



GLOBAL THREAT IN FORM OF CLIMATE CHANGE: A FUTURE ESTIMATE

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Abstract:

A related term is “Climate Change”. In 1996, the world Meteorological Organization (WMO) proposed the term “Climate Change” to encompass all forms of climate variability on time-scales longer than 10 years, regardless of cause. Climate Change was incorporated in the title of the Intergovernmental Panel on Climate Change (IPCC) and the UN Framework Convention on Climate Change (UNFCCC), Climate Change used as a noun because an issue rather than the technical description of the changing weather.

Climate Change due to global warming is a very worrisome issue of our times. The world is playing a heavy price of increase in population and rapid economic growth as this progress is not benign and sustainable for the environmental. Climate Change has both internal and external reasons. Internal reasons include changes in natural processes within the climate system (e.g. heat circulation, volcanic eruption) or man –made (e.g. increase in greenhouse gases and dust emission).

The Industrial Revolution in the 19th century saw the large-scale use of fossil fuels for industrial activities. Normal resources are being used extensively for construction, industries, transport and consumption. Consumerism (our increasing want for

material things) has increased by leaps and bounds, creating mountains of waste. Also, our population has increased to an incredible extent.

We are living on this planet and using its resources in such a way in future we may have to another planet. Due to climate change, the people of the poor and disadvantage sections have suffered the most damage. The earth provides adequate facilities in accordance with the requirement of each person, but not for the greed of the people. The countries should implement policies for balanced energy needs of energy, environment and the growing economy. They should be committed to the fact that they to protect and conserve the environment and build a better world for the next generation.

Keywords: Climate Change, Eco-system, Geological Atmosphere, Kyoto Protocol and Environment Protection.

1. Introduction:

Every planet have specific geological atmosphere which is changed continually. It’s known as Eco-system, like a Mars, Earth, Venus etc. Some meteorologists believe that there was life on Mars a few billions of centuries ago, but due to climate change or other atmospheric disorder, the eco-system is destroyed and today there is no life.

When we touching about our Earth, we find that it has very rich eco-system. It’s not only fit for survival of human beings rather than for animals or any other micro-organisms also. Before some time people think that earth have develop self mechanism for maintaining own eco-system and make environment healthy for every living things. In this work earth make support of some



natural thing which was developed for its survival like plants, ozone layer, rain system etc. but due over intelligence or selfishness human beings this eco-system has exploited day by day. We make big machine, established Concrete's Forest, cooling machine and so many things which was harmed our eco-system. Global warming and Bio-diversity is the best example of that. We have some data which was published different international authentic agencies show that our earth temperature raised in some century. It's a dimension of climate change.

2. Procedural Rights for Environmental Protection

A definite shift towards establishing and protecting procedural rights in international environmental law is certainly emerging. This can be seen in for example Principle 10 of the Rio Declaration. This notes that environmental problems are best handled with the participation of all concerned citizens at the relevant level. Specifically at national level individuals should have access too publicly-held environmental information and the opportunity to participate in decision making processes, while states should foster public awareness and participation by making information widely available and provide effective access to judicial and administrative proceedings. More specific elaboration of procedural rights is contained in the 1988 UN/ECE Arhus Convention on Access to Information, Public Participation in

Decision-making and Access to Justice in Environmental Matters. References there to 'the public concerned' include references to non-governmental organizations promoting environmental protection which are deemed to have a sufficient interest in environmental decision-making. However, the secrecy surrounding the initial negotiation of the Multilateral Agreement on Investment, considered by many the harbinger of a race to the bottom in transnational environmental standards suggests there is a long way to go.²

3. Implementation and Enforcement

There is an increasing recognition that more works needs to be done to assess the adequacy of the implementation and enforcement of environmental laws. On the international front, this lack of an effective remedy for any breaches or failure to implement has long been a cause for concern. This will be heightened with the implementation of the Kyoto Protocol on reduction of emissions which contribute to climate change. At the time of writing, the overall picture does not look particularly rosy and there are legitimate fears that even with the 'flexible mechanisms' of implementation, the overall reduction targets will not be met³.

On a European Level, the acceptance that there needs to be more done to police the implementation and enforcement of European Commission environmental law will be found in the forthcoming Sixth Action Programme. In addition, the commissioner, Margot Wallstron has expressed her

¹ Environmental Humanities: Transformation, Governance, Ethics, Law by Felix Ekardt, 'Springer Publication Switzerland' P. 5 also available on <https://doi.org/10.1007/978-3-030-19277-8>.

² Environmental Protection Law and Policy by Jane Holder and Maria Lee 'Cambridge University Press' Second Edition 2015, P.27

³ The Royal Commission on Environmental Pollution's 22nd Reports Energy- The Changing Climate Cm 4749, 2000



determination not to allow Member States to disregard EC environmental laws. Although there has been a lot of activity in giving ‘reasoned options’ to Members of States, there is little evidence yet that it is anything more than ‘business as usual’.

On a domestic level, implementation and enforcement will be important both substantively (in relation to the new system of integrated pollution prevention and control, the Landfill Directive, the contaminated land regime and the much anticipated reform of nature conservation law) and institutionally (at the time of writing the Environment Agency has been criticized by the Parliamentary Selection Committee for being too soft on polluters and lacking focus in relation to environmental quality). At the sharp end of enforcement we have recently seen the court of appeal ignoring the Sentencing Advisory Panel’s advice on the sentencing for environmental offences. It would be easy to criticize the Court which refused to take a strict line against environmental offenders. Perhaps it would be more worthwhile, however to reflect upon whether we should be looking for uniform sentencing guidelines for offences which varied from the dumping of special waste to failing to register under the packaging waste legislation. Or, put differently how should the courts formulate general rules on sentencing when they are dealing with complex matter, relating to risk of perhaps unquantifiable environmental harm rather than actual damages?

4. The Future of Environmental Policy

In the light of EC membership and the pressure now brought to bear by the whole international community on environmental issues, it is difficult to disentangle British policies from global and regional ones. It is also difficult to predict the future accurately in this area because environmental policy continues to be a highly political area.⁴ For example, the obligations entered into under the treaty on climate change provide targets without necessarily identifying the specific legal (or otherwise) instruments; the range of options put forward (including a tax on the use of energy) provide a large number of separate highly charged political issues.

One of the key concepts in future policy making will be flexibility in the selection of the instruments which are used to meet policy aims. For example, consultation papers on the Climate Change Programme have considered a range of instruments including voluntary agreements to reduce energy consumption a direct tax on the use of energy emissions trading schemes, growth in renewable energy and emission controls under the implementation of Integrated Pollution Prevention and Control Directive. In addition the Kyoto Protocol (which contains the latest agreed programme for reduction in emissions which contribute to climate change) has other innovative mechanisms for achieving compliance with cuts in emissions of greenhouse gases including: ‘emissions trading’ whereby an industrialized country can buy or sell emission ‘credits’ to or from other countries; or the use of the so-called ‘clean development

⁴ Understanding Environmental Law, by Philip Weinberg and Kevin A. Reilly ‘LexisNexis or Matthew Bender & Company’ 3rd Edition 2013, P. 93.



mechanism’ where by industrialized countries can earn cuts in their own targets by investing in greenhouse gas reduction projects in developing countries. These ‘flexible mechanisms’ are not without criticism but they reflect an increasing concern that policies should be as adaptable as possible in order to meet the specified goals and targets. Thus, the blending of different types, of instruments means that if one mechanism is less effective, another mechanism may be reduce the gap between aspiration and the achievement of the policy objective. Nevertheless, a number of key directions for future policy present themselves:

4.1 Climate Change Levy

The importance of the market in controlling environmental problems will continue to be stressed. Originally, this stemmed from the philosophical basis of the Conservative Government whilst it was in power. Subsequently, it has been related to the preference for market mechanisms (often referred to as economic instruments) which may help to prevent pollution occurring by sending signals to consumers about the true environmental costs of their activities. Examples can be seen in the proliferation of schemes for charging for environmentally harmful activities; in the increasingly frequent reference to the polluter pays principle; and in direct measures such as the introduction of the landfill tax. The current government has made it clear that over the next few years there will be more reforms of the taxation system to increase incentives which will reduce environmental damage.

The 1999 budget heralded a tax on the use of energy under climate change levy.⁵

5. Economic Instruments for Environmental Protection

Economic instruments have been used significantly in relation to air pollution primarily in relation to a range of measures which have been used in order to reduce the amount and impact of vehicle emissions. Thus duties on fuel have been increased over a long period of time with the intention of reflecting the environmental cost of vehicle use and promoting the benefits of fuel efficiency. In order to indicate the varying levels of environmental impact from different fuels, there are fuel duty differentials to encourage for example the use of ultra low diesel fuel over normal diesel.⁶

Perhaps the most controversial economic instrument however is the so-called “Climate Change Levy”, or tax on energy usage which will be introduced as a means of assisting with meeting the UK’s climate change treaty commitments on in particular carbon dioxide reduction. It is scheduled for introduction in April 2001. In conjunction with the tax, the government would like to see the introduction of industry sector voluntary agreements and informal and formal emissions trading schemes⁷.

6. Meaning of Climate Change

Climate is “average” weather for a given place or a region. A change in one weather element can produce changes in regional climate. If these charges occur over

⁵ Environmental Law by Stuart Bell & Donald McGillivray ‘Oxford University Press’ fifth edition 2004, P.211

⁶ Id at 414-15

⁷ Sch.I para. I of ‘Pollution Prevention and Control Act 1999’ says about the statutory mechanism for formal schemes is found.



long periods, the average climate values for these elements will be changed and follow an increasing or decreasing trend turned as climate change.

Climate change is one of the main environment challenges facing the world today. India is facing several problems. The major challenge before the world is to address the issue of climate change and minimize its adverse impacts. The biggest hurdle in this is the variability of interest of various countries. The developed countries have their own agenda and developing ones are still in the race of development and are not at the stage of compromise. There are few important issues haunting the world in general and developing countries like India.

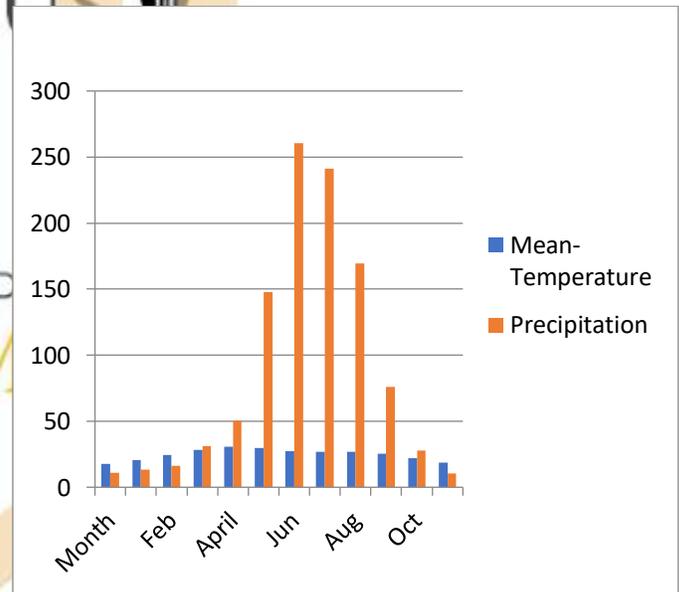
Ongoing climate change is predicted to affect individual organism during all life stage, thereby affecting population of a species, communities and the functioning of ecosystems. There effects of climate changing water temperatures and associated phonologies, the lengths and frequency of hypoxia events through ongoing ocean acidification trends or though shifts in hydrodynamic and sea level, In some cases, climate interactions with a species will also or mostly, be indirect or mediated through direct effects on key prey species which change the compositing and dynamic coupling of food webs-

- I. Organism level physiological changes will occur in response to changing environmental variables such as temperature dissolved oxygen and CO₂ levels.
- II. Individual level behavioral changes may occur such as the avoidance of unfavorable

condition and if possible movement into suitable areas.

- III. Population level changes may observation changes in the balance between rates of mortality, growth and reproduction.
- IV. This paper tries to establish likes b/w means of addressing the effective physiological principles the cellulous issue and whole organism level.
- V. Ecosystem level changes in productivity and food web interactions will results from differing physiological responses by organisms at different levels of the food web.

Thus, the implications of climate change for population at four interlined levels of biological organization.



Monthly Climatology of Mean-Temperature and Precipitation in India from 1991-2020⁸

⁸ <https://public.wmo.int/en/our-mandate/climate>, visited at 3rd Aug, 2021 at 6.38P.M.



7. Convention Regarding on Climate Change II.

The earth summit in 1992 was seen as a watershed in the fight against climate change. The conference saw the presentation of the UN Framework Convention on Change Convention which set down a framework for the reduction of so-called greenhouse gas emissions. The treaty was ratified by 50 countries (including the EC and the UK) and come into force in March 1994. The details of the legally binding reduction targets were left until the end of 1997 when, after much discussion the Kyoto protocol was agreed. The Kyoto protocol sets various reduction targets were left until the end of 1997 when, after much discussion, the Kyoto Protocol was agreed. The Kyoto Protocol sets various reduction targets for different countries in relation to six gases: carbon dioxide, NO_x, hydrofluorocarbons (HFC_s), perfluorocarbons (PFC_s), methane and sulphur hexafluoride (SF₆). The cuts average out at a 5.2% reduction of 1990 levels of these gases at some time between 2008 and 2012.

The protocol was the subject of tough negotiations primarily as a result of the political difficulties faced by the US in setting significant reduction targets. This resulted in a number of novel mechanisms which can be used by countries in order to assist in meeting the targets. These include the following:

I. Emissions trading Systems: This would enable countries with a significant surplus of emissions reduction as a result of exceeding targets, either to sell that surplus to countries which have a deficit (i.e. are having difficulties in meeting their own target) or 'stockpile' it as a safeguard against meeting future reduction targets.

II. The clean development mechanism: As the developing nations are not subjected to any reduction targets, there was some concern expressed that there was little incentive for them to adopt measure which would contribute to the overall achievement of the aims of the Climate Change Convention. Thus, under the protocol, the countries which are subject to the reduction targets can gain credit for assisting the developing countries in the creation of project activities which result in certified emission reductions. Where a Protocol country assists a developing country with the construction of a power station which will reduce overall emission levels, the reduction achieved can be offset against the protocol country's own target (as long as the emission reductions achieved are additional to those that would have occurred anyway).

III. Carbon Sinks: The creation of carbon sinks-Land used such as a forestation which reduces the amount of certain greenhouse gases can be taken into account in certain circumstances. The calculation of the actual extent of the reduction is a matter of some controversy as the overall total reduction (e.g. it is estimated that Russia could claim over 25% reduction of its overall target from the use of managed forests).

IV. Action on International problems, such as global warming, acid rain, ozone depletion and oil pollution, will continue to be taken, since the EC is well placed to tackle these problems. The role of the EC has been significant in coordinating a European wide response and this will continue. In particular the EC stressed in towards sustainability the role that it can play in combating climate change. It may well be that the main contribution that the EC will make in this area is the development of some form of 'carbon tax', although this is a matter which is



currently fraught with political difficulties and an EC emissions trading regime may emerge. The EC also acts, in some ways, as a testing ground for the legal and policy status of many environmental principles. Finally the role of the EC in acting as a conduit for new environmental norms and standards from international law should also be noted (e.g. in conservation law the CITES and the Berne Convention). The dynamic and reciprocal nature of EC international relations is likely to continue.

8. International Law Regarding Climate Change

In some cases, treaties may be open to signature by 'regional economic integration organizations'. A term covering the EC, which has signed all the most recent multilateral environmental agreements. The basic procedure is that the Commission does the negotiation, but the Council signs any treaty: a unanimous vote in the Council may be needed if the treaty deals with issues which require unanimity within the EC (such as town and country planning).

This should not hide the often hotly contested division of competence between the EC and the member of States as regards external matters. International trade and marine fisheries conservation are areas of exclusive community competence which means that it is the Community which negotiates any agreements in these areas (such as the GATT/WTO Agreements). Beyond these fields there is a considerable amount of scope for disagreement about the

proper balance of competence in the environmental field. At a time when there are pulls both towards globalization and devolution, we might any way question what 'exclusive competence', either for the EC or for the Members of States, actually means.⁹

Where both the EC and the Members of States are parties to a treaty, there needs to be some way of co-ordinating their obligations. A unique example of how this is done is under the 1997 Kyoto Climate Change Protocol. Both the UK and EC are parties to this, which requires specified reductions of emissions. Under Article 4 of the Protocol, the Members of States can bubble their reductions, so that the EC decides which states take heavier and lighter loads depending on things like their state of economic development.

Although EC environmental law is said to flow from developments in international law, specifically the Stockholm Conference, the unique nature of the EC has in some respects made it a testing ground for International Environmental co-operation. For such example, the balancing of trade and environmental concerns in the EC is often held up as a model for integration. Also, the insertion of environmental policy principles in the EC Treaty¹⁰ means that their status can be explored within the EC, but also contributors to the development of similar principles in international environmental law. In this way there is a clear synergy between EC and International Law and Policy.¹¹

⁹ International Environmental Law, by Ministry of Natural Resources and Environment Department of Legal Affairs, May 2017.

¹⁰ Article 174(2) of the Kyoto Protocol.

¹¹ Environmental Law by Nancy K. Kubasek, J.D. & Gary S. Silverman, D. Env. 'Prentice Hall, One Lake Street, Upper Saddle River, New Jersey 07458.' 8th edition 2014, P.386



9. Comparing Treaties for Effectiveness: A Brief Case Study

Compression of the Ozone, CITES and Biological Diversity treaties illustrates some general points about reaching effective international environmental agreements. The relative success of the ozone treaty regime is usually said to be because of the very small number of parties (those states production ozone depleting chemicals) from which to get agreement; a scientific consensus over the issue; the fact that no one state could be sure that they might lose if they did not cooperate (as some states might think is the case in relation to global warming); and the relatively low costs involved in addressing the problem (including the non-availability of alternatives). The initial use in 1985 of a framework convention fleshed out by later protocols, also helped facilitate compliance¹².

CITES is also widely regarded as one of the more successful treaties. Despite a large membership the Convention pays close attention to procedural issues, establishing a funded and effective secretariat and requiring (and in practice helping) states to establish national management and scientific authorities. And the import-permitting requirement applies even to parties outside the Convention which must comply with this provision on export, providing less incentive for non-participation. By contrast, the 1992 Biological Diversity Convention is sometimes of a disappointment. The vagueness of the language used in many of its central provisions, often qualified with perhaps such as 'as far as possible and as

appropriate', testifies to the considerable difficulties in trying to reconcile North-South tensions between environmental and development goals. Moreover, the convention is essentially based on the route to biodiversity conservation being through realizing the commercial value of biodiversity (e.g. for pharmaceuticals), which may be optimistic.

It seems likely that, for the short term, the emphasis will be on the implementation of existing treaties and improving compliance, especially with framework conventions like those on climate change and bio-diversity, rather than on the negotiation of new treaties. In this context the developing of procedural rights under international law is an important development.

10. Private Agreements Regarding Climate Change

The use of private agreements in environmental regulation ranges from the formal statutory mechanisms found in planning legislation¹³ and nature conservation legislation¹⁴ to the more informal agreements which have been negotiated between government or the regulator and individual companies or industry sectors. Although the uptake of these more informal agreements has traditionally been more prevalent in other countries (particularly the US and Netherlands), the UK has started to adopt this mechanism with an increasing frequency. The nature of these agreements differs widely and is dependent upon the parties to the agreement (e.g. the European Commission national governments regional bodies or regulatory agencies on the

¹² The 1992 Framework Convention on Climate Change, which has allowed the parties to move from soft standards to more binding targets for emissions reductions under the 1997 Kyoto Protocol

¹³ Section 106 of Town and Country Planning Act, 1990.

¹⁴ Section 15 of Countryside Act 1968.



one side and industry sectors or individual operators on the other) and what is required (e.g. general or specific targets for reducing pollution).

At a European level, the commission has produced guidelines on the use of such agreements between public authorities and industry. Example of such agreements include an agreement between the Commission and European car manufactures cut average carbon dioxide emissions from new cars by 25% by 2008. On a national level, there have been agreements with newspaper publishers to increase the proportion of waste paper in newsprint to 40% by 2000 and chemical industries association to reduce its members' energy consumption per tone of product by 20% between 1990 to 2005. This latter agreement is the precursor of future initiatives in relation to the Climate Change Levy whereby energy intensives sectors have been offered tax reductions on the basis that they enter into voluntary agreements to improve energy efficiency. There are many criticisms of such voluntary agreements. Many of these reflect the criticisms of self-regulatory mechanisms generally (e.g. lack of transparency or accountability no public participation lack of satisfactory enforcement mechanisms) but most of these stem from the fact that the status of many of these agreements is uncertain given that they are neither private contracts nor agreements made under statutory powers. It would appear that the role of these agreements is to provide a further mechanism which is complementary to direct regulation. They allow government or regulators to set targets and goals which go

beyond that which could be required under the legislative scheme.

11. Financial Affect of Climate Change

It has potential to affect the entire foundations on which the decision making activities of the companies. It has the potential to affect the entire foundations on which the activities of the companies are organized from supply chain organization, the production of goods and services to the sale of such goods and services in market. Climate change has the potential of disrupting the supply chain of the raw materials, the production of goods and services and can reorganize the market leading to losses because the market of the goods stands disrupted. This can lead to huge losses in investor's wealth and therefore it is necessary that the risks related to climate change are taken into account in the financial report of the companies. The measures taken for such risk mitigation is also produced by the company.¹⁵

Companies are unlikely to present climate related financial disclosures since that would affect the decision of the investors to invest in the companies on their own and therefore it becomes necessary that the companies are made to disclose the risk factors that an industry or a company is facing through a mandatory requirement in the annual financial report. While the risk factors that are faced by a company may be the same across an industry, but there are a large number of risk factors that are unique to a particular company. Is an institution that has the mandate to require disclosure of climate related financial risk by a company or

¹⁵ Business Strategy and the Environment, 'Climate Change and Financial Performance in Times of Crisis' Wiley online library by Isabel M. García-Sánchez.



an organization a way out? The purpose of the research paper is to advance a proposal of having an institutional mechanism with powers to mandatorily require companies to disclose the various financial risk factors facing the company on an action by investors. The presence of such an institution mechanism would promote greater investor protection. The proposal would take the recommendations made for the financial consumer protection in the Financial Sector Legislative Reform Commission Report as a template for building up of such an institutional mechanism.

12. Atmospheric Affect of Climate Change

Climate change is perhaps the biggest challenge facing the world today and the very existence of man depends on how effectively this challenge is tackled. All governments have come together on a common forum to devise means to cope with this phenomenon, which threat to play havoc with the lives of people across the globe. Global temperatures are rising glaciers are melting sea levels are rising and established climate patterns are dramatically changing, threatening many serious of both flora and fauna. There is clear cut evidence that atmospheric temperature is gradually increasing since the beginning of the industrial revolution in 1750. As these changes take place, agriculture is getting affected adversely and the threat of decrease in food production is becoming very real. This is at a time when our populations are still rising steadily. Developing countries like ours would be the worst hit. Already for several years, the pattern of monsoon in India

has become unpredicted uncertain and erratic. Scientists attribute these changes to climate change. With regard to climate change, India has some real tough tight-rope walk before it. With temperatures poised to raise by 2.5 to 5 degree Celsius over the century, monsoon patterns threatening to go haywire and sea level likely to raise, as it is there will be problems of food secondly, water scarcity, livelihood and health to reckon with. To be balance with this are the imperatives of sustaining a high economic growth as a prerequisite to poverty elevation and the need to raise per capita energy consumption to provide a minimally acceptable level of wellbeing. India has rightly been looking both inward and outward in its efforts to balance its varied and often seemingly contradictory concerns. This reflected in our comprehensive domestic agenda for mitigating climate change, adapting to it and aiming to cut the emission intensity of GDP by 20-25% of the 2005 level by 2020.¹⁶ This also reflected in our proactive climate negotiations in international where we have persistently been upholding the principle of common but differentiated responsibility, fulfilling for the rights of the developing countries to economic growth without the impediments of immediate formal caps on emission and insisting that developed countries respect. Their obligations to reduce emission and help developing countries to get on to the path of sustainable development.

13. Conclusion

The Purpose of the research paper is to think a proposal on climate change and

¹⁶ Environmental Law by Stuart Bell & Donald McGillivray, 'Oxford University Press' 5th edition 2004, P 220.



assets sustainability, which is universal taking in the world. 100% receipt on any controversial matter by the society which is impossible. No doubt, we shall think two different matters on different ways. Each differing views has to be examined on its own properties. On the other hand, numerous actuaries have to transform this in order to seen past, present and future risks.

Our planet has been viewing a speedily heating drift. This has been basically reasoned by the raising attention of the GHGs mainly 'Carbon Dioxide'. There has global recognition for the information that the major contributor to the enhance in CO₂ attentiveness is the flaming of fossil fuel and deforestation. This is reason climate change that will have a extremely large-ranging impact on life on the earth. This will contain enlarged occurrence of excessive temperatures, floods, hurricanes, storms, droughts and sea levels, to name a few. If no urgent steps are in use and the attention of GHGs is allowed to rise unrestricted, the ensuing penalty could be grievous and humankind could reach a point of no return.

The world society has acknowledged they require to limit the raise in the earth's temperature to 2°C and instigate changes to reach this goal. This will have need of the world to move away from burning fossil fuels and efficiently reach a phase of zero carbon emissions. This will necessitate a fundamental change in the way humanity lives as we move forward.
