreements as to which greenhouse gases should be included. The European Union wanted only three greenhouse gases, Carbon IV Oxide⁴ (CO₂), Methane (CH₄) and Nitrous Oxide (N₂O) to be included while other gases would be regulated separately. At the end, six gases were included.⁵ The European Union also proposed a “bubble” commitment, whereby it could make a collective commitment that would allow some European Union members to increase their emissions while others cut theirs.

The most vulnerable nations- the Alliance of Small Island States (AOSIS)- believing they would be worse hit by the effect of climate change, pushed for deep uniform cuts by developed nations, with the goal of having emissions reduced to the greatest possible extent.⁶ On the other hand, some Kyoto parties like Saudi Arabia and Iran expressed concern over how efforts by Annex 1 parties could adversely affect their economies which are largely dependent on income generated from the production, processing and export of fossil fuels. The same can also be said for Nigeria, whose economic mainstay is the petroleum industry. There was also no consensus among countries that had supported differentiation of targets

⁴ Known until very recently as carbon dioxide

⁵ Water vapour, carbon dioxide, nitrogen oxide, methane, chlorofluorocarbon and ozone

⁶ DM Liverman, “Conventions of Climate Change: Construction of Danger and Dispossession of the Atmosphere” (2009) 35 *Journal of Historical Geography* 291

as to how it should be calculated. Some of the indicators proposed include differentiation of targets based on gross domestic product (GDP) and differentiation of targets based on energy and intensity (energy use per unit of economic output)⁷. The final targets agreed on in the Kyoto Protocol are the result of last minute political compromises and are weaker than those proposed by some parties like the Alliance of Small Island States and the G-77 and China, but stronger than targets proposed by others, such as the United States and Canada.

The Protocol, however left several issues open to be decided by the sixth Conference of the Parties which attempted to resolve these issues at its meeting in the Hague in late 2000, but an agreement could not be reached following disagreements between the European Union (on the one hand), who favoured a tougher implementation and the United States, Canada, Japan and Australia, who wanted the agreement to be more flexible and less demanding. However in the extended meeting COP 6, (continuation) held in Bonn in 2001, concessions were made and the European Union managed to get the agreement of Japan and Russia by allowing more use of carbon IV oxide sinks. At COP 7, held in Marrakech from October 29 to November 9 2001, the final details of the Kyoto Protocol were established. A major weakness in the Kyoto climate change regime is in the area of compliance and enforcement. The consequences and penalties for non-compliance with commitments under the protocol are weak. Where the enforcement branch determines that an Annex 1 country is not in compliance with its emissions limitation, then that country is required to make up the difference during the second commitment period, plus an additional thirty percent. In addition, such country will be precluded from making transfers under an emissions trading scheme.⁸

Ironically, this provision has never been invoked and enforced against any country even in the face of blatant failure to comply with their commitments. An example is Canada, which a 2005, United Nations report flagged as high in the list of countries most likely to run into difficulty

⁷ M Grubb, "Kyoto and the Future of International Climate Change Responses: From Here to Where?" <http://www.econ.cam.ac.uk/staff/grubb/publications/J37.pdf> p.151

⁸ "An Introduction to the Kyoto Protocol Compliance Mechanism"

http://www.unfccc.int/kyoto_mechanism/compliance/introduction/items/3024.php Retrieved august 14, 2013

implementing its commitments under the Kyoto Protocol. This is because Canada with emissions reduction commitment of 6% in 2003 had increased its emissions by 24.2% from 1990 level. It would seem that meeting its commitment under the Kyoto Protocol was never in the plate for Canadian authority, because Canada had cut some 15 existing climate change programmes and a month before the United Nations report, the Prime Minister, Stephen Harper⁹ announced that it would be impossible for Canada to meet its Kyoto targets.

If the war against climate change is to be won, the word “impossible” can never be an option because when it became impossible to meet its target through emission cuts, it could have attempted to do so by purchasing emissions units through the flexibility mechanisms. Canada’s emission has continued to rise as its total greenhouse gas emission between 1990 and 2008 stood at 33.6% above 1990 levels.

By Article 25 of the Kyoto Protocol, the protocol enters into force on the ninetieth day after the date on which not less than 55 Parties to the Convention, incorporating Parties included in Annex I which accounted in total for at least 55% of the total carbon dioxide emissions for 1990 of the Annex I countries, have deposited their instruments of ratification, acceptance, approval or accession. The EU and its Member States ratified the Protocol in May 2002. The “55 parties” clause was reached on May 23, 2002 when Iceland ratified the Protocol. The ratification by Russia on 18 November 2004 satisfied the “55%” clause and brought the treaty into force, effective 16 February 2005, after the required lapse of 90 days.

Kyoto Flexibility Mechanisms

The Kyoto protocol provides three flexibility mechanisms to help Annex 1 parties under the protocol meet their emissions reduction targets. These are: International Emissions Trading, Joint Implementation Mechanism and Clean Development Mechanism. These flexibility mechanisms were provided for purely economic reasons, as original studies suggested that the flexibility mechanisms could reduce the overall (aggregate) cost of meeting the targets by participating countries, since the marginal cost of reducing or abating emissions differ from country to country.

⁹ 22nd Prime Minister of Canada, sworn in on February 6, 2006

International Emissions Trading (IET):

Under this mechanism, Annex 1 parties may meet their emissions reduction commitments by trading their emissions allowances. Annex 1 parties who are unable to meet their targets by emissions cuts may purchase emissions allowances from other countries who are parties to the United Nations Framework Convention on Climate Change and have met their own emissions reduction targets (Assigned Amount Units) with allowance to spare.

Different emissions trading schemes have emerged across the globe. For instance, in Asia, Japan started its emissions trading scheme in 2010, run by the Tokyo Metropolitan Government.¹⁰ In Europe, the European Union Emissions Trading Systems Started in 2005, and it is run by the European commission. The Norwegian Government started its own domestic emissions trading in 2005 and it is now a participant in the European Union Emissions Trading Scheme.¹¹ In Switzerland, the Swiss Emissions Trading Scheme runs from 2008-2012 to coincide with the first commitment period of the Kyoto Protocol;¹² the United Kingdom Emissions Trading Scheme run by the United Kingdom Government ran from 2002-2006 and a participant in the European Union Emissions Trading Scheme.¹³ In North America, the government of Alberta, Canada, runs an emissions trading scheme which started in 2007.¹⁴

There is in the United States, the Regional Greenhouse Gas Initiative (RGGI), which started in 2009. This scheme caps emissions from power generation in ten North-Eastern United States: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont.¹⁵ The state of California proposes to commence an emissions trading scheme in 2012. Finally, the Western Climate Initiative (WCI) which is planned to commence in 2012 is a collective emissions trading scheme agreed between eleven states of the United States and

¹⁰ "Review of Existing and Proposed Emissions Trading Systems: Information Paper" Head of Publications Service International Energy Agency (IEA) http://www.org/papers/2010/ets_paper2010pdf Retrieved December 28,2012

¹¹ ibid

¹² ibid

¹³ ibid

¹⁴ ibid

¹⁵ ibid

Canadian Provinces.¹⁶ In Australia, the New South Wales Gas Reduction Scheme (NSW) started in 2003 and is run by the Australian State of New South Wales and has now joined the Alfa Climate Stabilisation (ACS).¹⁷ Finally, the New Zealand Emissions Trading Scheme started in 2008.

Other than the trading that occurs as part of the European Union emissions trading scheme, no intergovernmental emissions trading has so far taken place.¹⁸ This perhaps is the greatest shortcomings of the International Emissions Trading, as there is a large surplus of allowances that are available. Russia, Ukraine and the New European Union 12 member states (the Kyoto Protocol parties Annex 1, Economies-In-Transition (EIT) Countries), Belarus, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia have a surplus of allowances, while many OECD countries have a deficit.¹⁹ The Kyoto Protocol recognised that giving emissions commitments to the Economies-in-Transition countries might lead to them having excess number of allowances.²⁰ The Economies-In-Transition countries view this excess allowances as potential compensation for the trauma of their economic restructuring and a “headroom” to grow their economies.²¹ Russia at some point had an estimated surplus of 3.1 billion tonnes of carbon dioxide equivalent allowances.²² The organisation for Economic Cooperation and Development (OECD) Countries with emissions deficit could meet their Kyoto commitments by purchasing allowances from Economies-In-Transition countries with a surplus.

¹⁶ *ibid*

¹⁷ *ibid*

¹⁸ *ibid*

¹⁹ “Global Carbon Mechanisms: Emerging Lessons and Implications” Carbon Trust <http://www.carbontrust.com/resources/report/advice/global-carbon-mechanism> Retrieved December 28, 2012

²⁰ JC Hourcade, et al. “Where Flexibility” in B. Metz, et al, (eds.) *Global, Regional, and National Costs and Ancillary Benefits of Mitigation*, Cambridge University Press, 2001, 538. See also, *Climate Change: Mitigation. A Contribution of Working Group III to the Third Assessment Report of the Intergovernmental Panel on Climate Change*.

²¹ W. Blyth & Green Baron, *Green Investment Schemes: Options and Issues*, Paris: Organisation for Economic Cooperation and Development (OECD) Environment Directorate and International Energy Agency (IEA), p. 11, <http://www.oecd.org/dataoecd/48/54/19442798.pdf> OECD reference: COM/ENV/EPOC/IEA/SLT(2003)9

²² J.Chavari & M Pallemerts, *Energy and Climate Change in Russia (note requested by the European Parliament's temporary committee on Climate Change, Policy Department Economy and Science, DG Internal Policies, European Parliament)*, Brussels, Belgium: Institute for European Environmental Policy, p. 11. http://www.ieep.eu/assets/433/ecc_russia.pdf

The drop in emissions of the Annex 1 countries generally and the European Union²⁷ particularly is attributable largely to reduction in emissions in the economies-in-transition countries whose economies are no longer as vibrant as they were in the past and this has in no small way helped the European Union to meet its collective Kyoto and the total aggregate reduction in emissions of the Annex 1 countries, excluding the United States.

The Green Investment Scheme (GIS):

This is a mechanism in the framework of International Emissions Trading (IES) designed to assist Annex 1 parties achieve greater flexibility in meeting their emissions reduction commitments by trading surplus allowances, Assigned Amount Units (AAU) under the Kyoto Protocol,²³ while preserving environmental integrity of the international emissions trading. The Green Investment Scheme allows a party to the Kyoto Protocol whose economy will not exhaust its Kyoto quota to sell the excess Assigned Amounts Units to another party. The proceeds from such sales should be “greened” by channelling it to the development and implementation of the projects either acquiring the greenhouse gas emissions reduction (hard greening) or building up the necessary framework for this process (soft greening). It is worthy of note that Japan’s national policy to meet their Kyoto target in the first commitment period included the purchase of Assigned Amounts Units (AAU) sold under the Green Investment Scheme.²⁴ In 2010, Japan and Japanese firms were the main buyers of Assigned Amounts Units.²⁵ The Kyoto Protocol neither prescribes the use of the Green Investment Scheme nor does it define the term.

In the International carbon market, trade in Assigned Amounts Units are a small proportion of overall market value.²⁶ In 2010, 97% of trade in

²³ Carbon Finance at the World Bank (2011). World Bank Carbon Finance Unit (CFU) Washington D. C., USA <http://www.go.worldbank.org/HZGVWAQN20>. Retrieved December 26, 2012

²⁴ Kyoto Protocol (Provisional Translation; Ministry of the Environment, Government of Japan, March 28, 2008 p 81-82, <http://www.env.go.jp/en/earth/cc/kptap.pdf>. Retrieved December 26, 2012

²⁵ *State and Trends of the Carbon Market Report 2011*, Washington, DC, USA: World Bank Environment Department, Carbon Finance Unit, http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/State_and_Trends_Updated_June_2011.pdf Retrieved November 13, 2011

²⁶ *ibid*

international carbon market was driven by European Union emissions trading scheme.²⁷ However, firms regulated under the European Union emissions trading scheme are unable to use Assigned Amounts Units in meeting their emission caps. Latvia, one of the front-runners of the Green Investment Scheme has reportedly stopped offering Assigned Amounts Units because of low AAU prices.²⁸ In 2010, Estonia was the preferred source for AAU buyers, followed by Czech Republic and Poland.²⁹

Almost all the European Union countries are on course to meet their first round Kyoto commitments and those who are unable do so by emissions cut, like Spain plan to do so by purchasing large quantities of Kyoto units through the flexibility mechanism from the Economies-In-Transition countries.

It is instructive to note that the European Union law sets limit on the amount of carbon IV oxide companies can emit. It also allows for the selling of carbon tax certificates by companies polluting less and as such does not emit their total limit of carbon dioxide. Other companies that need to increase their carbon IV oxide limit can then buy these excess credits. This may be a potential loophole for fraud.

Although emissions trading help Annex 1 parties to meet their emissions reduction commitments, it however would actually not result in total emissions being reduced. It would therefore be necessary to in addition purchase Clean Development Mechanism credits or the use of voluntary Green Investment Scheme and most importantly by actual emission cuts.

Clean Development Mechanism:

Through this mechanism the Kyoto Protocol hopes to combat global warming by allowing Annex 1 countries contribute to emissions reducing projects in Non-Annex 1 countries and acquiring certified emissions reductions (CERs) to enable them meet their Kyoto targets. The CDM serves a dual purpose. First, to help Kyoto participating countries meet their emissions reduction targets by allowing them to purchase relatively

²⁷ *ibid*

²⁸ Carbon Finance at the World Bank (2011) (n. 19)

²⁹ *ibid*

inexpensive carbon offsets, as it is less expensive to invest in emissions reduction projects in developing countries than reducing emissions in developed countries; and secondly, the CDM would at the same time aid countries not participating in Kyoto to develop sustainability through technology transfer and development.

It is projected that the CDM would produce some 1.5 billion tons of carbon dioxide equivalent in emission reductions between 2001 (which is the first year CDM projects could be registered) and 2012, the end of Kyoto first commitment period.³⁰ Majority of these reductions are through renewable energy, energy efficiency and fuel switching.³¹ It is estimated that China has the highest potential for production of Certified Emission Reductions (CERs) with 52% of total CERs and India with 16%. CERs produced in Latin America and the Caribbean make up 15% of the potential total, and Brazil with 7% is the highest producer in the region.

Joint Implementation Mechanism:

This flexibility mechanism aims to control global warming by allowing Annex 1 parties to contribute to emissions reducing projects in other Kyoto participating countries and acquiring Emissions Reduction Units (ERU). The Joint Implementation Mechanism is similar to the Clean Development Mechanism, in that the processes for creating ERU are analogous to that of creating Certified Emissions Reductions (CERs). A major difference between the Joint Implementation Mechanism and the Clean Development Mechanism is that while the CDM takes place in developing countries, which are not participating in the Kyoto Protocol, the Joint Implementation Mechanism takes place in countries participating in the Kyoto Protocol. Another difference is that the Joint Implementation Mechanism allows for offsets from the forestry sector.

The formal crediting period for joint implementation was aligned with the first commitment period of the Kyoto Protocol and commenced on January 2008.³² As at November 2008, only 22 Joint Implementation Projects had

³⁰ World Bank Report 2010: Development and Climate Change” The international Bank for Reconstruction and Development/The World Bank. <http://www.go.worldbank.org/UYZOHYFGG0>. Retrieved December 26 2011

³¹ *ibid*

³² *Supra* note 14

been officially approved and registered. The total projected emission saving from Joint Implementation by 2012, are about one tenth that of the Clean Development Mechanism. And Russia accounts for about two-thirds of these savings with the remainder evenly divided between Ukraine and the European Union's New Member States. Emissions savings include cuts in Methane (CH₄), Hydro fluorocarbons (HFC) and Nitrous Oxide (N₂O) emissions.³³

While it is thought that the Kyoto flexibility mechanisms can reduce the costs incurred by Annex 1 parties in meeting their commitments under the protocol, it is nevertheless doubtful whether emissions trading would be effective in promoting investment in non-fossil energy sources. Another source of concern is the possible adverse impacts of CDM projects on local communities in developing countries.

The collapse of economies in the east resulted in a global surplus of certificates and "hot air"³⁴ leading to a dramatic drop in the price for a ton of carbon IV oxide. The emissions trading institution is now crumbling and the first major providers of compensation products are already closing down.³⁵

The CDM was aimed at generating certificates for companies requiring additional pollution rights. With the sale of these certificates generated by projects in developing countries and emerging nations, sustainable development should simultaneously be boosted in these areas.³⁶ Laudable as this mechanism may seem, its result cannot be said to have matched its set goal, because while so much resources have been invested in emerging economies like China, India, Brazil and South Africa who would have had their own resources to realise projects, the same cannot be said of the poorest regions, where very little or nothing has been invested.

³³ *ibid*

³⁴ Countries who have met their emissions reduction targets with allowances to spare, sell such surplus to others who cannot meet their target. This surplus is called "hot air" in the carbon market

³⁵ An example is Brazil, where the government has declared agreements reached with indigenous groups void.

³⁶ In this way, economies is harmonising climate protection and global sustainable development

The Deutsche Bank scandal underscores the shortcoming of the Kyoto flexibility mechanisms. It involves a Three Hundred Million Euro (€300m, \$391m, £249m) tax fraud where 25 employees of the bank were indicted in respect of carbon IV oxide emissions permit bought abroad without paying taxes on them. They then resold the permits among themselves to claim back tax illegally.³⁷ The Deutsche Bank stands indicted for tax evasion in conjunction with trading of emissions.

Reducing Emissions from Deforestation and Forest Degradation (REDD):

REDD was aimed at generating funds for forest protection through the market, to help in achieving success in the climate process and raise high hopes for a newly created billion Euro market. Companies were established for project development and the marketing of forest certificates. These companies enter into long term agreements guaranteeing carbon IV oxide marketing rights with indigenous groups in developing countries to create projects in such countries to help reduce deforestation and forest degradations at relatively minimal costs and the credits from such projects are sold at exorbitant rates to companies and countries that need such credits to meet their emissions reduction targets.

It is instructive to note that the ability of REDD to generate funds depends on the scarcity of certificates and ambitious climate protection aims, but the collapse of the economies of the former Soviet Bloc has resulted in surplus of certificates, which have been retained in the system as “hot air”. Added to this, companies were assigned generous pollution rights to ensure that their competitiveness was not jeopardised. With the CDM instruments continuing to generate new certificates, the laws the market relied upon were thus undermined and within a year, the price for certificates dropped from over €20 to less than €7.

The projection that the market based mechanisms can make a fundamental contribution to resolving the global climate issue is now almost a pipe-dream. It is interesting to note that there was no concrete plan for a further development or reform of either the REDD or CDM at COP 18, the 2012 Doha Climate Conference.

³⁷ Six of these indicted persons were jailed by a German court in 2012

Evaluation of the Kyoto Years

Since the Kyoto Protocol at COP 3 in 1997, there have been sixteen other conferences of the parties to the UNFCCC.³⁸ These conferences attempted to finalise all the issues left unresolved in Kyoto and to fine-tune the Kyoto Protocol climate change regime.

On February 16, 2007, heads of government from Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, the United States, Brazil, China, Mexico and South Africa agreed in principle to a non binding agreement tagged the *Washington Declaration*, which is an outline of a successor to the Kyoto Protocol. The agreement envisaged a global cap-and-trade system that would apply to both industrialised nations and developing countries. It was initially hoped that this would be in place in 2009.³⁹ This obviously never happened throughout the Kyoto first commitment period. It is projected that this would happen within the second commitment period, and precisely in 2015.

At COP 16, held in Cancun in 2010, 76 developed and developing countries made voluntary pledges to control their emissions of greenhouse gases. These 76 countries were collectively responsible for 85% of annual global emissions in 2010.

³⁸ COP 4 held in Buenos Aires, Argentina on November 1998; COP 5 held in Bonn, Germany on October 25 to November 5, 1999; COP 6 held in the Hague, Netherlands on November 13 to 25 in year 2000; an extended meeting of COP 6 resumed July 17 to 27 2001 in Bonn, Germany; COP 7 held in Marrakech Morocco on October 29 to November 10, 2001; COP 8 in New Delhi, India on October 23 to November 1, 2002; COP 9 held in Milan, Italy from December 1 to 12, 2003; COP 10 held in Buenos Aires Argentina from December 6 to 17, 2004; COP 11/MOP 1 held in Montreal Canada from November 28 to December 9, 2005; COP 12/MOP 2 held in Nairobi, Kenya from November 6 to 17, 2006; COP 13/MOP 3 held in Bali, Indonesia from December 3 to 15, 2007; COP 14/MOP 4 held in Poznan, Poland from December 1 to 12, 2008; COP 15/MOP 5 held in Copenhagen, Denmark from December 7 to 18, 2009; COP 16/MOP 6 held in Cancun, Mexico from November 29 to December 10 2010; COP 17/MOP 7 held in Durban, South Africa from November 28 to December 9, 2011; COP 18/MOP 8 held in Doha, Qatar from November 26 to December 7, 2012; COP 19/CMP 9 held in Warsaw, Poland from November 11 to 23, 2013

³⁹ "Politicians sign New Climate Pact" BBC News February 16, 2007, <http://www.bbc.co.uk/1/hi/sci/tech/6344663.stm>. Retrieved on February 17, 2007; see also "Global Leaders Reach Climate Change Agreement" *The Guardian* UK February 16, 2007, <http://www.environment.guardian.co.uk/climatechange/story/0,2014683,00.html>. Retrieved February 17, 2007

The Conference of the Parties 18 held in Doha in 2012, produced a package of documents collectively titled *The Doha Climate Gateway* which contained: an agreement to extend the Kyoto Protocol to 2020 and to set a date of 2015 for the development of a successor document, to be implemented from 2020, which would include all countries both developed and developing. The Kyoto second commitment period applies to about 15% of annual greenhouse gases emissions.

The Doha Climate Conference introduced for the first time the concept of “loss and damage”, which is an agreement in principle that richer nations should be financially responsible to other nations for their failure to reduce carbon emissions. It is hoped that this laudable concept is given affirmative action soon enough and not left as another wishful thinking.

Shortcomings of the Kyoto Climate Change Regime

Firstly, the Kyoto document, itself left open and unresolved several issues to be decided by subsequent Conferences of the Parties. For instance, it left open issues relating to rules and regulations for the market-based mechanisms that allow flexibility to parties in meeting their obligations.

It also left open critical operational issues of transparency in making it possible to effectively track emission units, allocating risk in emissions trading, including the question of assigning liability or responsibility when trading involves false credits and key measurement, reporting and verification issues. Also left unresolved are the rules governing compliance, including provisions covering non-compliance with the protocols commitments. The protocol also left open issues concerning development and transfer of cleaner lower emitting technologies, particularly to developing countries to aid their contribution to keep global emissions in check and to help them adapt to the impact of climate change. It also left open the definition of carbon sinks, including how to measure and verify the categories of carbon sinks.

The many issues left unresolved have prompted some party states to describe the protocol as an incomplete document. For instance, the United States described it as an unfinished policy. Resolving these issues has posed serious challenges to the negotiators at the subsequent Conferences of the Parties and to date, some of these issues remain unresolved. The Kyoto Protocol has met with outright denials, oppositions and criticisms. While some have disputed the scientific consensus of anthropogenic

global warming, others have argued that it is too expensive.⁴⁰ There are also those who oppose it because the protocol would damage economic growth, while others say that it does not go far enough to curb greenhouse gas emissions and that the standard it sets would be ineffective at curbing climate change.⁴¹

The reasons for the shortcoming of the Kyoto climate change regime are somewhat complex and not in any way removed from the political and economic realities of our time and part of the malaise that is currently paralysing the countries of our warm planet from taking a realistically positive stand towards solving the problem of climate change. Enough cannot be said of the activities of climate change denialists, who continue to cast doubt on man-made anthropogenic global warming. They would have us believe that global warming is a natural phenomenon and therefore humanity needs not fix anything but can continue to spew carbon into the atmosphere. The United States questions whether the Kyoto Protocol was mandatory or advisory on emissions reduction. They also question enforcement mechanisms for the Kyoto Protocol and whether the guidelines of the protocol are suited to form a legal basis for seeking redress, as they do not place adequate minimum requirements.

There is no doubt that climate change would impact some regions more than others, and as expected countries that believe that they would not be too negatively impacted by the phenomenon may not go the whole hub to take stringent measures to combat the problem. This is understandable as most countries are unwilling to deal with threats that are not considered local.

A major setback to the Kyoto climate change regime is that the two most important players in the climate change issue do not agree on the fundamental architecture of a legal regime. The United States on the one hand insists that a future agreement be symmetrical, in the sense that it contains legal commitments by both developed and developing countries,

⁴⁰ See for instance The 1997 *Leipzig Declaration* which called the Kyoto Protocol, dangerously simplistic, quite ineffective and economically destructive to jobs and standards of living.

⁴¹ <http://www.unfccc.int/resources/kpstats.pdf>

though these commitments may vary in stringency and content. That is taking into account the requirement of Common but Differentiated Responsibility under the protocol. China on the other hand, is unwilling to accept any legal commitment to limit its emissions, regardless of how they are differentiated.

Thus the United States, an Annex 1 party and China, a Non-Annex 1 party are determined to go about the whole climate change issue on their own terms. Both countries have up to date not taken up any emissions commitment under the protocol, and considering that these countries are the two largest emitters of carbon dioxide in the world, being responsible as it were for over 40% of the total emission per year. Annex 1 parties like Canada, Russia, Japan, New Zealand, Ukraine and Belarus who were part of the first Kyoto commitment period from 2008 to 2012 have indicated that they would not be parties to a Kyoto second term commitment period from 2013 to 2020, unless the United States and the major emerging economies, particularly China agree to do their fair share under a legally binding global agreement. China and India, have indicated that they would only sign up to an agreement that does not impose binding emissions reduction targets on them.

The debate goes on and on like a vicious circle, going round and round. It is pertinent to note that the world's three largest emitters of carbon dioxide, China, the United States and India, (in that order), did not take on emissions commitments in the first commitment period and have so far not done so in the second commitment period.⁴² One then wonders what hope there is for the Kyoto Climate Change Regime and the global community. This surely spells doom for the Kyoto Protocol and any future climate change regime which hopes to control climate change through emissions cut. It is submitted that for any climate change regime that excludes the largest emitters in the world, success can only be a pipe dream.

The Kyoto climate change regime achieved its target of 5% combined aggregate of greenhouse gas emissions reduction in the first commitment

⁴² China and India, because they are Non-Annex 1 parties and so were not given emissions reduction commitment under the Kyoto Protocol and the United States, though an Annex 1 party with emissions reduction commitment is not a party to the protocol by choice

period only by the teeth of its skin. One then wonders how it can hope to achieve success in the second commitment period with a 15% aggregate emissions reduction, when the three largest emitters are not committed to its standards, coupled with the withdrawal of key Annex 1 parties, who were parties during the first commitment period.

Another shortcoming of the Kyoto climate change regime is the lack of political will by national governments to tackle headlong the climate change debacle. Since the United Nations Framework Convention on Climate Change in 1992, about two hundred countries have met annually in Conferences of the Parties (COP), purportedly to chart a course towards meeting the challenges of global climate change. But when it comes to taking positive steps to curtail the greenhouse gas emissions, which has been identified as the chief culprit in the climate change phenomenon, only a small fraction of these countries are ready and willing to act. Making the yearly conferences seem like an annual tea-party. Hillary Clinton, former United States Secretary of State, captured the situation correctly when she stated: “We are in a race against time.... We still live in a state of denial..... We see it, we experience it, but we have a great deal of difficulty in summing the political will to address it.”⁴³

The United Nations Framework Convention on Climate Change 1992 and its regulatory instrument, the Kyoto Protocol is a political agreement rather than a legal agreement, because it does not provide sufficient assurance that countries will take action on it.⁴⁴

Responses to the Kyoto Protocol

Responses to the Kyoto Protocol climate change regime vary from region to region and from country to country. Some countries have embraced the Kyoto climate change regime and the standards it sets to achieve the stabilisation of atmospheric greenhouse gases. Worthy of note in this regard is the European Union, who has taken the lead in the fight against climate change and was instrumental to the actualisation of the 5% target in the Kyoto first commitment period. The European Union also proposed

⁴³ In an Interview with Harrison Ford on May 15, 2013 <http://www.huffingtonpost.com>. Retrieved on May 16, 2013

⁴⁴ Political agreements do not require domestic ratification.

an ambitious 30% emissions reduction target for the Kyoto second commitment period, although this was finally scaled down to 15%. The same cannot be said of most other countries, which have not been much sympathetic and welcoming towards the Kyoto climate change regime. In this regard, the overall attitude of countries like the United States, Canada, Japan and China, to mention but a few cannot be over-emphasised.

The developing countries fix the blame for the current climate change phenomenon on the developed world, and therefore must take responsibility for solving it. To the developing countries, taking any commitments to reduce emissions on their part is inimical to development. On the other hand, countries of the developed world like the United States, Canada, and Japan among others are unwilling to commit to a climate change regime that would exclude developing countries.

The United States:

The United States with 4% of the world's population emits 25% of the global greenhouse gas emissions. At the negotiation of the protocol, the United States accepted to cut their emissions by 7% below 1990 levels over a five year period between 2008 and 2012, rather than a single year, but insisted on securing the meaningful participation of developing countries.

The United States prevailed in securing acceptance of emissions trading among countries with emissions targets⁴⁵ to allow countries or companies to purchase less expensive emissions permit from countries that have more permit than they need.

The CDM was also proposed by the United States⁴⁶ to enable companies in the developed countries to enter into co-operative projects to reduce emissions in developing countries and use certified emissions reductions from such project activities to contribute to their compliance with greenhouse gas reduction.

Although the United States signed the protocol but did not ratify it, as the United States Senate passed the *Byrd-Hagel Resolution* unanimously

⁴⁵ This is contained in Article 6 of the Kyoto Protocol

⁴⁶ Contained in Article 12 of the Kyoto Protocol

preventing ratification of any international agreements that:

- (i) Did not require developing countries to make emissions reduction; and
- (ii) Would seriously harm the economy of the United States.

The passing of this resolution invariably means that the United States would not ratify the protocol and in March 2001, President George W. Bush announced that the United States would withdraw from the Kyoto Protocol. The then President said, he took climate change very seriously but that he opposed the Kyoto Protocol because, it exempts 80% of the world including major population centres, such as China and India from compliance and that committing to Kyoto standards would cause serious harm to the United States' economy.⁴⁷ The United States point out that the emissions of rapidly developing countries, like China, India and Brazil were set to meet theirs and that being a main pollutant of about 25% of global greenhouse gas emissions is not unreasonable because, they produce more wealth than any other nation. And that China, being the world's second largest emitter of greenhouse gases, should not be exempted from the protocol. The president however promised that the United States would combat global warming in other ways, including the development of energy efficient technology; market based incentives to encourage industries to reduce greenhouse gas emissions on their own; and conservation programmes that help sequester carbon in the soil.⁴⁸

Time and events have shown that the objection and argument of the United States was not at all unfounded, as China has within the last decade surpassed the United States as the largest emitter of greenhouse gases. By not ratifying the protocol it would seem that the United States is seeking an economic free ride at the expense of other countries. This is seen by most developing countries as something akin to the industrial revolution, which benefited the developed world and for which the global community, particularly the developing and the least developed world (who are most susceptible to the impacts of climate change), are now paying.

⁴⁷ http://www.ontheissues.org/celeb/george_w_bush_energy_oil.html

⁴⁸ L Atsegbua, (et al) *Environmental Law in Nigeria: Theory and Practice*, Lagos: Ababa Press, 2003, 197

It is reported that the United States have made changes in the environmental and energy policy, that have helped move the country forward slightly on the climate issue. Ninety billion Dollars (\$90b) were invested in clean energy as part of the economic recovery package, which also created tens of thousands of jobs. The planned improvement of fuel economy standards since 1987 will save close to two billion barrels of oil and reduce global warming pollution by nearly another billion tons. Presently, what would be one of the world's largest solar power stations is also under construction. Finally, although the United States government has not been able to implement the policy of putting a price on carbon emissions, but the state of California has done so. It is hoped that the entire nation of United States would the example soon.

Canada:

Canada with binding emissions commitment of 6% ratified the Kyoto Protocol on December 17, 2002. However, since the United States, Canada's major trading partner is not a party to the protocol, (not having ratified it), and Canada having to pay for emissions, Canadians are complaining, because according to them, their companies will not be able to compete on a fair-trading. Thus Canada has been having difficulty meeting its commitment under the protocol.

Canadian government believes that climate change is a serious global problem that must be addressed and Canadians are committed to what is right for a clean and safe environment, however they will not support a protocol that could be detrimental to them. They would rather look at options working in the best interest of the people. These options must ensure a responsible and sensible balance between economic development and a meaningful plan that can address climate change in a realistic manner.⁴⁹

Before the conservative party came into power in Canada, the Canadian government after serious considerations on how to meet its target under the Kyoto Protocol unveiled a Ten billion Canadian Dollar (C\$10b), seven-year plan to cut emissions of greenhouse gases. When the Conservative

⁴⁹ "Kyoto Protocol Update" <http://www.releases.gov.nl> cited in FE Nlerum, *The Kyoto Protocol* (2005) 4 (7-9) EPLR 79

Party assumed office, they scrap the initiative and the Finance Minister, Jim Flaherty in an address to Parliament on May 2006, promised two billion Canadian Dollars (C\$2b) to address the problem of climate change. He announced that the country's Environment Minister, was working on a "Made-in-Canada" climate change programme. He however did not give any indication when this would be unleashed. The Environment Minister hinted at a United States-styled environmental policy.

It is instructive to note that, there was no evidence of any reduction of greenhouse gas emissions by Canada up to the beginning of the first commitment period in 2008 as Canada's emissions between 1990 and 2008 stood at 33.6%. Peter Kent, Canada's Environment Minister stated that Canada would have to pay billions to meet its Kyoto commitment, and to do so would be an equivalent of transfer of Fourteen Billion Dollars (\$14b), from Canadian Taxpayers to other countries – the equivalent of \$1,600 from every Canadian family with no impact on emissions or the environment. Peter Kent observed that Canada was liable to enormous financial penalties under the enforcement clause for failing to meet its target.⁵⁰ In 2005, a United Nations Report flagged Canada as high in the list of countries most likely to run into difficulty implementing its commitments under the Kyoto Protocol. The Prime Minister, Stephen Harper announced a month before that it would be impossible for Canada to meet its Kyoto targets. The government had cut some 15 existing climate change programmes. And Canada with emissions reduction commitment of 6% had by 2003 increased by 24.2% from the 1990 base line.

Canada formally withdrew from the protocol in 2011 because it does not want to force its citizens to pay penalties that would result in wealth transfers out of Canada.⁵¹ The United States and Canada are looking at Voluntary Emissions Reduction Schemes that they can implement internally to curb carbon dioxide emissions outside of the Kyoto Protocol.⁵²

⁵⁰ <http://www.breitbart.com/bigjournalism/2012> Retrieved May 3, 2013

⁵¹ "Canada Pulls Out of Kyoto Protocol" CBC News <http://www.cbc.ca/news/politics/story/2011/12/12/pol-kent-pullout.html> Retrieved December 20, 2012

⁵² "UN Global Warming Summit: Heading Over the Climate Cliff" *Time Magazine* <http://www.science.time.com/2012/11/27/u-n-global-warming-summit-heading-over-the-climate-cliff> Retrieved December 20, 2012

Russia:

Under the Kyoto Protocol, Russia's commitment was to stabilise its greenhouse gas emissions at the 1990 baseline. Russia has tremendous potential for renewable energies, such as hydropower, which already accounts for 20% of its energy mix.⁵³ Russia also stands to benefit from projects such as patching leaky oil pipelines, switching to natural gas and phasing out dirty coal firing plants. It is expected to have plenty of room to grow without worrying about switching from fossil fuels to cleaner energy. Russia therefore stands to benefit as the Dutch, Japanese, Canadians and the World Bank have all expressed interest in investing in energy-efficiency project.⁵⁴

Russia perhaps has more to gain than lose from committing to Kyoto standards, because, with a 0% emissions reduction commitment in the first commitment period had between 1990 and 2008 cut its emissions by a whopping 52.8%. And it is expected to sell this in the emissions trading market under the Kyoto emissions trading mechanism. Although Russia is an Annex 1 party, it is also one of the fourteen Economies-In-Transition Countries and therefore does not share the responsibility of Annex II countries to provide financial and technical support to the Economies-in-Transition and developing countries to assist them in reducing their greenhouse gas emissions and to adapt to the impacts of climate change. Rather, Russia stands to benefit by way of financial and technical support under the climate change regime.

German Greif, Russia's Minister for Economic Development and Trade observed that the protocol could help modernise Russia's industry as it would open the possibility of significantly solving Russia's problem of energy efficiency, energy supply and adaptation to climate change by receiving free international resources.⁵⁵ At COP 18, Doha Climate Conference in 2012, Russia backed the withdrawal of Canada and Japan as they joined the United States in shutting the door on Kyoto climate change regime, which Russia considers pointless as long as the world's leading economies are not part of it.⁵⁶

⁵³ Bradnee, W. Chambers "Kyoto Down But Not Out" in UNU Update
http://www.update.unu.edu/archive/issue29_19.html Retrieved May 3, 2013

⁵⁴ Nlerum, (n. 49) at 81

⁵⁵ Ibid

⁵⁶ <http://www.plusone.google.com/2010> Retrieved May 3, 2013

Russia's Climate Change Co-ordinator of the World Fund for Nature, Dr. Alexei Kokorin, calls attention to the fundamental flaws in the Kyoto Protocol. He says:

Under the protocol, the economies that were classified as developing as of 1992 are exempt from emissions caps. Today, many of these economies are giants, spewing out greenhouse gases in billions of tons each year. Keeping them out makes the Kyoto protocol impotent.⁵⁷

Alexander Lukashevich⁵⁸ announced that Russia will not take on new commitments under the Kyoto Protocol second commitment period, because the treaty does not cover all major polluters, not having ensured the participation of all key emitters. At the 2012 Doha Climate Conference, Russia, Ukraine, Belarus and Kazakhstan made last minute objections indicating that they would likely withdraw or not ratify the treaty.⁵⁹ Therefore Russia would not commit to a second Kyoto commitment period, running from 2013 to 2020.

Australia and New Zealand:

These two countries are already experiencing the negative impacts of climate change, such as water stress, shrinking glaciers, rising sea levels, regional disturbances in rainfall patterns, increased frequency and intensity of fires and heat waves. It is therefore imperative that they take active steps to combat the climate change debacle.

Under the Kyoto protocol first commitment period Australia an Annex 1 party had emissions commitment that allows it to increase its emissions by up to 8%. Being also an Annex II party, it is obliged to also provide financial and technical support to Economic in Transition countries and developing countries. Australia however objects to the protocol since it did not include meaningful developing countries' participation. It therefore refused to sign the protocol arguing that it would lead to unemployment and that Australia is already doing enough to cut emissions.

⁵⁷ "Kyoto Protocol on Last Legs" *The Voice of Russia* <http://www.english.ruvr.ru/2012-12-10/kyoto-protocol> Retrieved May 3, 2013

⁵⁸ Foreign Ministry Spokesman for Russia

⁵⁹ "Belarus Negotiator Hints at Kyoto Exit, Says Others Could Follow" REUTERS <http://www.reuters.com/article/2012/12/10> Retrieved December 20, 2012

Australia has one of the world's highest per capita global warming emissions rates, as well as vast coal reserves that make it the largest exporter of coal in the world.

The Australian government is privately combating global warming by aggressively reducing coal dependence, while simultaneously implementing a price on carbon emissions and a national renewable electricity standard. The government sets a mandatory renewable energy target of 9,500 gigawatts hours by 2010 and a commitment to reach 20% of national electricity supply from renewable sources by 2020. It is also pursuing demonstration projects in carbon capture and storage (CCS) from coal burning power plants. These types of Demonstration Projects it is believed are critical to determining the potential role that carbon capture and storage technology can play in curbing global warming emissions from coal.

New Zealand's commitment under the protocol is to stabilise its emissions at 1990 levels, it therefore has a 0% emissions reduction commitment in the first Kyoto period. Like Australia, coal is New Zealand's most abundant fossil fuel. Its biggest source of greenhouse gas emissions is from agricultural and forestry sectors. Its response to the climate change issue therefore includes reforestation and sustainable farming.

New Zealand has a unique emission trading scheme that requires emissions sources to buy credits to cover their emissions, and allows sources that reduce emissions to sell credits. Also tree planting and sustainable farming (including livestock farming) are key parts of its emissions trading scheme. New Zealand generated 73% of its electricity from renewable sources in 2009.

Developing Countries:

Developing countries believe that the developed world has historical responsibility for the present anthropogenic global warming as the development they now enjoy was achieved by spewing carbon without any consideration for the environment. Fast industrialising nations like China and India argue that it was the industrialised West, the United States and Europe in particular, that is responsible for 70% of the greenhouse gas emissions over the past sixty years and which is responsible for the current global warming. Therefore they should take responsibility to fix the problem by making whatever sacrifices that are necessary to solve the problem and allow the developing world the chance they deserve to develop and improve their standards of living. The

developing world concern on global environmental issues was captured by then Malaysian Prime Minister at the United Nations Conference on Environment and Development in Rio in 1992 in these words:

It is claimed that one of the causes of environmental degradation is the size of the population of some developing countries. We dispute this assumption. However, we note that rich developed communities tend to have low birth rates. If we want to reduce population growth then we must help poor communities to become developed. Yet we hear from the rich, proposals which would result in stopping development of poor countries in order to reduce population. We know that 25 percent of the world population who are rich generate 85 percent of its waste ... (but) the rich will not accept a progressive and meaningful cutback in their emission of carbon dioxide and other greenhouse gases because it will be a cost to them and retard their progress. Yet they expect the poor people of the developing countries to stifle even their minute growth as if it will cost them nothing... The other issues before us is biodiversity, the poor countries have been told to preserve the forest and other genetic resources on the off-chance which might prove useful to humanity... now we are told that the rich will not agree to compensate the poor for their sacrifices. The rich argue that the diversity of genes stored and safeguarded by the poor are of no value until the rich, through their superior intelligence release the potential within: it is intellectual and must be copyrighted and protected... Obviously, the north wants to have a direct say in the management of forests in the poor south at next to no cost to themselves. The pittance they offer is much less than the loss of earning by the poor countries and yet is made out as a generous concession.⁶⁰

The fast emerging economies like China, India, Indonesia, and South Korea among others see carbon dioxide emitting fossil fuel as a cost effective and proven energy source to fuel their growing economies. They believe it would be impossible for them to comply with the Kyoto standards of curbing greenhouse gas emissions as it would hinder industrialisation. These developing countries see climate change as an oppressor that is intended to keep them from developing, as they do not have access to cost effective post-hydrocarbon energy sources. They therefore argue that if they are to develop which they must, in a manner that does not contribute carbon dioxide and other greenhouse gases to the atmosphere, they require assistance to do so.

⁶⁰ W Ajai, "Achieving Environmental Protection Through the Vehicle of Human Rights: Some conceptual, Legal and Third World Problems" [1995] 2 (1) *Univ. Benin L.J.* 54

The Kyoto climate change regime exempted developing countries tagged Non-Annex 1 parties from taking emissions commitments. This perhaps is the greatest setback to the Kyoto climate change regime as some of the economies thus classified are fast becoming economic giants, spewing carbons in billions of tons yearly, so much so that the first and third largest emitters in the world are developing countries, China and India whose industrial growth are based mainly on coal.

To Japan, exempting developing countries, particularly the fast emerging economies from Kyoto commitment makes the Kyoto climate change regime unrealistic. Thus in 2010, Japan indicated that it will not sign up to a second Kyoto period, because it imposes restrictions on it, not faced by its main economic competitors, China, India and Indonesia.⁶¹

It is pertinent to note as the table below shows that from 2009, China's annual emissions alone surpasses the combined annual emissions of the United States and India (the second and third largest emitters). And China's emissions continue to soar by about 10% yearly.

The Twelve Largest Emitters of Carbon IV Oxide in the World⁶²

Countries	2011	2010	2009	2008	2005
China	9,700,000	8,240,958	7,463,289	7,031,916	7,234.3
United States	5,420,000	5,492,170	5,273,760	5,461,014	6,931.4
India	1,970,000	2,069,738	1,891,422	1,742,658	1,866.1
Russia	1,240,000	1,138,432	1,066,233	1,208,163	1,336.2
Japan	810,000	762,543	733,550	786,660	975.2
Germany	610,000	563,126	513,749	509,170	-
South Korea	560,000	518,475	507,260	544,091	739.3
Canada		1,688,688	1,596,213	1,708,653	1,947.4
United Kingdom		493,158	475,325	522,856	645
South Africa		451,839	445,800	435,878	-
Brazil		419,537	375,788	393,220	2,022
European Union				4,177,817	5,049.2
(27)					

The above table shows the European Union comprising 27 countries had a Carbon (IV) Oxide emission of 5,049,200 forming 13% of total emissions in 2005, standing in third place behind China and the United States. And in 2008, the beginning of the first commitment period, the European Union's

⁶¹ "Japan Derails Climate Talks by Refusing to Renew Kyoto Treaty" *The Independent* <http://www.independent.co.uk/environment/climatechange/japan-derails-climate-talks-by-refusing-to-renew-kyoto-treaty-2148769.html>. Retrieved January 5, 2011

⁶² Information sourced from, World Resource Institute, World Bank and International Energy Association

emissions stood at 4,177,817, amounting to 13.98% of total emissions, and again coming third behind China and the United States. But from 2009 to date, the European Union does not rank among the 20 largest emitters, as they have not only met their target, but ensure the actualisation of the combined aggregate of 5% emissions reduction under the Kyoto first commitment period.

The emissions of other Annex 1 countries like the United Kingdom, Australia and Italy that were among the twelve largest emitters in 2005 have since dropped and they are no longer among the twenty largest emitters.

But the emissions of Non-Annex 1 countries like China, India South Korea and South Africa have experienced a steady rise in the last decade, with China and India maintaining their first and third positions respectively. Perhaps it was never contemplated that developing countries like South Korea (now the sixth largest emitter in the world) and South Africa would quickly become two of the twelve largest emitters in the world or that developing countries would emerge to take the lead in global greenhouse gas emissions. Thus the objections of the United States, Australia, Japan and other Annex 1 parties are not at all unfounded as time and events have vindicated their position.

Conclusion

The non-participation of the United States coupled with the withdrawal of key Annex 1 countries from further commitments, in protest against the non-participation of major emitters, exacerbates the already very worrisome state of the climate change regime. The continued exclusion of developing countries from commitments under the Kyoto climate change regime is no longer plausible as it makes nonsense of the entire process.

In spite of the perceived short comings, the Kyoto Protocol has put climate change in the front burner of international and domestic politics. And has provided a standard and set the pace for the fight against climate change. What is needed is to build on the foundation set by the Kyoto climate change regime and consolidate on its gains.

As world leaders converge again at the Conference of the Parties (COP 20), later in the year, it is hoped that they would summon the political will necessary for an effective negotiation of a new climate agreement intended to succeed the Kyoto Protocol and tackle headlong, the nagging problem of climate change.