

GENERAL ASSEMBLY

Subject: Combatting climate change through social, political, economic and cultural means

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Introduction

“Climate change is destroying our path to sustainability. Ours is a world of looming challenges and increasingly limited resources. Sustainable development offers the best chance to adjust our course.” -Ban Ki Moon



The two degree threshold imposed by the United Nations (UN) could potentially be the panacea to a world where global warming or climate change are not both synonyms to a near catastrophe. As negotiations regarding ways in which governments - supported by their populations - can face the menace of a world crumbling into smog, the UN's Secretary General remains quite pessimistic on the evidence of a cleaner world as he states that we are moving at a 'snail's pace'¹. Reasons behind his thoughts are perhaps quantifiable on fingertips: population increase, deforestation, carbon emissions... Yet some pursue to believe that the following topic is not a major issue. Climate change skeptics now concede that climate change is real, but reject the scientific consensus that human activity - mainly burning fossil fuels - is driving it.

¹ see "UN climate talks moving at snail's pace, says Ban Ki-moon", The Guardian, June 2015

Likewise, they understate the potential consequences, contend that we can easily adapt to them, and fight government efforts to curb carbon emissions and promote renewable energy.

The question of combatting climate change has been a topical one since the 1950s, hence leading society into thinking of ways to avoid it through social, political, economic and cultural means.

Definition of key terms

Anthropogenic: Made by people or resulting from human activities. Usually used in the context of emissions that are produced as a result of human activities.

Atmosphere: The gaseous envelope surrounding the Earth. The dry atmosphere consists almost entirely of nitrogen (78.1% volume mixing ratio) and oxygen (20.9% volume mixing ratio), together with a number of trace gases, such as argon (0.93% volume mixing ratio), helium, radiatively active greenhouse gases such as carbon dioxide (0.035% volume mixing ratio), and ozone. In addition the atmosphere contains water vapor, whose amount is highly variable but typically 1% volume mixing ratio. The atmosphere also contains clouds and aerosols.

Carbon Footprint: The total amount of greenhouse gases that are emitted into the atmosphere each year by a person, family, building, organization, or company. A person's carbon footprint includes greenhouse gas emissions from fuel that an individual burns directly, such as by heating a home or riding in a car. It also includes greenhouse gases that come from producing the goods or services that the individual uses, including emissions from power plants that make electricity, factories that make products, and landfills where trash gets sent.

Climate change (and global warming): In a nutshell, climate change occurs when long-term weather patterns are altered — for example, through human activity. Global warming is one measure of climate change, and is a rise in the average global temperature.

Climate change denial (or Climate change skepticism): 'involves denial, dismissal, or unwarranted doubt about the scientific consensus on the rate and extent of global warming, the extent to which it is caused by humans, its impacts on nature and human society, or the potential for human actions to reduce these impacts.'

Renewable Energy: Energy resources that are naturally replenishing such as biomass, hydro, geothermal, solar, wind, ocean thermal, wave action, and tidal action.

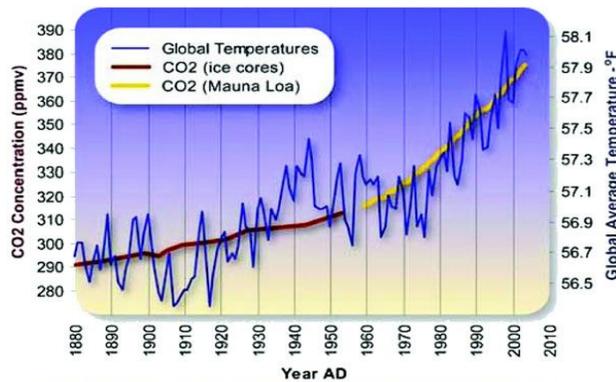
Vulnerability: The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed; its sensitivity; and its adaptive capacity.

Background information

The Earth has always gone through different climate change phases: it is the basis of the term climate change. For this reason, the question of whether the Earth is warming up more than it should be or simply going through a warm period is constantly subject to heated debates.

Throughout history, evidence collected shows that the Earth has always been subject to changes in temperature, with warmer and colder phases. The cold periods - the Ice Ages - lasted for significantly longer periods of time than the warm periods.

Evidence for the fact that global warming is happening can be found in the connection between changes in water and ice levels. For example, NASA (the National Aeronautics and Space Administration of the United States), having measured the Arctic pack ice shrinkage at 2.9% per decade, has recorded a thinning from 3.1 meters to 1.8 meters in only the past decade. As well, there has been a 0.3° to 0.6°C rise in global temperatures since the late 19th century, and between 1960 and 2000, there has been a rise of 0.2° to 0.3°C. Figure 1, which compares surface air temperature and CO2 levels over the past 160000 years (from ice cores), is proof of a strong correlation between temperature and CO2 parts per million. The shapes of the graph are nearly identical and the peaks seen in one graph mirror those in the other graph, with a rise in temperature in the present day corresponding to what can be said to be a change in the warming of the planet. Thus, in the recent past (approximately 50 years), there is clear evidence of climate change.



Data Source Temperature: ftp://ftp.ncdc.noaa.gov/pub/data/anomalies/annual_land_and_ocean.ts
 Data Source CO2 (Siple Ice Cores): <http://cdiac.esd.ornl.gov/trends/co2/siple2.013>
 Data Source CO2 (Mauna Loa): <http://odiac.esd.ornl.gov/trends/co2/maunaloa.co2>
 Graphic Design: Michael Ernst, The Woods Hole Research Center

Figure 1

The changes in temperature and therefore in other meteorological consequences (rainfall, winds...) will have numerous effects in the future. Due to melted pack ice - caused by the rise of temperatures in some parts of the planet - diverting cold water from the poles along to the Gulf Stream, which is happening as a result of climate change, certain regions of the planet such as the South-East of the United States and areas of the United Kingdom are cooling down. This could lead to negative and potentially damaging changes in agriculture and current living conditions. Humans, animals, and plants biologically programmed to survive in specific ranges of temperature will be forced to adapt to different conditions. Other areas of the planet - where the average temperature will see an increase - might be threatened by the drying-up of water sources, such as the Aral Sea - between Kazakhstan and Uzbekistan - which is presently at only 10% of its original size (it has been progressively shrinking since 1960). The sea levels,

which during the 20th century have risen between 10 and 25 centimeters, have inundated a number of islands in the Pacific Ocean, such as Kiribati, and could affect up to 50 million people worldwide in the next couple of years.

Climate change is a real threat which must be addressed; this can be done through social, political, cultural, and economic means.

Social

As global communication continues to evolve, social networks and systems are becoming increasingly efficient in the outreach and spread of information involving climate change. Worldwide, people are able to build and share projects, with a number of successful outcomes²

A number of social movements have grown over the past decade in the combat against climate change. A relevant example includes the Campaign against Climate Change in the UK (<http://www.campaigncc.org>). See the article from the Harvard University Center for the Environment on the importance of social movements in the fight against climate change: <http://environment.harvard.edu/news/huce-headlines/social-movements-and-climate-change>

Populations are adapting to the changes encountered and act to manage and slow the rapid changes in our environment. This is made possible through social systems and communication, essential in the combat against climate change.³

The power of the media in the era we live in is a fundamental tool which can be used in order to show the dangers and negative consequences of climate change.

Political

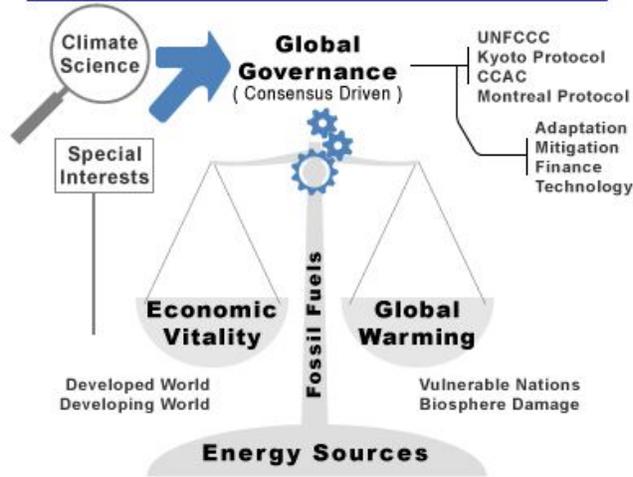
As governmental bodies have the ability and power to address a large scale of people and pass laws encouraging action on climate change, the political aspect of climate change combat is necessary to consider. Examples of political leaders acting upon climate change are numerous; some particularly noteworthy ones are:

- President Obama's plan to fight climate change:
<https://www.whitehouse.gov/climate-change>
- the governmental projects in the UK:
<https://www.gov.uk/government/topics/climate-change>
- the Kenyan Climate Change Action Plan:
<http://cdkn.org/project/from-planning-to-action-in-kenya/>

² (see: <http://www.theguardian.com/global-development-professionals-network/2013/nov/15/top-10-climate-change-campaigns>).

³ [further details: <http://www.nisd.cass.cn/upload/2012/12/d20121221201040055.pdf>]

Politics of Global Warming



Cultural

A number of religions have communicated the need to deal with the implications of climate change. Baha'i, Buddhist, Christian, Jewish, and the Sikh religions, to name a few, have addressed these concerns in formal documents which can be found in the appendix. Notably, there exists an Interfaith Declaration on Climate Change : <http://www.interfaithdeclaration.org> emphasizing that culture - and particularly religion - can play a central role in influencing and encouraging people to act on climate change. The Pope's Encyclical on Climate Change on May 24th 2015 was a momentous publication, involving millions of people in a call for acting in climate change.

[For more information on religion and ecology, see: <http://fore.yale.edu>]

Economic

Countries have taken various measures to combat climate change through economic means. Carbon budgets exist in a number of nations; a carbon budget sets a cap on the amount of greenhouse gases a country can emit in a given time period. If the limit is surpassed, sanctions can be put into place by the UN. A limitation of this method is the financial ability of some countries to buy higher carbon budgets than others.

On an individual level, people can also reduce carbon emissions by limiting their use of cars and devices requiring high consumptions of gas/carbon. This can help them save money as well by cutting down their spendings on costly gas/carbon.

The African Development Bank Group has numerous actions organized and currently working to address climate change, setting up projects in developing countries through economic aid.

<http://www.afdb.org/en/topics-and-sectors/sectors/climate-change/>

Major countries and organisations involved

The choice of the following countries is based upon two ideas: the first is to show that leading powers are not exempted by this issue; the second is to reinforce the idea that the subject matter - climate change - encompasses every single country in the world, for it is created (mostly) by an individual's daily routine, hence justifying the decision of two countries (Uganda and Australia), chosen at random.

China: For years China argued that it was too poor and underdeveloped to even consider accepting any obligations to curb its greenhouse gases. We're yet witnessing the world's largest emitter playing by the UN's rules and promising even deeper cuts that those suggested some months back. Some numbers to show the importance of climate change in China: Northwest China 0.7°C increase in mean annual temperature from 1961 to 2000; between 22% and 33% increase in rainfall; increase in frequency of short duration heat waves in recent decade, increasing warmer days and nights in recent decades; increasing frequency of extreme rains in western and southern parts including Changjiang river, and decrease in northern regions

United States of America: According to the US department of State's website, the country is "taking a leading role in addressing climate change by advancing an ever-expanding suite of measures at home and abroad. The President's Climate Action Plan includes unprecedented efforts by the United States to reduce carbon pollution, promote clean sources of energy that create jobs, protect communities from the impacts of climate change, and work with partners to lead international climate change efforts. In 2012, U.S. greenhouse gas emissions fell to the lowest level in nearly two decades, and since the President took office, wind energy production has tripled and solar energy has increased by a factor of ten. Significantly, in June, 2014 the U.S. Environmental Protection Agency proposed the first carbon pollution standards for existing power plants, which account for a third of U.S. carbon pollution." Yet, hindsight has to be taken concerning this information: the country, according to the World Health Organisation, is the second largest polluter in the world.

Uganda : In some places, efforts to address global warming are having a bigger impact than the changing climate itself. In the Mount Elgon National Park in eastern Uganda, a Dutch nonprofit group was reforesting the park's perimeter, earning carbon credits for airline passengers looking to make up for their emissions, and reinvesting the revenues to plant more trees. It was a project meant to benefit everyone. The trees were pulling carbon dioxide from the atmosphere, travelers were feeling less guilty, and Uganda was getting a bigger park. Yet that calculation didn't take into account the most vulnerable: the communities that once farmed the hills. Angry that their fields had been taken, they fought their expulsion with lawsuits and machetes - eventually clearing many of the trees meant to capture carbon. This demonstrates a clear social problem in the combat to stop climate change: what was thought to be a good deed ended up as one hindering the local population.

Australia: Not all the carbon dioxide we emit contributes to atmospheric warming. More than a third of what we have produced since the industrial revolution has been absorbed by the

oceans, where it reacts with seawater to form carbonic acid. So far, we've added enough carbon to shift the pH of the world's waters from 8.2 to 8.1.

The first to feel the impact are the creatures of the sea that use calcium carbonate to form their shells and exoskeletons. The acidic (or actually less alkaline) water wears away at crabs, mollusks and sea snails. Coral reefs face a double spell as the changing ocean chemistry adds to the stress of unusually warm water. Australia's Great Barrier Reef lost an estimated 10 percent of its coral to mass bleaching in 1998 and 2002. Overstressed colonies expelled the symbiotic algae that give them their color, leaving them bone white and weakened. The U.N. Intergovernmental Panel on Climate Change (IPCC) estimates that by 2050, 97 percent of the Great Barrier Reef will be bleaching yearly. Whereas the coral sometimes recovers, reabsorbing the algae, more often bleaching is the first step toward death. The oceanic kaleidoscope may be among the first victims of the changing waters, but the devastation can be expected to work its way up the food chain. In Australia the seabird population has begun to drop steeply. The seafood industry could be next. As the reefs vanish, the fish will surely follow.”

There are a plethora of organizations fighting climate change (over 152), as the issue encompasses the whole world and is one of planetary importance. Here are some amongst plenty: Greenpeace, Green Alliance, European Climate Forum, Canadian Youth Climate Coalition, Save The Climate, Stop Climate Chaos, Ice2sea.

UN treaties

- The UN Framework Convention on Climate Change (UNFCCC) in 1992 aimed to help countries reduce their carbon outputs and as a result limit the effects of climate change. Article 2 of the UNFCCC sets forth the main goal: stabilizing the atmospheric concentration of greenhouse gases. As parallel actions taken, the UN Convention on Biological Diversity and the UN Convention to Combat Desertification.
- The Kyoto Protocol, adopted in 1997 but only put into place in 2005, delineates the precise actions to be carried out following the agreements of the UNFCCC. Its main objective is to reduce the emissions of 37 industrialized nations. Whereas the UNFCCC only encouraged countries to stabilize their use of greenhouse gases, the Kyoto Protocol commits the countries to it. For the Status of Ratification of the Kyoto Protocol, see : http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php

Possible solutions

Solutions are numerous at different levels. On an individual or micro level, daily lifestyle changes can be made such as commuting in a greener way, choosing renewable energy, eating more wisely (meaning cutting down on meat and diminishing quantities), getting involved in associations and many more.

Meanwhile, on a global or macro standpoint, solutions include the reduction of carbon dioxide emissions (lower energy consumption, energy savings (more public transportation, energy efficient buildings), different types of energies (non-fossil energies, renewable and nuclear), the design of energy efficient goods and the design a way to trap the CO₂ (role of forests - stop deforestation).

Conclusion

Climate change is a present reality in our world. Its dire consequences have already started to take effect on the planet. As much as the causes of climate change vary from cultural to political to social to economic, so do the platforms on which we can act. With the growing power of social media and international communication, cooperation between people and countries worldwide in sharing ideas can be one of many positive answers to solve the severe threats and dangers of climate change. Acting on an individual level, as well as a national and global one, is essential to prevent the rise of negative effects on the planet and in return, on our own lives and those, more importantly, of future generations.

Sources:

<http://www.epa.gov/climatechange/glossary.html#B>

<http://www.scientificamerican.com/slideshow/top-10-places-already-affected-by-climate-change/>

<http://newsroom.unfccc.int>

<http://www.un.org/climatechange/towards-a-climate-agreement/>

Appendix

❖ Religions on climate change:

- Anglican: <http://www.interfaithpowerandlight.org/2015/03/17-anglican-bishops-from-all-six-continents-have-called-for-urgent-prayer-and-action-on-the-unprecedented-climate-crisis/>
- Baha'i : <https://www.bic.org/index.php?q=statements/seizing-opportunity-redefining-challenge-climate-change>
- Baptist: <http://www.baptistcreationcare.org/node/1>
- Buddhist: http://fore.yale.edu/files/Buddhist_Climate_Change_Statement_5-14-15.pdf
- Catholic: <http://www.yaleclimateconnections.org/2012/02/the-catholic-church-and-climate-change/>

<http://www.news.va/en/news/pope-mass-protecting-creation-a-christian-responsi?fromt=yes>

- Church of the Brethren: <http://www.webofcreation.org/ncc/statements/cob.html>
- Episcopal Church:
<http://www.episcopalchurch.org/notice/episcopal-church-church-sweden-elca-commitment-sustaining-hope-face-climate-change>
- Jewish: <http://fore.yale.edu/climate-change/statements-from-world-religions/judaism/>
- Muslim:
<http://islamicclimatedeclaration.org/islamic-declaration-on-global-climate-change/>
- Presbyterian: <http://www.pcusa.org/media/uploads/acswp/pdf/energyreport.pdf>
- Quaker:
<http://www.quakerearthcare.org/article/shared-quaker-statement-facing-challenge-climate-change>
- Sikh:
<http://www.interfaithpowerandlight.org/resources/religious-statements-on-climate-change/first-sikh-statement-climate-change/>
- Unitarian Universalist:
<http://www.uua.org/statements/threat-global-warmingclimate-change>
- United Church of Christ:
http://www.ucc.org/environmental-ministries_synod-resolutions_a-resolution-on-climate
- United Methodist Church:
<http://www.ncipl.org/wp-content/uploads/2013/03/United-Methodist.pdf>