



LUND
UNIVERSITY

Department of Political Science

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Tutor: Eva Lövbrand

The past, present, and options for the way forward

A climate justice based analysis of post Kyoto 2012
suggestions

Jonas Kamleh

Abstract

With the post-Kyoto climate negotiations underway, global emissions must be cut by 66% by, 2050 according to the IPCC, to prevent further damage to the environment. In order for this emission cut to be possible, all nations have to be a part of these negotiations. The Kyoto Protocol and the UNFCCC is the natural starting point for a new climate regime that must be established.

Through a literature analysis of the International Environmental Politics, regarding climate change justice, this essay analyzes how various justice principle are being interpreted and used to suggest climate justice solutions to a post-Kyoto Protocol. A theoretical analysis of *retributive* and *distributive* justice leads the way into the actual climate suggestions where these and other forms of justice are being applied, directly or indirectly, to post-Kyoto Protocol suggestions. This is followed by an analysis of *grandfathering*, *per capita*, *historical responsibility* and *carbon intensity* suggestions.

The conclusion of this analysis indicates that there is not only one viable option but a multitude of options; “*hybrid*” suggestions standing the best chance to unite nations around the world, as they offer something to all parties.

Key words: climate change, justice, post Kyoto, negotiations, principles

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In the whole moral sphere . . . there is nothing more glorious nor of wider range than the solidarity of mankind, that species of alliance and partnership of interests [*societas et communicatio utilitatum*] and that actual affection which exists between man and man . . . [which] is termed Justice.
Cicero, *De Finibus*, V. 65

In all determinations of morality, this circumstance of public utility is ever principally in view; and wherever disputes arise, either in philosophy or common life, concerning the bounds of duty, the question cannot, by any means, be decided with greater certainty, than by ascertaining, on any side, the true interests of mankind.
Hume, *Enquiry Concerning the Principles of Morals*, 2.17

1 Introduction

The areas of sustainability, effectiveness, and justice are classic subjects of international environmental politics (IEP). As man made changes to the climate have become apparent¹, they have, in the last three decades, become increasingly interesting, both within the academic community, and the international arena.

Global warming and climate change have been on the international agenda since the 1980s. In 1992 the United Nations Framework Convention on Climate Change (UNFCCC) became part of the United Nations Conference on Environment and Development, at Rio de Janeiro. After its inaction, in 1994, negotiations under the UNFCCC, on legally binding emissions limitations, begun and concluded with the Kyoto Protocol in 1997. The Kyoto Protocol entered into force in 2005. It contains emission limitation for Annex I Parties to reduce, on average, their emissions by 5 % below the 1990 level. Although small, this is widely seen as an important step.

To comply with the UNFCCC objective--avoiding dangerous climate change--global emissions will have to be reduced by more than 80% for most industrialized countries, and by 65% for Sweden, by 2050 if the EU goal of no more than +2 degree increase should take place². As most greenhouse gases (GHG) come from the use of fossil fuels in the energy sector, this is a huge challenge. Developing countries see demands on emission reductions as limiting their possibilities to alleviate poverty and economical growth.

Is there a way to simultaneously permit sufficient emission reductions and provide necessary energy services to support poverty alleviation and economic growth? The analytical answer is “yes”³. However, the question is how to translate this into action. These actions will need to be resolved by the present post-Kyoto regime by the year 2013.

Albeit, a united scientific front has presented a long string of reports all indicating the seriousness of the situation and the possible effects of continuing with “business as usual.” There has, from certain actors, been a curious reluctance to accept these findings and to act accordingly. The stated reasons for this reluctance are several, and also vary depending on the actors, showing the need for further analysis into why and how a possible future might look.

¹ IPCC. 2007. “*Climate Change 2007: The Physical Science Basis*”. Summary for Policymakers.

² Naturvårdsverket. 2004. Rapport – “Post Kyoto”. Page. 8.

³ UNDP. 2004. “*World Energy Assessment 2004 Update*”. UNDP. 2000. “*World Energy Assessment: Energy and the Challenge of Sustainability*”.

1.1 The purpose and the issue

Changes in climate threaten the basic needs of people: access to water, food, health, land, and environment, are all in peril. What we decide today, regarding climate policy, will effect not only today's generation, but the obstacles future generations will face in the way they live their lives. Will we act in accordance with the WCED recommendation of creating a world that promotes "development that meets the needs of the present without compromising the ability of future generations to meet their own needs?"⁴ Or will we continue with "business as usual," thus continuously limiting the future generation's options and possibilities "to meet their needs?"

The actions of today's generation can only have a limited effect on the changes in climate over the next 40 to 50 years, but what we do in the next 10-20 years can have a profound impact on the effects of future climate change⁵.

This essay will analyse how climate justice has been interpreted in the UNFCCC and the Kyoto protocol. It will also analyse, noting respective strength and weaknesses, how climate justice has been interpreted in the post 2012 Kyoto suggestions.

1.2 The UNFCCC and the Kyoto protocol

The UNFCCC sets the foundation for present and future climate work.

"The ultimate objective of this Convention...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." UNFCCC Article 2 – Objective [Emphasis added]

It is important to notice that the UNFCCC allows for continued development, thus "capping" of development is not the objective, rather it is to ensure that development takes place in a sustainable way.

With regards to this paper, and its analysis of climate justice, article 3 is of particular interest:

⁴ World Commission on Environment and Development anno 1987. Page 43.

⁵ Stern Review on the Economics of Climate Change. Executive summary page 1.

“The Parties should protect the climate system for the benefit of present and future generations of humankind, *on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities*. Accordingly, *the developed country Parties should take the lead in combating climate change and the adverse effects thereof*.” UNFCCC Article 3 §1 [Emphasis added]

It is ironic to notice that people, mostly the citizens of developing countries, who are the least responsible for the pollution and the current climatic situation, are those who will be affected the most. See Appendix I.

Future solutions should be based on “*equity and in accordance with their common but differentiated responsibilities and respective capabilities*” and that the “*developed country Parties should take the lead*” according to the UNFCCC and its signatory parties.

The provisions of the Kyoto Protocol and its rulebook

The 1997 Kyoto Protocol shares the Convention’s objective, principles, and institutions. It significantly strengthens the Convention by committing Annex I Parties to individual, legally-binding targets to limit or reduce their GHG emissions. Until this date 165 countries have ratified the Protocol to date. Of these, 35 countries and the EEC are required to reduce GHG emissions below levels specified in the treaty. The emission cuts add up to a total cut in GHG emissions of at least 5% from 1990 levels in the commitment period 2008-2012. Due to the complexity of the negotiations there is “unfinished business,” when the Kyoto Protocol was adopted. At that point the mechanisms and compliance system had been decided upon, but had not established how they would operate. This resulted in that the 84 countries who had signed (not binding) the Protocol where reluctant ratify (binding) to do so until these issues had been clarified. Thus new negotiations started (at the same time as the UNFCCC convention was being negotiated) and culminated at COP 7 with the adoption of the Marrakesh Accords, which set out detailed rules for the implementation of the Kyoto Protocol. The Kyoto Protocol entered into force on 16 February 2005.

1.3 Method

This essay is based on an analysis of International Environmental Politics literature and relating policy documents. The analysis has a twofold focus: climate justice, and post 2012 Kyoto suggestions.

This essay is based on a case study format. This means that the researcher chooses to focus on one specific case, or in this paper, a specific term, namely climate justice, without comparing it to other forms of ecological/environmental

justice theories. As with all case studies this leads to the inability to generalize too broadly in the conclusions since only one particular case has been analyzed⁶.

However, since the purpose of this essay is not to draw conclusions that span all or many environmental/ecological justice theories, the author has found this focus to be a reasonable concession.

The advantage with this type of case study format is the ability to show emerging patterns, e.g. who stands to gain what from a certain suggestion, and what principles of climate justice are involved. It also has the advantage of being “open” in the terms that the researcher can change the direction of the essay without it having unforeseen consequences⁷.

Since justice of the post 2012 suggestions is interpreted in various ways in this thesis, both theoretical and also empirical, normative value analysis⁸ is used to pinpoint and define the importance and relation between the various justice terms. In the “Suggestions for the way forward” chapter normative, “given that,” analysis will be used to illustrate how the different post 2012 suggestions relate to justice and potential conflicts. “Given that” normative analysis is based on a neutral perspective that problematizes and critically analyses without taking a normative standpoint. It can with advantage⁹ be used to address questions such as “Given that XX is the most important value, what consequences does that entail?” (XX representing the desired value to be analysed, for example, intergenerational justice, retributive justice, etc).

The various post 2012 suggestions have been collected from books but also from reports, for example, the “*Towards a Post-2012 Climate Change Regime*,”¹⁰ which covers a wide variety of suggestions. See reference list for more details.

1.4 Delimitations

Due to time constraints and available material, certain delimitations have taken place.

This is a study of the mitigation suggestions and the climate justice debate regarding these issues. Adaptation is also an important area that needs to be addressed, but due to time constraints, it has been impossible to do so.

⁶ Esaiasson, Peter, et al, 2003. Metodpraktikan: Konsten att studera samhälle, individ och marknad.

Stockholm: Norstedts juridik. Esaiasson m.fl. pp.146.

⁷ Esaiasson, Peter, et al, 2003. Metodpraktikan: Konsten att studera samhälle, individ och marknad.

Stockholm: Norstedts juridik. Esaiasson m.fl. Pp. 122.

⁸ Badersten B. 2006. *Normativ Metod – Att studera det önskvärda*. Page. 43.

⁹ Badersten B. 2006. *Normativ Metod – Att studera det önskvärda*. Page. 44.

¹⁰ Blok. K - Höhne. N – Torvanger A – Janzic. R. 2005. “*Towards a Post-2012 Climate Change Regime*” Final Report

Another limitation is to look at climate change mitigation as a single issue. As will be indicated at the end, energy system changes cover other important areas of public policy; however, these are considered outside the scope of this thesis.

This paper also does not try to understand why certain countries pollute more than others.

In the theory chapter certain forms of justice, for example, proportional justice, could not be explored due to space constraints and thus had to be shortly explained with the suggestion that they are applicable.

A study comprising both of these aspects, adaptation, and mitigation, would be of great interest; however, it is something that is beyond the scope of this paper.

1.5 Material

An example of academic source(s) used - a variety of International Environmental Politics (IEP) literature (thus helping to create the justice theory framework for the concluding analysis). A nonacademic source used - the original text of the United Nations Framework Convention on Climate Change (UNFCCC).

A combination of both primary and secondary material has been used: primary material in the form of the UNFCCC and the Kyoto protocol; Secondary materials consisting of essays, course materials, and subject specific books. All material is on an academic level. (See reference list).

I also feel that the requirement of material review and verification, as stated in *Metodpraktikan*¹¹, where they state that out of a non-tendentious material the main arguments can be accepted, has been fulfilled.

It should be noted that after the four state sponsored suggestions of a post 2012 protocol, three academic suggestions are reviewed. Since the same critical reading and analysis is being applied to all material the author does not feel this weakens the analysis.

Possibly negative for the analysis is that, with the exception of Agarwal and Narain, all other authors are from the “North” nations. It would have been preferable to have a more balanced literature as that potentially would have highlighted factors and aspects that the “Northern” authors might not be aware of.

¹¹ Esaiasson, Peter, et al, 2003. *Metodpraktikan: Konsten att studera samhälle, individ och marknad*. Stockholm: Norstedts juridik. pp. 314 (table).

1.6 Disposition

In the next chapter certain key theoretical terms will be defined/analysed (Chapter 2). It will also contain the theoretical framework that creates the foundation for the different forms of justice . Chapter 3 covers the state sponsored and non-state (hybrid suggestions) sponsored proposals for the way forward. Chapter 4 contains the authors reflections. Concluding remarks follow in chapter 5.

2 Theory

This chapter will first briefly define two key concepts to understanding climate justice. This will be followed by an analyses on how various justice concepts are defined, and how they could be used relating to the climate change debate.

2.1 Key Concepts

2.1.1 Defining mitigation vs. adaptation

There are two ways of approaching how to deal with climate change: *mitigation* or/and *adaptation*. Albeit this thesis does not cover the mechanics and possibilities of adaptation it is important to understand the difference between the two, and how they interact with each other. Without this fundamental understanding it is impossible to evaluate the respective strength and weaknesses with the proposed solutions to climate change.

Mitigation is defined as any anthropogenic intervention that can either reduce the sources of greenhouse gas (GHG) emissions (abatement) or enhance their sinks (sequestration).¹²

Adaptation is defined as “adjustment in natural or human systems in response to actual or expected climatic *stimuli* or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation”.¹³

There is a significant difference between adaptation and mitigation. As we can see from fig 2.1 (below) adaptation deals with the effects of climate change while mitigation addresses the causes of climate change. It is important to notice that they both originate from policy responses, but address different responses.

¹² UNFCCC Climate change - Mitigation Assessment 2001. Appendix II: Glossary.

¹³ IPCC “*Climate Change 2001: Working Group II: Impacts, Adaptation and Vulnerability*”. Annex B: Glossary of Terms.

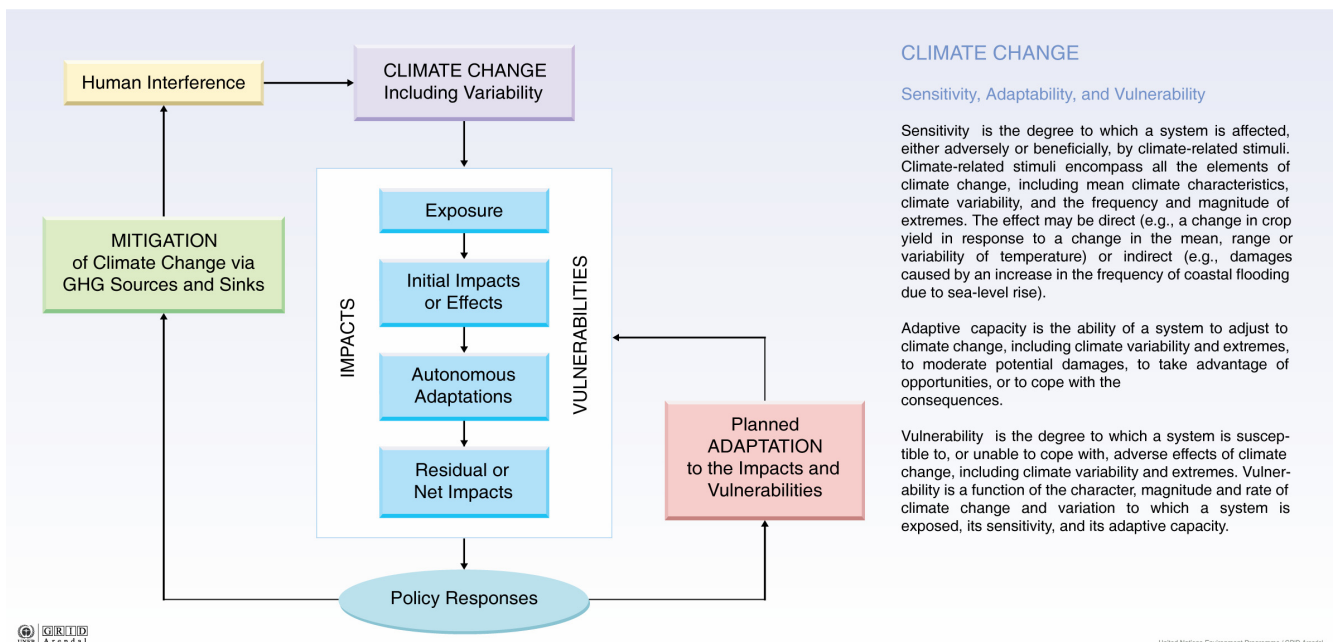


Figure 2.1 Source: IPCC

2.1.2 What constitutes dangerous climate change?

The range of temperature increase has been a hotly contested subject; however, the EU has settled on keeping average global temperature increase below 2°C. This translates into stabilization of atmospheric concentrations at 450 ppm CO₂e, which in turn means that stabilization of CO₂ is around 400 ppm. The present CO₂ concentration is 383 ppm and increases by about 3 ppm per year^{14,15}. Thus, significant and urgent action is required to insure that the global temperature average does not exceed 2°C. For predicted climate changes see Appendix I.

¹⁴ Naturvårdsverket. 2004. Rapport – “Post Kyoto”. Page. 8.

¹⁵ Personal communications with Thomas B. Johansson, Professor and Director, IIIIE at Lund University.

2.2 Justice

There are several ways to interpret and define justice and depending on what foundational principle is used, different questions gain importance. This chapter will explore the difference between retributive and distributive justice in both general and climate specific context. The inter/intra-generational debate will also be analyzed. As we will see, the climate justice perspective raises some fundamental questions concerning the post 2012 Kyoto negotiations.

2.2.1 Justice in general international relations terms

In the Anglo American of traditional normative philosophy five main conceptions of justice can be seen: utilitarianism, communitarianism, liberal equality, justice as meeting needs, and libertarianism¹⁶. Despite the fact that the original philosophical thoughts interpreted distributive justice as an intrastate justice form, the distributive justice argument has been used for interstate justice applications; for example distributional justice regarding climate change¹⁷. I will briefly¹⁸ explain the main positions of the above listed conceptions of justice before I move into the current ongoing debates, namely the distributive and retributive justice debates.

Bentham, Mills, and Hare represented utilitarian justice, which entails that whatever will bring the largest amount of people the greatest possible amount of happiness is for the benefit of all. This happiness can be achieved through the creation of political institutions. Morality is firmly linked utilitarianism, ensuring maximal human welfare for the largest possible group¹⁹. Critique against the utilitarianism came especially from Rawls, Nozick and Williams, who all argued that individuals could be sacrificed endlessly for the good of the larger group. The utilitarian position is also ethically problematic since it undermines the individual and/or group rights by ignoring them, and treats the individual right to choose as inviolable²⁰.

¹⁶ Okereke, C. 2006. “*Global environmental sustainability: Intragenerational equity and conceptions of justice in multilateral environmental regimes*” Page. 728.

¹⁷ Okereke, C. 2006. “*Global environmental sustainability: Intragenerational equity and conceptions of justice in multilateral environmental regimes*” Page. 728.

¹⁸ This is for two reasons; space constraints and, secondly, that the main focus of the thesis is not on these forms of justice. They serve as a precursor to the main analysis involving distributive and retributive justice and the climate justice debate.

¹⁹ Ellis, A. 1992. “Utilitarianism and International Ethics”. Page 169.

²⁰ Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 121.

MacIntyre, Sandel and Miller advocated the Communitarian conception of justice. This entailed the differentiation and contextualization of the ‘good’ which was needed for the right based justice principle to be efficient.

Justice in liberal equality terms, or Rawlsian justice with its “veil of ignorance,” was developed as a counterpoint to utilitarianism. Rawls, the founder of egalitarian justice tradition²¹, using his famous “Veil of ignorance,” created rules for justice: (i) “Equality in the assignment of basic rights and duties; and (ii) that social and economic inequalities are only justified to the extent that they benefit everyone, and in particular the least advantage members of society”²². It should be noted that Rawls did not apply this to international systems since they lack a common political culture²³. Despite this, modern commentators argue that since certain nations have overused their fair share of the common global resources it is reasonable to expect them to compensate those who have negatively been affected, either directly, in the form of not having access, or indirectly by the need of emission caps due to nations over polluting, by such usage²⁴.

The meeting of needs justice originates in the Kantian Categorical Imperative,²⁵ which argues that justice is a universal value and “bids us to treat others as having value in themselves, and to act in accordance with principles that are valid for all other actors”²⁶. This has taken on a number of shapes, from the Marxist perspective as distribution of social means and burdens - “from each according to his ability, to each according to his needs;”²⁷ to “the moral equality of human beings irrespective of their race, creed and nationality”²⁸. Environmentalists share the Marxist perception, and are supported by the language used in the Brundtland Commissions Report, which firmly establishes the link between sustainable development, and the needs of citizens in all nations.

“The satisfaction of human needs and aspirations is the major objective of sustainable development. The essential needs of vast numbers in the developing countries – for food, clothing, shelter, jobs – are not being met, and beyond their basic needs, these people have legitimate aspirations for improved quality of life...Sustainable development requires meeting basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life.”²⁹

²¹ Rawls, J. 2007. " Encyclopædia Britannica".

²² Rawls, J. 1971. *A theory of Justice*. Page 14-15.

²³ Rawls, J. 1999. *The law of Peoples*. Page 24-36.

²⁴ Okereke, C. 2006. “*Global environmental sustainability: Intragenerational equity and conceptions of justice in multilateral environmental regimes*” Page. 729.

²⁵ Kant, I. 1785. *Fundamental Principles of the Metaphysics of Morals*. Page. 18-22.

²⁶ Donaldson T. 1992. *Kant’s Global Rationalism*. Page 137.

²⁷ Marx, K. 1969. Critique of the Gotha Programme. Part I.
<http://www.marxists.org/archive/marx/works/1875/gotha/ch01.htm>

²⁸ Okereke, C. 2006. “*Global environmental sustainability: Intragenerational equity and conceptions of justice in multilateral environmental regimes*” Page. 729.

²⁹ WCED. 1987. Page 54.

The Brundtland Report is egalitarian in its language because it states that the “inequality is the planets’ main environmental problem, and is also its main development problem;”³⁰ it is also egalitarian due to the approval of transfer from the developed to the developing countries (see quote above)³¹. One of the critiques against a needs based justice approach is the difficulties in defining what the needs are for a nation. However, as the quotes above show, there is strong argumentation that there are certain basic needs that cannot be denied even by the “fiercest critics of justice”³².

Justice according to libertarian conceptions means that people are *entitled* to their market allocated share without taking into consideration what the needs or poverty is of those individuals. Nozick expressed this in his *Entitlement theory* that sets out:

“If the world were wholly just, the following inductive definition would exhaustively cover the subject of justice in holdings:

- a. A person who acquires a holding in accordance with the principle of justice in acquisition is entitled to that holding.
- b. A person who acquires a holding in accordance with the principle of justice in transfer, from someone else entitled to the holding, is entitled to the holding.
- c. No one is entitled to a holding except by (repeated) applications of (a) and (b).”³³

Libertarians argue that the market, as long as it is free is inherently just and the outcomes are the result of just individuals dealing with each other on the market³⁴ and thus not in need of any outside regulation.

2.2.2 The *inter-* and *Intragenerational* justice debate

The intergenerational justice principle has its foundation in the Rawlsian theory of the “veil of ignorance”³⁵, meaning that behind this veil of ignorance it would be in everyone’s interest to create institutions and rules that would involve “conservation of options”³⁶ for the future generations. This can be divided into three parts of conservation: access, diversity and quality.

³⁰ WCED. 1987. Page 22.

³¹ Okereke, C. 2006. “*Global environmental sustainability: Intragenerational equity and conceptions of justice in multilateral environmental regimes*” Page. 729.

³² Okereke, C. 2006. “*Global environmental sustainability: Intragenerational equity and conceptions of justice in multilateral environmental regimes*” Page. 729.

³³ Nozick, R. 1974. *Anarchy, State and Utopia*. Page 151.

³⁴ Stanford Encyclopedia of Philosophy. 2007. *Distributive justice*.

³⁵ Doyle, M W. “*One World, Many Peoples: International Justice in John Rawls’s The Law of Peoples*”. Page 110.

³⁶ Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 122.

- Access conservation meaning “equitable access to the use and benefits of the legacy”.
- Diversity conservation of the natural and cultural resource base.
- Quality conservation - leaving the planet no worse off than when received.

The intergeneration justice aspect has had a significant impact on the climate negotiations and reports; for example, “development that meets the needs of the present without compromising the ability of future generations to meet their own needs,”³⁷ clearly reflects this way of thinking.

Intragenerational justice has received little attention compared to that of Intergenerational justice. According to Paterson and Young³⁸ this is due to the intergenerational justice aspect which, if taken into consideration, would change the balance and power relations between states. From a normative standpoint intragenerational justice, if taken seriously, would argue that the emissions would have to be cut aggressively, and possibly create an insurance fund that would compensate the victims of climate change impacts.

2.2.3 Justice as adopted by the climate justice debate.

The climate justice debate is not a direct derivation from the above mentioned justice conceptualizations; rather it is an outgrowth from the environmental racism movement in the U.S.,³⁹ which quickly grew into environmental justice, and later climate justice. This means that in general justice terms, which are used in international relations, we can establish the foundation of certain key elements that the environmental and climate justice movement have built upon⁴⁰. Two key systems can be distinguished; *retributive-* and *distributive justice*⁴¹. I will where applicable use the Kyoto protocol and the UNFCCC (FCCC) to illustrate these forms of justice.

Retributive justice

Retributive justice entitles the actors that cause the problem, to have the responsibility in making amends for it. This principle is largely undisputed on its ethical grounds. However, applied to climate justice, it becomes more debated as the empirical debates, regarding the climate change causes, are inflicted. The retributive justice principle is the foundation for the criminal justice system that

³⁷ WCED. 1987. Page 43.

³⁸ Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 122

³⁹ Parks, B C – Roberts, J T. 2006. “*environmental and ecological justice*”. Page 329.

⁴⁰ Rather they are “hybrid forms” in the sense that they are not “clean” justice approaches.

⁴¹ Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 121.

we have today.⁴² Retributive justice has contributed in three ways to the climate justice debate: first, reflected in the “polluter pays” principle; secondly, in the “differentiation of responsibilities,” and finally, in raising the question about compensation for climate change effects.

The polluter pays principle has had an impact on both a state and international level; states in the form of carbon emissions taxes; international in the form of tradable permit systems. In 1997 at the Kyoto negotiations, the negotiators agreed on such a system. There was a common concern (at least on the surface) about the economic efficiency and questions of justice. The same concerns formed the foundation for the “differentiation of commitment” principle; which in its basic form says that developing countries do not have the same duty to cut their emissions under the UNFCCC. Finally, retributive justice also raises questions about compensation. This idea is based on the responsibility-based principle that advocates that those who are responsible for a problem should also pay to fix it. This principle is advocated by the Alliance of Small States (AOSIS), who proposes that compensation should be paid to those who suffer the consequences. The Kyoto protocol contains several adaptation cost funds; however, the transfer of monetary assets has yet to be effectively distributed⁴³. This argument, so far, has been ignored by the richer states, and is only reflected in the FCCC:

“The developed country Parties and other developed Parties included in Annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.”⁴⁴

The OPEC countries have also raised similar questions of compensation. They argue that the cost of implementing the FCCC will be great, thus they should be compensated⁴⁵ as their resources would lose value under a strict climate mitigation regime.

Distributive justice

Distributive justice addresses how the costs or benefits of climate change should be distributed. Within the distributive justice debate equity has become the leading word in the application of distributive justice on climate change; arguing that in order for the existing international inequality and injustice to be overcome, strong policy responses are needed.⁴⁶ This is most clearly argued in the general political theory literature. The climate change literature, which is by its nature more policy oriented, has favoured an “equal per capita emission position as the

⁴² Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 121.

⁴³ Bruyninckx, H. 2006. “Sustainable development: the institutionalization of a contested policy concept”. Page 273.

⁴⁴ FCCC 1992, Article 4(4).

⁴⁵ Roberts, J Timmons & Parks, Bradley C. A Climate of injustice. Page 181.

Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 123.

⁴⁶ Shue 1999. “Global Environment and International Inequality”. Page: 531-546.

most equitable solution.” However, this literature recognizes the “impossibility” of, at least short term, to implement such a solution politically. Climate change literature thus advocates an egalitarian position in the sense of “comparable burdens.” It should be noted however that this is not a finite solution, rather a consequence of practical politics and an egalitarian end goal of equal emissions of the “primary implication of justice.”⁴⁷

There is, in the climate justice literature, a general consensus on the principle that the initial costs should be born by the industrialized countries because of the “historical responsibility” they have. This has led to two practical questions, which have risen in the negotiations: 1) how to handle the distribution of emission reductions, and the costs associated with them; 2) how the transfer of technology and economical means from the North to the South should be dealt with.

The first question is reflected in the FCCC Article 3 (1) where it states:

“The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.”

This is also reflected in Article 4 of the FCCC where it sets out the various obligations between the parties and also the obligation for the developing countries to limit their emissions. There is an ongoing debate lead by the developing countries and certain commentators.⁴⁸ Regarding this, Agarwal and Narain,⁴⁹ argue that the long-term emission should be on an equal per capita basis, and that it is important to differentiate between “luxury” and “survival” emissions. This has largely been rejected by most industrialized countries since it would, in their opinion, place an unfair burden on them initially. Thus it has been met by commentators as politically unfeasible at the moment. It remains however most persuasive on ethical grounds, and has also been recognized by many parties (their practical objections remaining). This has lead to a number of studies on how the emissions from the industrialized and undeveloped countries could converge over time.⁵⁰

The second question, the transfer of technology and economic resources from North to South in order to assist the developing countries in reducing emissions, due to accelerated economic growth, is a justice based argument. The justice aspect is derived from the Northern countries since they have caused the climate change. The South cooperation “must be conditional on financial and

⁴⁷ Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 123.

⁴⁸ Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 124.

⁴⁹ Agarwal A & Narain S, *Global Warming in an unequal world*. 1991

⁵⁰ Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 124.

technological assistance from the North.”⁵¹ This is reflected in Article 4 (7) of the FCCC:

“The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.”

This Article and principle has been approved in principle by the various parties; however, it has not been effective in the amount of real money being transferred. However, there has been some progress on the institutional side, Clean Development Mechanism and Joint Implementation, which could, in the future, be used to successfully implement the Article.

2.2.4 Important questions raised in the climate justice debate

The climate justice debate and literature⁵² has brought to the forefront some very important questions, see below, that have created the foundation for the beginning of an equitable and just global climate discussion⁵³. Listed below are just a few of these questions.

- What is a fair allocation of the costs of preventing the global warming that is still avoidable?
- What is a fair allocation of the cost of coping with the social and ecological (in turn affecting humans) consequences of the global warming that will not, in fact, be avoided?
- What background allocation of wealth would allow international bargaining (about issues 1 & 2) to be a fair process?
- What is a fair allocation of emissions of greenhouse gases (over the long-term and during the transition to the long-term allocation)?⁵⁴

⁵¹ Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 124.

⁵² For example Shue, Paterson, Parks, Roberts. See reference list

⁵³ Questions paraphrased from Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 120.

⁵⁴ Paterson, Matthew, *Principles of Justice and Global Climate Change*, page 120. Question of list quoted in turn from (Shue 1994, 344).

2.3 Summary

Depending on which conceptualization of international justice is used, a variety of options can become the foundation for climate justice. The following is a summary of some of the options available: 1) A rights-based approach, which suggests we have rights to a stable climate⁵⁵; 2) An approach based on responsibility; those causing a problem have a responsibility to resolve it (this can be argued either collectively or individually)⁵⁶; 3) A utilitarian position: we should act to maximize overall human welfare, which most commonly will involve transferring resources from rich to poor⁵⁷; 4) A Rawlsian, with its “veil of ignorance” position, which specifically suggests that the distributional effects of social institutions should benefit the worst off⁵⁸; 5) The approach of Brian Barry: agreements should be negotiated under a Rawlsian veil of ignorance, but in order to reach agreements that none could reasonably reject. These integrate notions of power and of intersubjectivity into the question of justice⁵⁹.

Of the two inter-/ intra-generational justice forms intergenerational justice have received the most attention and is reflected in the WCED report as it set out “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. Intragenerational justice has received less attention and this is thought to be the result of the significant power shift that would come to be if more focus was on this principle.

Retributive justice outlines the principle that those who cause a problem have the obligation to correct it. This principle has been the foundation for “Polluter pays” rationales based either on current emissions or historically accumulated contributions to global warming. The “differentiation of responsibilities” and compensations for the climate change effects.

Distributive justice presses for that the burdens and gains of climate change should be distributed equally - equality being the key term. Thus highlighting the need to recognize the of distributional implications of any climate agreement and that all should shoulder a “comparable” burden based on its capacity.

The climate justice debate has raised some interesting questions both regarding the cost and consequences of climate change that should to be addressed in the post 2012 negotiations.

⁵⁵ Sachs, W. 2004. “*Climate Change and Human Rights*”.

⁵⁶ Caney, S. 2005. “*Cosmopolitan Justice, Responsibility, and Global Climate Change*”. Page. 28.

⁵⁷ Postema G J. 2006. “*Interests, Universal and Particular: Bentham’s Utilitarian Theory of Value*”. Page. 1.

⁵⁸ Karlsson, R. 2006. “*REDUCING ASYMMETRIES IN INTERGENERATIONAL JUSTICE - Descent from Modernity or Space Industrialization?*” Page 234-237.

⁵⁹ Karlsson, R. 2006. “*REDUCING ASYMMETRIES IN INTERGENERATIONAL JUSTICE - Descent from Modernity or Space Industrialization?*” Page 234-237.

3 Proposals for the way forward

This chapter will analyse four state sponsored suggestions for a post 2012 Kyoto protocol that have surfaced during the last dozen year or so, and more importantly are discussed in present ongoing negotiations. They all have various consequences for climate stabilization, justice, political expediency, and burden sharing (who will bear the greatest burden), if they are chosen to act as the guiding principle for the new Climate treaty. The state sponsored suggestions are *grandfathering*, *carbon intensity*, *contraction and convergence* to a dedicated global per capita emission level, and *historical responsibility*. Concluding this chapter will be a brief analysis of three academic suggestions namely; *preference score*, the *Claussen & McNeilly*, and, the *trptych*.

3.1 State sponsored suggestions

The suggestions listed here have been advocated by state(s). Each suggestion offering their opinion on which is the best way forward, or at the very least which are the important aspects that must be included in a post 2012 protocol.

3.1.1 Grandfathering

The Kyoto treaty that was established in 1990 was based on the “grandfathering”⁶⁰ concept – “that the worlds wealthier nations would make efforts to reduce their carbon emissions relative to a baseline year, in this case, 1990.”⁶¹ Annex I countries committed to reduce their individual emissions, averaging 6-7% emission reductions below the 1990 baseline. Simply put grandfathering uses historical emission levels to decide how future emission levels should distributed (justice) proportionally to current emission levels.

This form of approach was decided upon due to its political feasibility based on a pragmatic principle – if we can find a solution to a problem we are closer to a “just solution;” rather than holding on to a more utopian solution that will never

⁶⁰ “In American English, a Grandfather clause is an exception that allows an old rule to continue to apply to some existing situations, when a new rule will apply to all future situations. It is often used as a verb: to "grandfather" means to grant such an exemption. For example, a "grandfathered power plant" may be exempt from tougher pollution laws” Source: Wikipedia

⁶¹ Roberts T & Parks, B, *A climate of injustice*. Page 139.

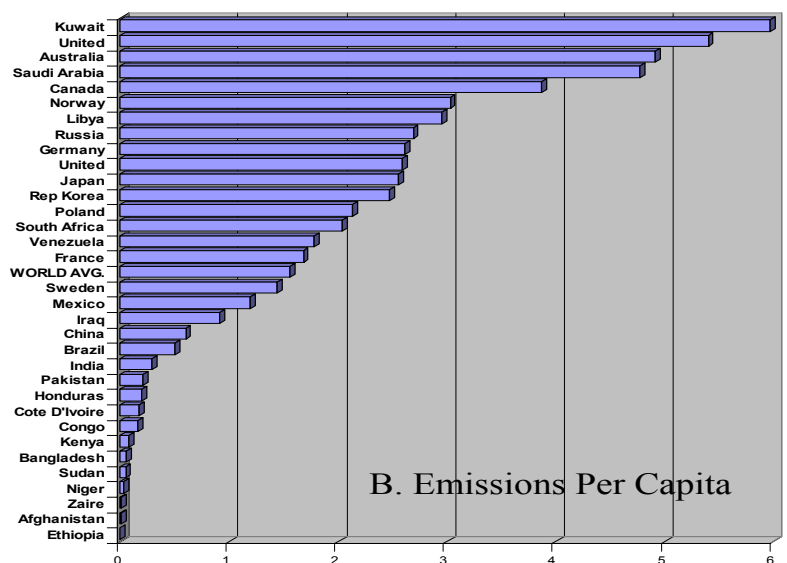
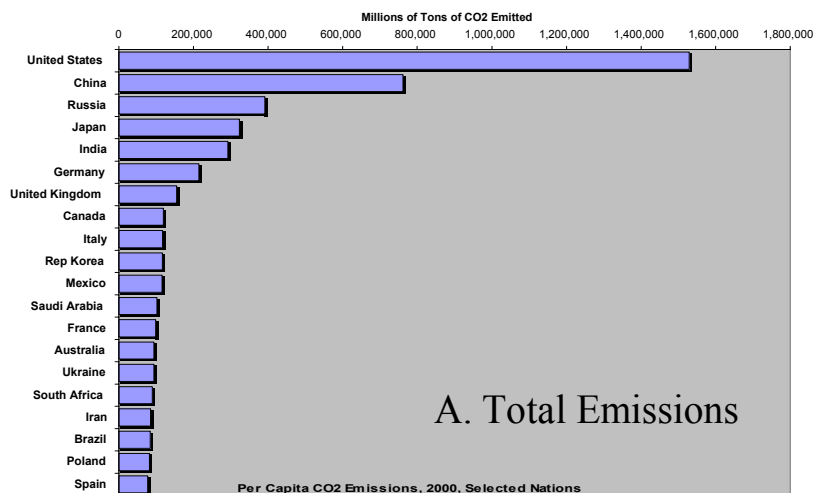
take place. Cecilia Albin⁶² argues that the common denominator in all suggestions and solutions (e.g. “common but differentiated responsibilities,” “polluter pays” etc.) is in finding solutions that offer everyone something. To illustrate her point, Albin uses the example of Finland and Sweden, who could very well have argued for reimbursement from the polluting Baltic countries (in accordance with the polluter “pays principle”). Instead they financed foreign aid to assist in the adaptation to cleaner technology.

As it stands now, grandfathering is not intended to apply to developing countries. However, there are concerns to be raised if this should be the guiding principle for a new post 2012 Kyoto protocol. Aslam offers a further explanation, “current emissions of developing countries, as...are very low compared with those of industrialized countries, but are rising rapidly. This places developing countries at a severe disadvantage when it comes to negotiating emission control targets that are based on a grandfathering system.”^{63 64}

As we can see in figure 4.1⁶⁵ there is a vast gap between emission levels. With the latest figures available, United States is the largest emitter -nearly twice as much as China and close to four times that of Russia.

The grandfathering principle is based on two more forms of justice, the first represented above by Cecilia Albin.⁶⁶ Entitlement theories, both in its Marxist and Libertarian form,

Fig. 4.1: Total Carbon Dioxide Emissions from Fossil Fuel Use, 2000 (Source: Boden, 2003)



⁶² As quoted in Roberts T & Parks, B, *A climate of injustice*. Page 142 argues this point.

⁶³ Aslam, M A. *Equal per capita entitlements: A Key to Global Participation on Climate Change?* Page 2.

⁶⁴ Aslam, M A. *Equal per capita entitlements: A Key to Global Participation on Climate Change?* Page 2.

⁶⁵ Figures used with kind permission of J. Timmons Roberts & Bradley C. Parks. Calculated on the latest figures available by Boden et al. 2003.

⁶⁶ Roberts T & Parks, B, *A climate of injustice*. Page 140.

argues that “individuals are entitled to what they have produced”.⁶⁷ This is clearly represented in the grandfathering principle, as every country has an inherited right to carbon dioxide emissions.

Proportional justice is another principle that grandfathering embodies in the way nations are different (unequal), thus they should be treated unequally. This principle does not, at the moment, affect the developing countries since they are not obligated under the current protocol to the 1990 baseline. However, should the grandfathering principle be the foundation for a post 2012 Kyoto protocol then developing countries, due to their late development, as Aslam explained, would be unfairly limited.

3.1.2 Carbon intensity

As a presidential candidate, George W. Bush, under pressure to sign the Kyoto protocol, promised to do so⁶⁸. However, once he entered into office his position shifted and the U.S. withdrew entirely from the Kyoto protocol. This resulted in a massive critique from Europe and environmentalists, forcing the U.S. administration to create an alternative plan to address the climate change problem. They proposed a “New Approach on Global Climate Change” – outlining how the U.S. would measure its progress on reducing emissions. The administration had decided that emissions per dollar of GDP would be the best approach.

“The President's Yardstick – Greenhouse Gas Intensity – is a Better Way to Measure Progress without Hurting Growth. A goal expressed in terms of declining greenhouse gas intensity, measuring greenhouse gas emissions relative to economic activity, quantifies our effort to reduce emissions through conservation, adoption of cleaner, more efficient, and emission-reducing technologies, and sequestration. At the same time, an intensity goal accommodates economic growth.”⁶⁹

The roots to this form of thinking can be found in Bentham’s utilitarian theory of justice, which argues that “mutually advantageous, and cost effective solutions, are just solutions.”⁷⁰ In climate change policy this implies that the best solutions are the ones that maximize both the economic growth and stabilize the climate. The best way to ensure this is through the developing countries, since they offer the most cost-efficient way to reduce greenhouse gases. Thus, according to the

⁶⁷ Roberts T & Parks, B, *A climate of injustice*. Page 140.

⁶⁸ Gore, A. 2006. *An Inconvenient Truth*

⁶⁹ White House, *Global Climate Change Policy Book 2002*.

<http://www.whitehouse.gov/news/releases/2002/02/climatechange.html>

⁷⁰ Postema G J. *Interests, Universal and Particular: Bentham’s Utilitarian Theory of Value* see also Roberts T & Parks, B, *A climate of injustice*. Page 143.

U.S., the international effort to stabilize greenhouse gases should focus on the developing countries.⁷¹

A positive thing with carbon intensity goals has led to the understanding and focus on finding solutions that will support economic growth while, at the same time, protecting the global climate. This idea could be appealing in two ways: first, to some developing countries because they feel that “hard caps”⁷² is the equivalent to development caps; secondly, that it is advantageous to industrialized countries since they have a better infrastructure in place to address carbon intensity goals, thus they would be more prone to rapid action. Baumert et al.⁷³ argues that “early action” is important since “many developing countries believe that the industrialized countries lack credibility on the issue of international cooperation to curb greenhouse gas emissions, having done little to address a problem largely of their own making.”

There are four immediate downsides of the Bush administration proposal: 1) the current stock of emissions are not even touched; 2) the goal of 18% cuts, over the next ten years is something that many analysts see as a “freebie” goal since reductions of that size are expected to take place, due to the fact that the nations efficiency will be improving; 3) the administration does not deal with exported emissions, meaning the moving of U.S industries to foreign nations, also called “offshoring;” 4) the carbon intensity goal is something that easily becomes a tool for political manipulation.⁷⁴

Examples of this political manipulation can be seen in the following address, given by the Senior Climate Negotiator and Special Representative and Head of the U.S. Delegation Harlan L. Watson, in New Delhi at COP-8 in 1998:

“Our choice of approaches to address climate change, if they are to be effective in the long run, must recognize that the hope of growth and opportunity and prosperity is universal -- that it is the dream and right of every society on our globe. And we must also *recognize that it would be unfair -- indeed, counterproductive -- to condemn developing nations to slow growth or no growth by insisting that they take on impractical and unrealistic greenhouse gas targets.*”⁷⁵ [emphasis added]

By arguing the way that he does he is ensuring that there will not be any goals that would force the U.S. to “really” cut their emissions back to, for example, the 1990 baseline. Also in 2003, at the Milan negotiations, there were attempts made

⁷¹ Roberts T & Parks, B, *A climate of injustice*. Page 143.

⁷² Meaning caps on emissions.

⁷³ As referred to and quoted in Roberts T & Parks, B, *A climate of injustice*. Page 143.

⁷⁴ Roberts T & Parks, B, *A climate of injustice*. Page 144.

⁷⁵ <http://www.state.gov/g/oes/rls/rm/2002/14758.htm> Inputs to the Delhi Declaration Harlan L. Watson, Remarks to the Eighth Session of the Conference of Parties (COP-8) to the UN Framework Convention on Climate Change New Delhi, India October 25, 2002

by the U.S. to stop scheduled commitments on emissions by trying to form a coalition with China and the G-77 on developing countries.⁷⁶

It should be noted that the U.S. also has advocated that large polluting countries such as China, India and Brazil also must be included in the upcoming negotiations since they will soon pass the U.S. in total emissions.

⁷⁶ Financial Times, *Only new technology can halt climate change* by Undersecretary of State Paula Dobrinsky. <http://search.ft.com/searchArticle?id=031130002709&query=Only+>

3.1.3 Per capita emissions allowances

In a combined suggestion by India, China, and the G-77, per capita emissions, also known as contraction and convergence, is based on an egalitarian principle of equality (justice). This principle is based on equal human value and rights. This means that we, as humans, have an equal right to the earth’s atmosphere; implicitly meaning that everyone has the right to an equal allocation of greenhouse gas emissions.

This suggestion has gained support by India, China, G-77, France, Switzerland, and the European Union.⁷⁷ There are many who support this principle; amongst those is Michael Grubb, an economist at the Cambridge University, who refers to it as:

“The most politically prominent contender for any specific global formula for long-term allocations with increasing numbers adherents in both developed and developing countries.”⁷⁸

The per capita suggestion creates a pressure on the developed countries as they exceed the stabilization target, or roughly 1 metric ton of carbon equivalent (Ce) per capita, if 1990 is used as baseline year (see fig 1).

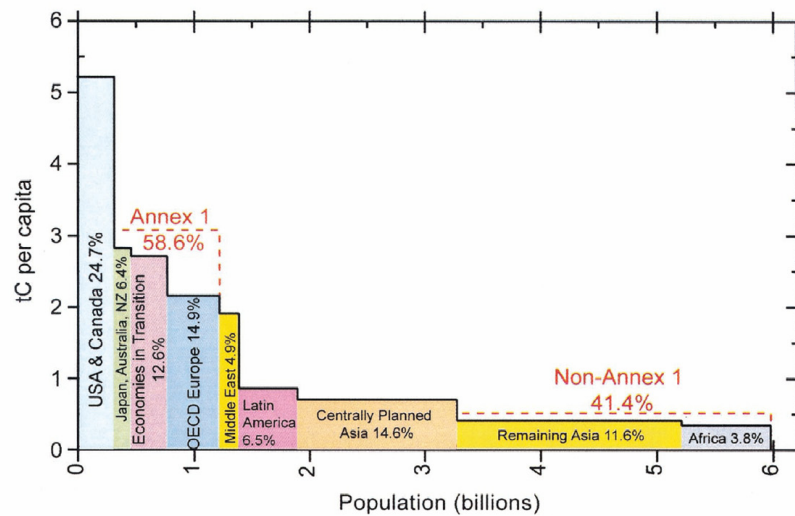


Fig. 1. Per-capita fossil CO₂ emissions in 1999 averaged for nine geographical regions and grouped into Annex 1 and non-Annex 1 countries. Height of bars gives the average per-capita annual emissions of each region. Width of bars gives the population. Area of bars is proportional to the 1999 CO₂ emissions from fossil fuel combustion, excluding land use change and forestry, from the region of 1990. (Data from the Intergovernmental Panel on Climate Change, 2001)

In order for a successful per capita based principle system, the parties would first have to establish a “global emission budget,” meaning how much society can

⁷⁷ According to Baumont 2002 (as referred to in Roberts T & Parks, B, *A climate of injustice*. Page 284.) there are several other countries that can accept the per capita principle should it be integrated a larger system. I.e. a multicultural, menu system.

⁷⁸ Roberts T & Parks, B, *A climate of injustice*. Page 144.

pollute to reach a set goal (scientific consensus currently recommends that the carbon dioxide emission stabilization goal should be approximately 400 parts per million (ppm)).⁷⁹ These levels will most likely be adjusted with the upcoming IPCC fourth Assessment Report.

The idea of this principle is that once the allocation of the “global emission budget” is finished and agreed upon, every citizen⁸⁰ would be given his/her share. This means that the richer countries, which pollute a great deal more than their allotted emission “budget” would allow, would have to “contract” their emissions over time to meet the quota of approximately 1 metric ton of CO₂e. For most of the developing countries it would mean the opposite—they would be allowed to initially increase their emissions, and then gradually “converge” them at the 1 metric ton CO₂e⁸¹. Part of this suggestion is that countries that could, and were willing to stay below their levels, trade their permits to other countries in exchange for funding or technology assistance through the Clean Development Mechanism (CDM) or other possible trading mechanisms.

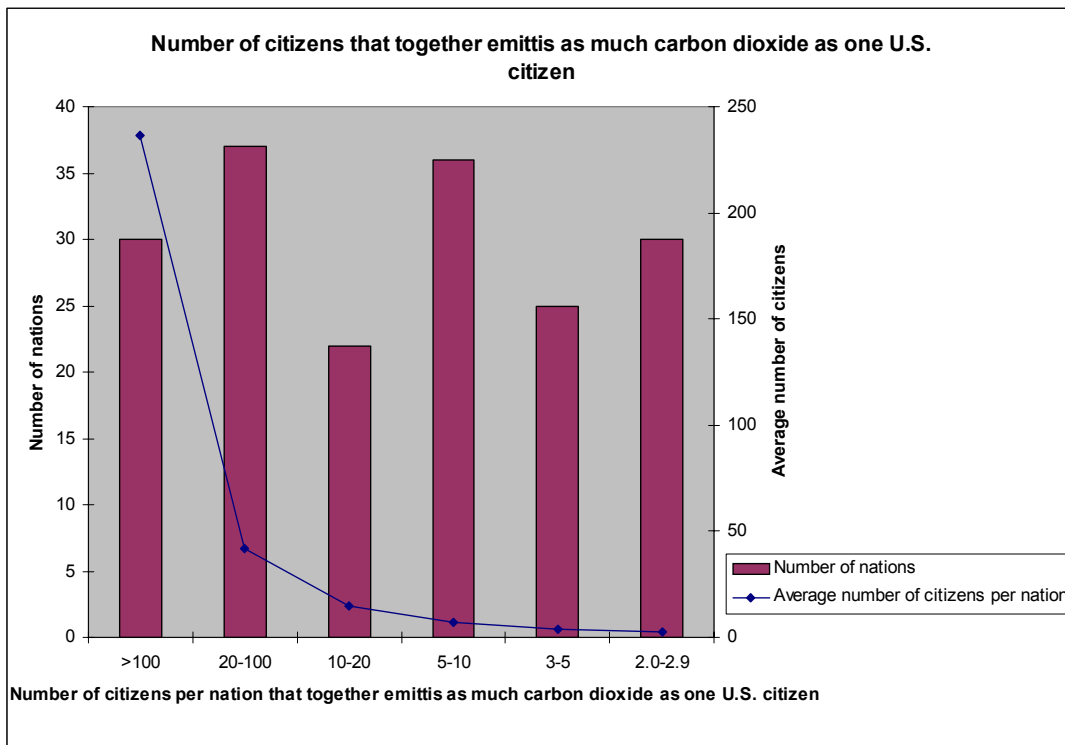


Figure 3.1.4. Diagram showing the number of citizens per nation emitting as much as one U.S. citizen. Source: Calculated From Boden Et Al. 2003. Includes fossil fuel use carbon dioxide only.

⁷⁹ IPCC have calculated several scenarios for possible outcomes of various carbon dioxide (ppm) levels. See chapter 6 for an figure regarding implications of various levels.

⁸⁰ Note that it is the same for all citizens regardless of nation, e.g. the same for a U.S. citizen as an Ethiopian citizen.

⁸¹ These calculations are based on a global population of 9 billion. 3GtC by 2050 corresponds to 300kgC per capita. Source: Personal communications with Thomas B. Johansson, Professor and Director, IIIIE at Lund University.

here is critique against the per capita suggestion, due to the fact that many analysts find it politically enviable and economically ineffective. It is important to understand how far apart the various citizens are in terms of per capita emissions. As shown in fig. 4.2 twenty percent of the world's high-income countries emit 63% of the global emissions while the poorest twenty percent only emits 3%. The inequalities become even more apparent when we look at diagram 3.1.4 (above) and see the startling differences (i.e. one U.S. citizen emits more the 540 Ethiopians)! See Appendix II for a more detailed list Table 3.1.4.

3.1.4 Historical responsibility

This is based on the polluter pays principle which has been a central concept to climate justice for more then 30 years (i.e. it was endorsed by the OECD in 1974).⁸² This proposal was created by the Brazilian scientists and government experts who address climate change on this principle only. Carbon dioxide stays in the atmosphere between 100-120 years while methane gas remains for approximately 12 years.⁸³ Thus, it is important to account not only for the present emissions but also for the past emissions, since they are still affecting us and will continue to do so for a long period of time. It is irrelevant that countries were not aware of the negative consequences for the environment since they gained advantage of emitting greenhouse gases.

This suggestion has some drastic political implications since the emission from the early industrialization, around 1945 and forward, is still in the atmosphere affecting us. Calculations have shown that Britain by 2010 would have to cut their emissions by 66%, United States by 23%, and Japan 8%.⁸⁴

Since the developing countries have contributed in such a small amount to the current stock of emissions, they are strong advocates of this suggestion. The G-77, at the South Summit in Havana in 2000 stated:

“We believe that the prevailing modes of production and consumption in the industrialized countries are unsustainable and should be changed, for they threaten the very survival of the planet.... We advocate a solution for the serious global, regional and local environmental problems facing humanity, based on the recognition of the North's ecological debt and the principle of common but differentiated responsibilities of the developed and developing countries.”⁸⁵

⁸² OECD: The Implementation of the Polluter-Pays Principle Recommendation adopted on 14th November, 1974) C(74)223 “REAFFIRMS that: The Polluter-Pays Principle constitutes for Member countries a fundamental principle or allocating costs of pollution prevention and control measures introduced by the public authorities in Member countries;”

<http://sedac.ciesin.columbia.edu/entri/texts/oecd/OECD-4.09.html>

⁸³ Roberts T & Parks, B, *A climate of injustice*. Page 146.

⁸⁴ Roberts T & Parks, B, *A climate of injustice*. Page 146.

⁸⁵ Declaration of the Group of 77 South Summit held in Havana from 10 to 14 April 2000. Article 44 & 45.

Since the historical responsibility model is fairly complex, with regards to its calculations, it has had a hard time gaining attention and traction. The IPCC found that calculating past pollution emissions “supply a reasonable ‘proxy’ for the relative contribution to global warming.”⁸⁶ In figure 3.1.4 we can see a summary of all the industrial emissions, from 1950-1999, measured in four ways. The summary of emissions shows that the high-income nations emit twice as much as the middle-income countries and, cumulatively, four times as much as those who live in the poorest of countries, where the majority of the Earths population live. The “polluter pays” principle demonstrates the retributive justice concept of climate justice.



Figure 3.1.4. Source: Roberts T & Parks, B, *A climate of injustice*. Used with the author’s permission. Parenthesis contains the number of countries in the category.

⁸⁶ Roberts T & Parks, B, *A climate of injustice*. Page 150.

3.2 Non-state sponsored proposals for the way forward

In the previous chapter we analysed four possible suggestions that could act as a foundation for a post 2012 Kyoto protocol. Each of the four suggestions; *grandfathering*, *carbon intensity goals*, *per capita*, and *historical responsibility*, have their own guiding justice principle. Each also have their own pros and cons. In figure 3.2.1 where we can see where the suggestions have originated from and who is supporting them, primarily. As we have been able to see there are significant differences in how climate justice should be interpreted by the various nations. This implies that the likelihood of all nations embracing one of the previous suggestions seems highly unlikely.

This chapter will discuss a possible way forward – a hybrid proposal – a hybrid justice model. These suggestions have been produced within the academic community⁸⁷ and illustrate examples of possible solutions that offer compromises, on both moral and climate justice grounds, and alternative ways forward.

If we study Fig 3.2.1 we can see that the guiding principles are very different for the North-South, thus the likelihood that they will all combine under one of the covered proposals in this paper seems highly unlikely, and pushing one or the other will more the likely result in a complete stalemate.⁸⁸ What is needed is a compromise; a compromise that is built on a justice and moral foundation, but also takes into account the various real political, national, international and economical situations. However, it might become impossible to find one model

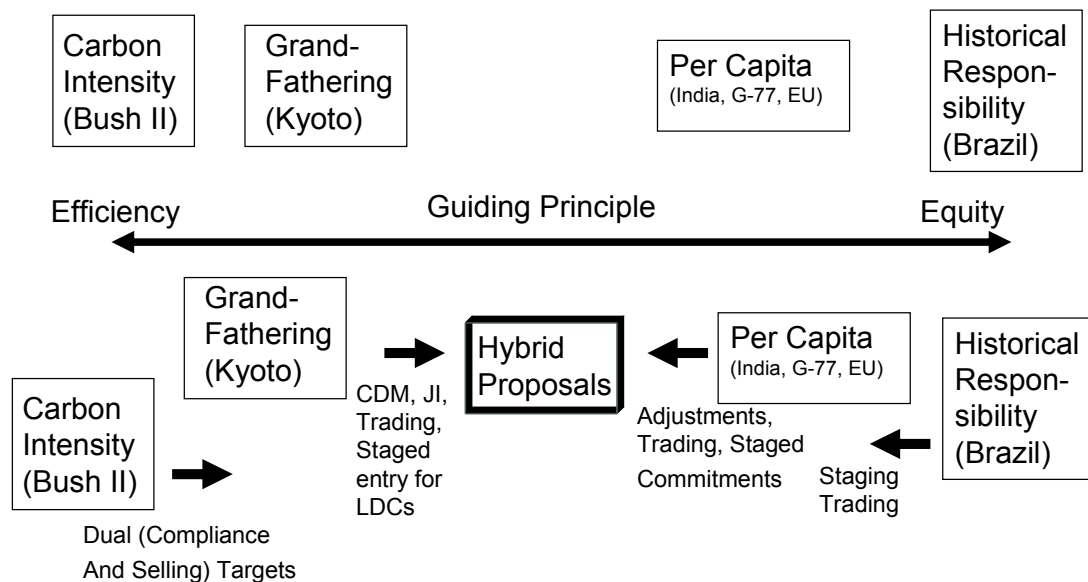


Figure 3.2.1 Source Roberts & Parks *A climate of Injustice*

⁸⁷ See, Robert & Parks, Blok et al. for example.

⁸⁸ Roberts T & Parks, B, *A climate of injustice*. Page 150.

that combines all climate justice aspects since there are so many, in light of this hybrid models have been suggested. This chapter will discuss some of these hybrid proposals. These are a selection of the multitude of examples of possible solutions that, I find, offer some of the most interesting “hybrid solution” proposals.

3.2.1 Preference score

Bartsch and Müller⁸⁹ have presented a method that combines grandfathering and a per capita approach by a voting system⁹⁰. Thus combining distributive justice with a human value and rights based approach and democratic voting principles.

In their proposal each country, weighted by population, is allowed to decide what model they want. The appeal of this model lies in the fact that it can combine various moral, ethical, and justice related questions – that sometimes can be ambiguous when put against each other – and give options for possible ways to look at climate change.

The citizens of all nations would vote on their preferred emission plan and then the votes would be combined and used to calculate the national carbon emission allowance. According to their preliminary calculations 75% would vote for a per capita system and 25% for grandfathering⁹¹.

In the figure to the right are the results displayed for three different scenarios. Due to space limitations and complexity the full model cannot be described here, rather briefly illustrated⁹².

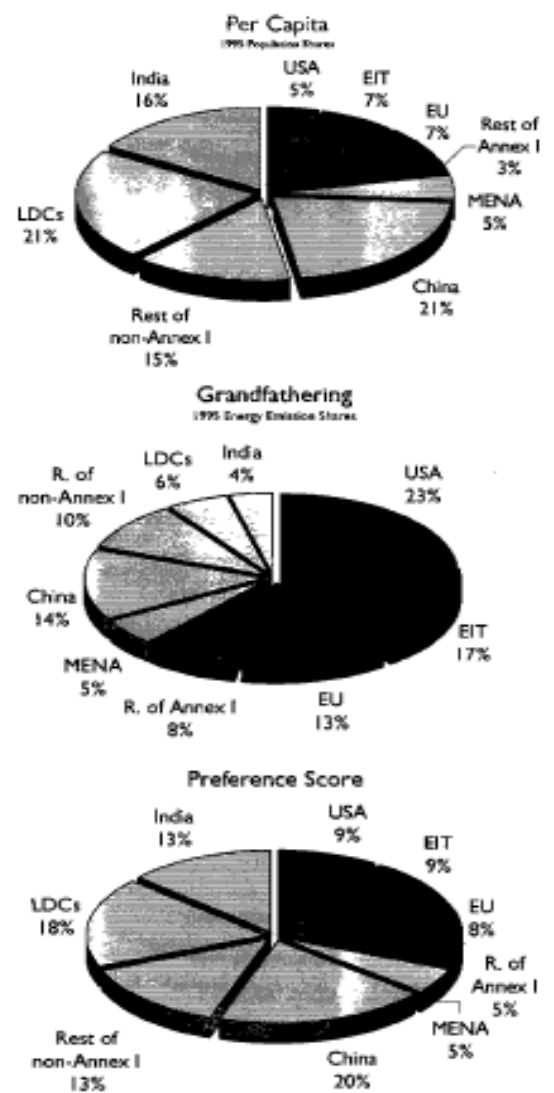


Figure 1: Global Compromise Scenario Distributions

⁸⁹ Muller B. *Compromise in a Morally Complex World: The Allocation of Greenhouse Gas Emission Permits Between industrialized and Developing Countries*. Page. 10. See also Parks & Roberts.

⁹⁰ Muller, B. 2002. “*Where justice and realism meet: a climate change solution?*”

⁹¹ Muller B. *Compromise in a Morally Complex World: The Allocation of Greenhouse Gas Emission Permits Between industrialized and Developing Countries*. Page. 10.

⁹² For a deeper review and explanation see CNRS/LEPII-EPE, RIVM/MNP, ICCS-NTUA, CES-KUL.

GREENHOUSE GAS REDUCTION PATHWAYS IN THE UNFCCC PROCESS UP TO 2025 – POLICYMAKERS SUMMARY. Page 15. Also Muller, B. *Fair Compromise in a Morally Complex World: The Allocation of Greenhouse Gas Emission Permits Between industrialized and Developing Countries*. Page 10 and forward.

3.2.2 Pew Center for Global Climate Change

At the Pew Center for Global Climate Change, Eileen Claussen and Lisa McNeilly have developed a suggestion that uses the Kyoto protocol and the UNFCCC as its frame. They suggest three criteria: responsibility for emissions, standard of living, and opportunity to reduce emissions.⁹³ Using these criteria's it is possible to establish the obligations for each nation. The nations would be separated into three categories; "must act now," "those that should act now," and "those that should act now if feasible."⁹⁴ Division into the three groups would be done according to the following premises⁹⁵:

- "Must act now"-Countries who score high on both responsibility and standard of living factors will be placed in this group.
- "Should act now, but differently" – Countries who score high on some factors but low on some will be placed in this category.
- "Could act now"- Countries who score low on at least two of the factors.

There are several advantages with this approach; it is multilevel, it takes multiple sectors into account, it and allows for national circumstances. The leadership under this suggestion should come from the "must act now" group. Not only is leadership required but it would also mean that the least developed countries could see that the countries most responsible for climate change are shouldering their responsibility and acting accordingly. This group would contain mostly Annex I countries and all actions would "be in line with its relative national circumstances"⁹⁶.

The "should act now group", mostly developing countries, would internationally negotiate goals where equity would be balanced against other national and international goals. Depending on which of the sectors they scored high in they could be asked to meet goals within that sector. For example, a country with a high responsibility score could be asked to make rapid near-term reductions in emissions, while a country that scored high on the standard sector might be asked to finance mitigations costs.

⁹³ Claussen, E – McNeilly, L. 1998. *"The Complex Elements of Global Fairness Equity & Global climate change"*. Page ii.

⁹⁴ Claussen, E – McNeilly, L. 1998. *"The Complex Elements of Global Fairness Equity & Global climate change"*. Page ii.

⁹⁵ Claussen, E – McNeilly, L. 1998. *"The Complex Elements of Global Fairness Equity & Global climate change"*. Page 2.

⁹⁶ Claussen, E – McNeilly, L. 1998. *"The Complex Elements of Global Fairness Equity & Global climate change"*. Page 21.

The third group, the “could act now”, are all developing countries which have “extremely low national incomes, low emissions both historically and for the predictable future, and, consequently, relatively few opportunities to reduce emissions”⁹⁷. These countries would be under no obligations to cut any emissions initially. They should however act to reduce their use of carbon intensity energy sources and increase the efficiency of end use.

3.2.3 Triptych

This approach is built on ways “to allocate national targets based on sectoral considerations”⁹⁸. From the beginning the Triptych approach covered three sectors; heavy industry, power, and domestic. The Triptych approach now also includes emissions as a result of use of “industry, agriculture, waste, and land-use change and forestry”⁹⁹. The triptych approach then measures each sector differently:

- Industry sector – Carbon intensity approach where growth, in the physical production is expected but also constant improvement in efficiency.
- Electricity production sector – decarbonisation targets where growth, in the physical production, is expected but also constant improvement in efficiency.
- Domestic sector – a convergence on per capita emissions.

Each nation, on an individual basis, is allowed a certain amount of emission based on their unique circumstances, however they are allowed to distribute their emissions by sector as they chooses, thus enabling each nation “the flexibility to pursue any cost-effective emission reduction strategy”¹⁰⁰. As we can see the Triptych approach uses several of the earlier mentioned ways of measuring emissions and suggestions for solutions, thus offering something to several parties.

The downside is the complexity of the approach since individual information would have to be gathered sector by sector and then emission goals would have to be negotiated¹⁰¹.

⁹⁷ Claussen, E – McNeilly, L. 1998. “*The Complex Elements of Global Fairness Equity & Global climate change*”. Page 22.

⁹⁸ Blok, K et al. “*Towards a Post-2012 Climate Change Regime Final Report*”. Page 44.

⁹⁹ Blok, K et al. “*Towards a Post-2012 Climate Change Regime Final Report*”. Page 44.

¹⁰⁰ Blok, K et al. “*Towards a Post-2012 Climate Change Regime Final Report*”. Page 44.

¹⁰¹ Blok, K et al. “*Towards a Post-2012 Climate Change Regime Final Report*”. Page 44.

3.3 Summary

In this chapter we have seen four state sponsored suggestions; *grandfathering*, *carbon intensity, per capita* and *historical responsibility*. Each of these state sponsored suggestions uses various climate justice conceptions, either directly or indirectly, in the way they feel justice should be applied to the ongoing post 2012 negotiations. Their conceptions of justice are often directly in conflict with each other. In an attempt to address these conflicts *hybrid* suggestions have been suggested from the academic community. The *preference score*, the *Pew Center* and the *Triptych* suggestion have been reviewed to illustrate potential compromises and, possibly, the way forward. In the following chapter the author will discuss other issues besides climate justice and the related suggestions, that he feels will play an important part in the ongoing and future discussions and negotiations for a future climate regime.

4 Reflections

Having reviewed and analysed a wide variety of literature on IEP¹⁰², I have come to realize that in order for a future solution to work there are other important factors to take into account besides questions of justice. Since the scope, as set out in purpose and the issue (chapter 1.1), I have decided to keep the analysis as focused as possible on those issues and will here share other important insights pertaining to the possible success of any future climate regime.

One is that there has to be a general trust between developed and undeveloped countries. This is one of the keystones missing in today's climate negotiations. This trust, or social capital as it is also referred to, affects all social interactions, both on an individual and national level, thus climate negotiations are affected as well. It is argued that for any negotiation or discussion to be truly successful there has to exist a trust between the parties present. This social capital includes the parties sharing their true intentions and thoughts, and not using rhetorical manoeuvres to hide their true positions. However, if the parties assume some sort of falsehood, lack of respect and superiority from other parties (unequal human value and rights) will be unreceptive to factual reasoning, objectively analyzing and seeing "points" with other party's suggestions. If the aforementioned occurs, it will be meaningless to try to create a framework for further negotiations¹⁰³.

The connections and relations between climate change and other important questions must be more recognized. Understanding these factors would entitle us to more clearly understand the possibilities and limitations for a future climate regime. These factors include economic growth, trade, debt, poverty reduction, energy supply safety, peace, environmental degradation,¹⁰⁴ etc. All these are interconnected, thus effecting the climate change negotiations.

There are suggestions to solutions in other areas of IEP, which take many of these factors into account. The World Energy Assessment 2004 Update¹⁰⁵ is one example of a cross question report. It shows that solutions exist which take into account multiple factors and show the possibility of such solutions. More studies are needed that look at climate change and its interactions with other important factors, and if solutions can be created that assist nations in domestic problems, e.g. poverty etc. In fact, energy system changes on the ground of national environment, security, and growth concerns could also deliver mitigation as a by-

¹⁰² See reference list.

¹⁰³ Rothstein B. Sociala fällor och tillitens problem. Page 292.

¹⁰⁴ Roberts T & Parks, B, *A climate of injustice*. Page 150.

¹⁰⁵ UNDP. 2004. "*World Energy Assessment Overview: 2004 Update*"

product. This suggest that a broader, multi-objective approach would be of a possible interest ¹⁰⁶.

Due to the many changes in available information, political situation and current climate change, is at this point, impossible to recommend one of the before analysed suggestions as being the “right” one. It can be argued that the hybrid suggestions are the most appealing, since any future climate regime would have to appeal to as many nations as possible. The hybrid suggestions appear to do this. It is only then that true change can occur.

¹⁰⁶ Personal communications with Thomas B. Johansson, Professor and Director, IIIIEE at Lund University.

5 Concluding remarks

This thesis has shown that climate justice is an important concept that has much to offer in way of the post-2012 negotiations.

A successful new climate regime entitles more than just a new protocol. If the negotiations are unfair or unequal, factual or perceived, then the implementation of the protocol will not be pursued to the fullest¹⁰⁷. This means that anything but the fullest possible implementation of climate mitigating solutions becomes unfair to those, mostly in the developing countries, who will have to take the brunt of the climate change effects.

This analysis has shown many ways one can look at justice and inequality, e.g. rights, causality and responsibility, utilitarianism, Kantian ethics, Rawlsian justice, and impartiality principles. The definitions of these and the suggested implementations of them have pros and cons. Depending on what form of justice is chosen to act as a guiding principle, the outcome will become very different and conflicts will arise. Hybrid suggestions attempt to address these differences. However, after analysing the aforementioned, I believe it is foremost imperative that all international negotiations should be founded on equality and justice based principles. This is the only way that the North-South gap, i.e. inequality, distrust etc, can be bridged.

The analysis presented in this thesis provides the beginning of an answer to the complexities of climate justice and equality that needs to be addressed in the post-Kyoto negotiations. These issues obviously require a greater detailed analysis than has been possible to present in this thesis. It is my hope however, that I have been able to provide a glimpse into the complexities surrounding the ongoing post 2012 climate change negotiations and the error of approaching it as just a question of climate justice without taking into considerations the aforementioned factors.

¹⁰⁷ Claussen, E – McNeilly, L. 1998. “*The Complex Elements of Global Fairness Equity & Global climate change*”. Page 23.

6 Appendix

6.1 Predicted climate changes

Due to the very nature of our environment the inertia in climate system will lead to that changes will not occur overnight but rather spread out over a long period of time. It is important to notice that this does not mean that the effects will not be as severe, it just means that time will go between our actions and the effects of them.

As the glaciers melt there will an initial increase of water supply, but will lead to severe reduction in availability compromising over one sixth of the worlds population, mostly in parts of India, China and the Andes in South America.

Declining crops, mostly in Africa, could lead to that hundreds of millions of people are left without the capability to grow the crops they need to survive or to purchase food. Initially there will be an increase in crops in mid to high latitudes as the temperature increased +2-3° C but that will diminish as temperature continued to increase. At a +4° C

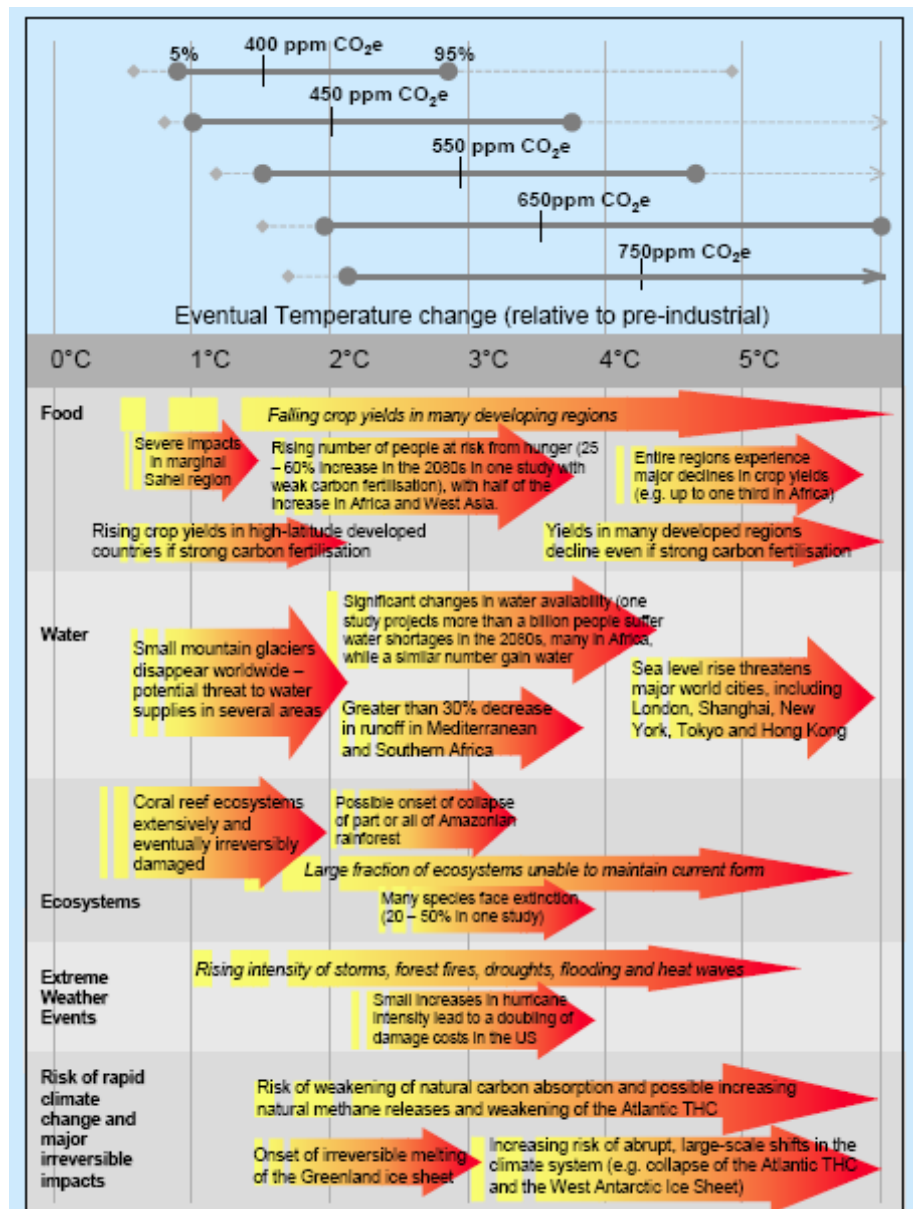


Fig. 7.1 Source: Stern Report on the economics of climate change.

increase and beyond the global food production will probably be seriously affected.

At higher latitudes there will be a decrease in deaths caused by cold weather. On a global scale however there will be an increase in deaths related to malnutrition and heat stress. There will also be an increase in vector-borne diseases such as dengue fever and malaria which could also become more spread if precautions are not taken.

As temperatures increase 3-4° C the sea-level will also go up displacing anything from tens to hundreds of millions of people. This will affect areas such as Bangladesh and Vietnam, the Island states of the Pacific and also the large coastal cities of New York, London, Cairo and Tokyo. One estimate indicates that more than 200 million people will become permanently displaced.

With a 2° C increase in temperature ecosystems around the world will face challenges with approximately 15% - 40% of species facing extinction.

Marine ecosystems, including fish stocks, will be affected as ocean acidification will increase as the CO₂ in the atmosphere increases.

There is another group of possible effects that can occur due to climate change. Warming can also lead to that the sudden shift and changes can occur in climate events such as the El Niño and the monsoon rains in South Asia. These changes can bring with them consequences for the people living in the affected areas, especially with regards to water availability and can threaten the livelihood of millions of people. See Fig. 7.1 for an overview of possible climate changes.

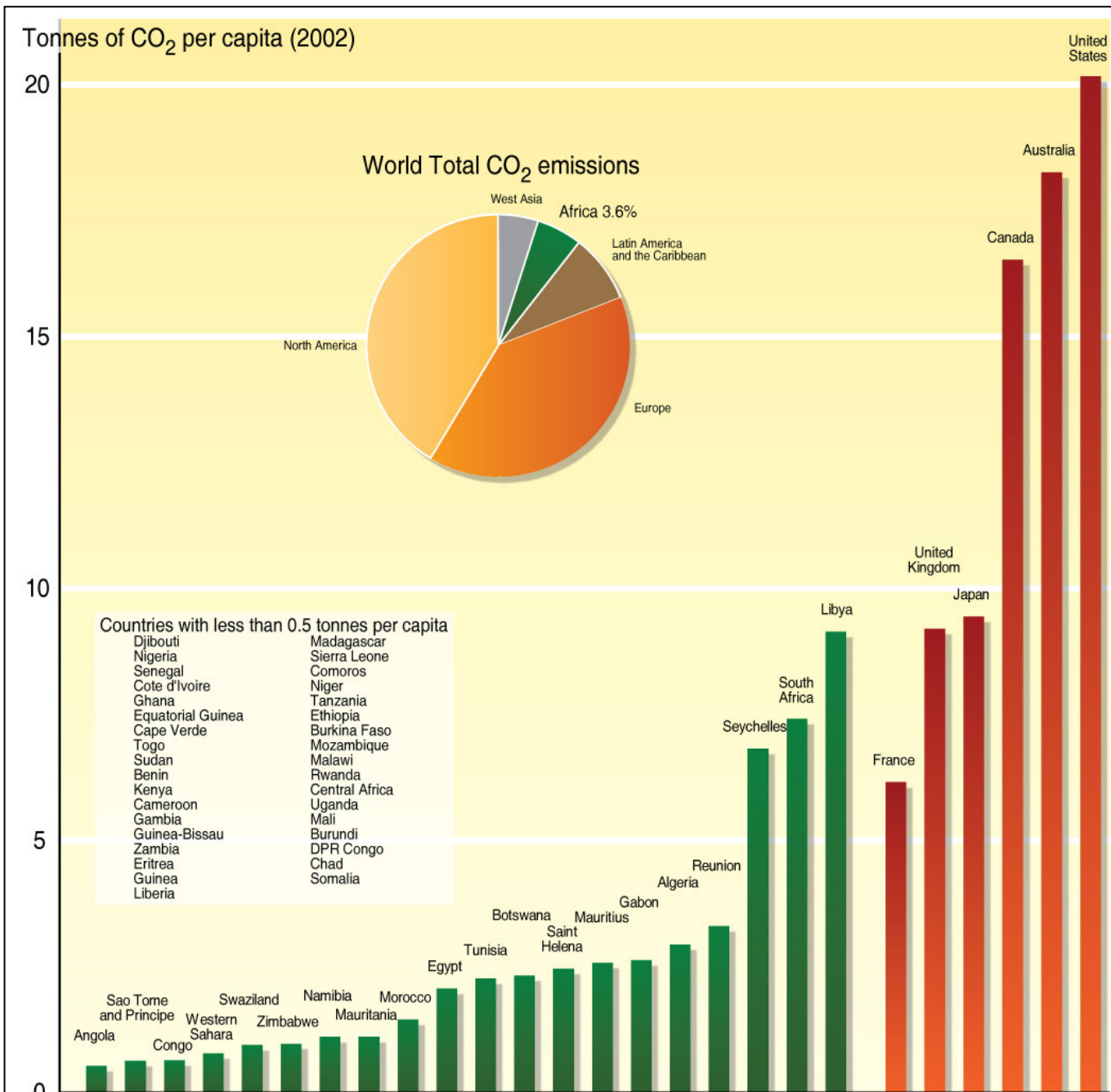
There are several studies concerning possible effects on the Amazon that suggest that it can be vulnerable to climate change. Damages can occur at a 2-3° C increase of temperature and potentially be irrevocable.

One in twenty persons will be affected by the melting ice sheets as water levels would rise to threaten their land.

There are many risks that we know little or nothing about, there are possibilities that human enterprise could take the global climate into new and hitherto uncharted ranges, far beyond the human experience, where life as we know it might not be able to function.

It is important to realize that these climate changes will not occur evenly distributed. It is those with the fewest resources and options available to them that will be affected the most.

6.2 Charts and Diagrams



Sources: UN Statistics Division/CDIAC, carbon dioxide emissions per capita, MDG indicator 28. http://unstats.un.org/unsd/mi/mi_series_results.asp?rowId=751
 Accessed January 2006

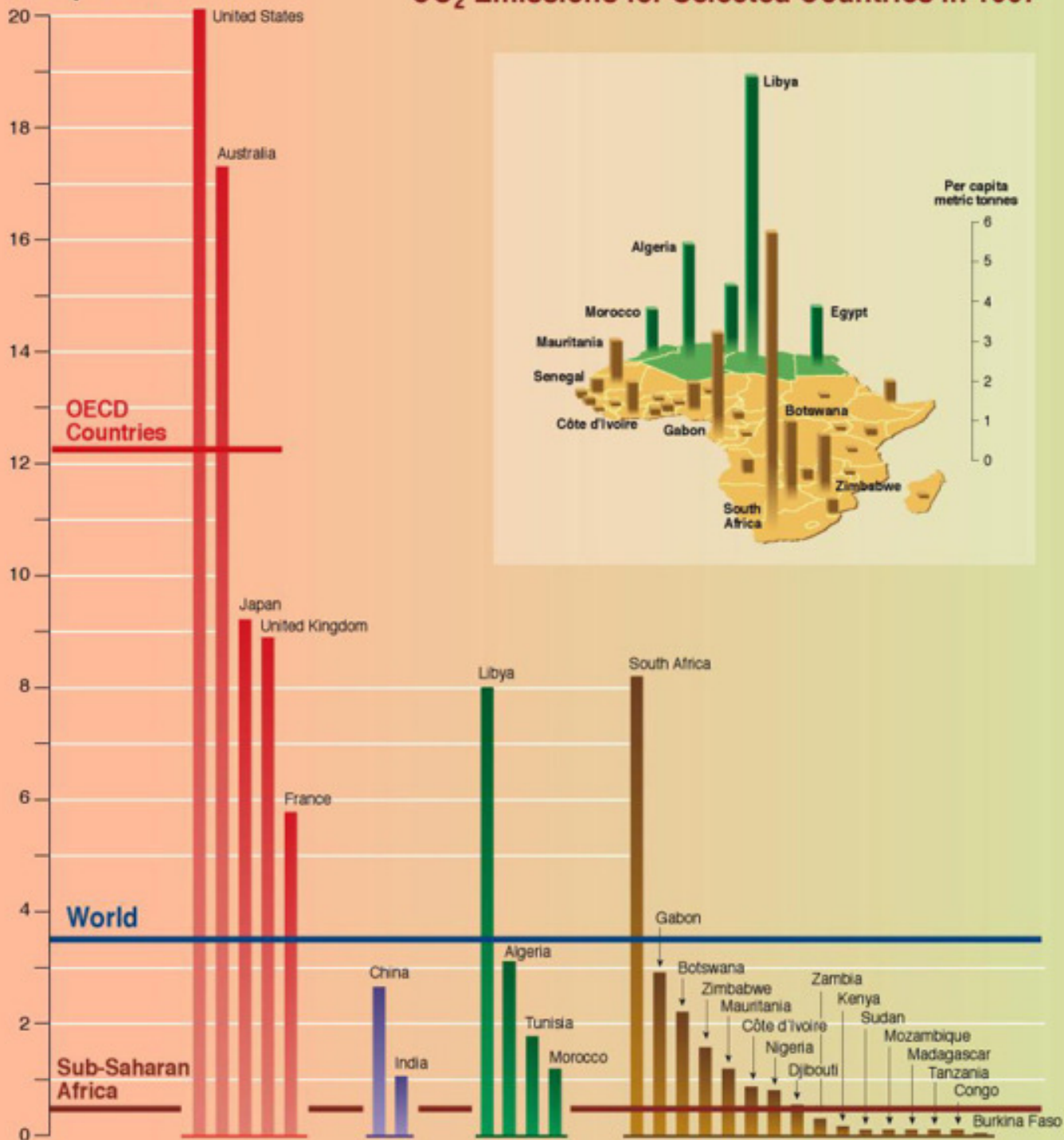
Source: UN Statistical Division/CDIAC

Table 3.1.4: Number Of Citizens Emitting As Much Carbon Dioxide As One U.S. Citizen. Source: Calculated From Boden Et Al. 2003. Includes fossil fuel use carbon dioxide only.

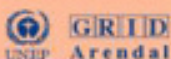
<p><i>Thirty Nations Where One Average U.S. Citizen Emits The Same Amount of Carbon As Over 100 Average Citizens:</i></p> <p>Ethiopia (>540 citizens=one American), Chad (>540), Zaire (540), Afghanistan (540), Mali (540), Cambodia (540), Burundi (540), Uganda (270), Mozambique (270), Burkina Faso (270), Malawi (270), Rwanda (270), Lao (270), Central Afr Rep (270), Tanzania (180), Niger (180), Comoros (180), Nepal (135), Madagascar (135), Guinea (135), Sierra Leone (135), Liberia (135), Myanmar (108), Sudan (108), Zambia (108), Haiti (108), Eritrea (108), Bhutan (108), Gambia (108)</p>	<p><i>36 Additional Nations Where One Average U.S. Citizen Emits the Same Amount of Carbon As Over 5 Average Citizens:</i></p> <p>Ecuador (9.8), Guyana (9.5), Grenada (9.5), China (9), Egypt (8.8), Puerto Rico (8.9), Panama (8.9), St. Lucia (8.7), Botswana (8.4), Fr Polynesia (8.4), Br Virg Is (8.2), Latvia (8.1), Mauritius (8.1), St Helena (8.1), St. Kitts-Nevis (7.8), Cuba (7.2), Seychelles (7.1), Gabon (6.8), Algeria (6.8), Dom Republic (6.7), Belize (6.4), Jordan (6.3), Mongolia (6.3), Thailand (6.2), Lithuania (6.2), Iraq (5.9), Syria (5.9), Reunion (5.9), Turkey (5.8), Azerbaijan (5.5), Argentina (5.3), Macau (5.3), Romania (5.1), Guadeloupe (5.1), Chile (5.0), Yugoslavia (5.0)</p>
<p><i>37 Additional Nations Where One Average U.S. Citizen Emits the Same Amount of Carbon As Over 20 Average Citizens:</i></p> <p>Bangladesh (90), Guinea Bissau (90), Benin (77.14285714), Kenya (67.5), Kiribati (67.5), Nigeria (60), Ghana (60), Cape Verde (60), Solomon Is (54), Togo (49.1), Swaziland (49.1), Vanuatu (49.1), Cameroon (45), Senegal (45), Eq Guinea (45), Yemen (41.5), Angola (41.5), Sri Lanka (38.6), Papua New Guinea (38.6), Congo (33.8), Cote D'ivoire (31.8), Djibouti (31.8), Tajikistan (30), Paraguay (30), Sao Tome And Principe (30), Viet Nam (27), Honduras (27), Nicaragua (27), Pakistan (25.7), Samoa (24.5), Guatemala (22.5), Fiji (22.5), Armenia (21.6), Albania (21.6), Kyrgyzstan (20.8), W Sahara (20.8), Namibia (20)</p>	<p><i>25 Additional Nations Where One Average U.S. Citizen Emits the Same Amount of Carbon As Over 3 Average Citizens:</i></p> <p>Jamaica (4.8), Am Samoa (4.7), Lebanon (4.6), Mexico (4.5), Barbados (4.5), Croatia (4.4), Uzbekistan (4.1), Bosnia-Herzegovina (4.1), Iran (4.1), Hong Kong (4.1), Suriname (4.1), Sweden (3.75), Bulgaria (3.7), Switzerland (3.7), Hungary (3.7), Martinique (3.7), Antigua And Barbuda (3.6), Macedonia (3.6), French Guiana (3.6), Belarus (3.4), Bahamas (3.3), Portugal (3.3), France (3.2), Malaysia (3.2), Venezuela (3.0), Slovakia (3.0)</p>
<p><i>22 Additional Nations Where One Average U.S. Citizen Emits the Same Amount of Carbon As Over 10 Average Citizens:</i></p> <p>Philippines (19.3), India (18.6), El Salvador (18.6), Peru (17.4), Mauritania (17.4), Zimbabwe (16.9), Georgia (16.875), Tonga (16.4), Indonesia (15.4), Morocco (15.4), Bolivia (15), Colombia (14.2), Dominica (14.2), Costa Rica (13.8), St Vincent And Gren (13.2), Cook Is (12.85714286), Niue (12.9), Uruguay (12.3), Moldova (11.0), Brazil (10.8), Maldives (10.8), Tunisia (10.2)</p>	<p><i>30 Additional Nations Where One Average U.S. citizen Emits the Same Amount of Carbon As Over 2 Average Citizens:</i></p> <p>Ukraine (2.9), Spain (2.8), Malta (2.8), Turkmenistan (2.7), Slovenia (2.7), Bermuda (2.7), Italy (2.7), South Africa (2.6), Austria (2.6), Cayman (2.6), Iceland (2.6), Poland (2.5), St Pierre And Miq (2.5), New Caladonia (2.5), Gibraltar (2.5), Kazakhstan (2.4), Oman (2.4), Denmark (2.4), New Zealand (2.4), North Korea (2.4), Cyprus (2.3), Netherlands (2.3), Greece (2.2), Rep. Korea (2.2), Japan (2.1), United Kingdom (2.1), Germany (2.1), Taiwan (2.0), Montserrat (2.0), Russia (2.0)</p>

CO₂ Emissions for Selected Countries in 1997

Per capita metric tonnes



Sources: Human Development Report 2001, United Nations Development Programme (UNDP).



PHILIPPE REKACIOWICZ
JUNE 2002

Source: Human Development Report 2001, United Nations Development Programme.

7 Glossary and Abbreviations

Annex I Parties.	The industrialized and transitioning countries listed in this Annex to the Climate Convention. These countries accepted emission targets for the period 2008 to 2012 in Annex B of the Kyoto Protocol.
Annex II Parties.	The wealthy countries listed in this Annex to the Climate Convention that have a special obligation to help developing countries with financial and technological resources. They include the 24 original members of the Organization for Economic Cooperation and Development (OECD) plus the European Union.
Annex B.	An Annex to the Kyoto Protocol that lists agreed emission targets taken by the industrialized and transitioning countries for the so-called first commitment period, which runs from 2008 to 2012.
AOSIS.	Alliance of Small Island States. An ad hoc coalition of 42 low-lying and island countries that are particularly vulnerable to sea-level rise and share common positions on climate change.
BAU.	Business as usual. A scenario that represents the most plausible projection of the future. BAU embodies the notion of what would happen, hypothetically, if climate-friendly actions were not taken.
CDF.	Clean Development Fund. An element of the original Brazilian Proposal that was adapted to become the Clean Development Mechanism of the Kyoto Protocol.
CDM.	Clean Development Mechanism. A project-based emissions trading system under the Kyoto Protocol that allows industrialized countries to use emission reduction credits from projects in developing countries that both reduce greenhouse gas emissions and promote sustainable development. Climate Convention. See UNFCCC.
COP.	Conference of the Parties to the Climate Convention. The supreme body of the Convention. It currently meets once a year to review the Convention's progress. The word "conference" is not used here in the sense of "meeting" but rather of "association," which explains the seemingly redundant expression "fourth session of the Conference of the Parties."
COP/MOP.	Conference of the Parties serving as the Meeting of the Parties to the Protocol. The Kyoto Protocol's supreme body, which will serve as the Protocol's meeting of the Parties. The sessions of the COP and the COP/MOP will be held during the same period. This will improve cost-effectiveness and coordination with the Convention.
CO₂.	Carbon dioxide, a naturally occurring gas. It is also a by-product of

	burning fossil fuels and biomass and other industrial processes as well as land use changes. CO ₂ is the principal anthropogenic greenhouse gas affecting the Earth's temperature.
EU.	European Union.
GDP.	Gross domestic product. The total value of goods and services produced by an economy.
Global Warming Potential (GWP).	An index that allows for comparison of the various greenhouse gases. It is the radiative forcing that results from the addition of 1 kilogram of a gas to the atmosphere compared to an equal mass of carbon dioxide. Over 100 years, methane has a GWP of 21 and nitrous oxide of 310.
Greenhouse Effect.	The effect produced as greenhouse gases allow incoming solar radiation to pass through the Earth's atmosphere but prevent most of the outgoing long-wave infrared radiation from the surface and lower atmosphere from escaping into outer space. This envelope of heat-trapping gases keeps the Earth about 30° C warmer than if these gases did not exist.
GHG.	Greenhouse gas. Any gas that absorbs and re-emits infrared radiation into the atmosphere. The main greenhouse gases include water vapor (H ₂ O), carbon dioxide (CO ₂), methane (CH ₄), and nitrous oxide (N ₂ O).
G-77.	Group of 77. Founded in 1967 under the auspices of the United Nations Conference for Trade and Development (UNCTAD); seeks to harmonize the negotiating positions of its 133 developing-country members.
IMF.	International Monetary Fund. An international organization of 184 member countries established to promote international monetary cooperation and foster economic growth.
IPCC.	Intergovernmental Panel on Climate Change. An organization established in 1988 by the World Meteorological Organization and the United Nations Environment Programme. It conducts rigorous surveys of the worldwide technical and scientific literature and publishes assessment reports widely recognized as the most credible existing sources on climate change. Kyoto Protocol. An international agreement adopted by all Parties to the Climate Convention in Kyoto, Japan, in December 1997.
LDC.	Least developed country. A category of countries (currently 49) deemed by the United Nations to be structurally handicapped in their development process, facing more than other developing countries the risk of failing to come out of poverty as a result of these handicaps, and in need of the highest degree of consideration from the international community in support of their development efforts.
OECD.	Organization for Economic Cooperation and Development. An international organization consisting of the major industrialized countries. The includes Mexico and the Republic of Korea, which are non-Annex I countries under the Kyoto Protocol.
OPEC.	Organization of Petroleum-Exporting Countries

Party. A state	(or regional economic integration organization, such as the European Union) that agrees to be bound by a treaty and for which the treaty has entered into force.
S-CDM.	Sector-Based Clean Development Mechanism. An approach to expanding the Clean Development Mechanism to encompass entire sectors, geographic regions, and combinations of sectors and regions.
SD-PAMs.	Sustainable Development Policies and Measures. An approach to climate protection that builds on sustainable development priorities.
UNFCCC.	United Nations Framework Convention on Climate Change (Climate Convention, or Convention). A treaty signed at the 1992 Earth Summit in Rio de Janeiro by more than 150 countries.
WCED.	World Commission on Environment and Development

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