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Carbon offsetting and other innovative methods of reducing emissions while staying competitive.

By Šimon Olmer

INTRODUCTION

Mainstream observers, including the philosopher Peter Singer, have described the current international economic order as a “race to the bottom”. Essentially, this description suggests that in our era economic considerations and the strive to remain competitive and secure in a globalized, interdependent market “trump” other non-military considerations, especially the environment. However, with the growth of global development and the international recognition of Climate Change as a threat to life on Earth, these tendencies to prioritize economic gain have been increasingly challenged.

Despite this challenge, lying in environmental activism, largely dominating the political agendas of countless transnational advocacy groups and the clear majority of developed states, local and global environmental conditions are still steadily worsening. Sea levels are rising by 3.4 millimetres a year, the concentration of Carbon emissions in the air is at a 650 000-year high and the temperature has risen by almost 1°C over the past hundred years. As such, the dysfunctionality of the current environment protection system is more than apparent.

It is argued that what prevents environmental activism from working is its very restrictive nature of conduct and the policy oversimplification that derives from it. To put it simply, environmental activism has come to a stage where it only imposes limits, comes up with barriers and produces bans, rather than working on an innovative conceivable solution for the future, which would incorporate countries national interests and motivate them to shift their domestic policy. Moreover, the bureaucratic process prevents transnational advocacy networks from exploiting their full potential as corruption is a common occurrence.

Evidently, the environmental protection network is in urgent need of a radical shift in conduct, otherwise the deteriorative effects of our primarily economic system would not be prevented. One of the few proponents of this shift is the European Union. The EU introduced

a system of carbon offsetting, meaning that one can compensate for their carbon footprint by investing in reduction elsewhere. In practice, it works through designation of a number of carbon credits to the market, which companies (or individuals) buy and thus invest in reduction of their carbon footprint. Critics of this practice argue that additionality of the offset financed projects is rather questionable and that the practice does not actually contribute to reduction and rather has an “indulgence” sales effect.

Nonetheless, there are other viable ways to protect the environment, including inventiveness, such as in the case of the extensive flood control in the Netherlands, or purely speeding up development as it is easily perceivable that the most developed, rich, democratic states are the largest sources of environmental activism (European Union, The United States).

DEFINITION OF KEY TERMS

Carbon Offsetting – The use of carbon credits to enable businesses/individuals to compensate for their emissions, meet their carbon reduction goals and support the move to a low carbon economy.

Climate Change – A process characterizing the rapid shifts in our global climate in recent years, differentiated from prior climatic changes or epochs by evidence of human involvement and the radical nature of climatic change.

Environmental activism- Advocacy for or work toward protecting the natural environment from pollution or destruction.

The European Union- the European Union (EU) is a group of 28 European countries that operates as a cohesive economic and political block.

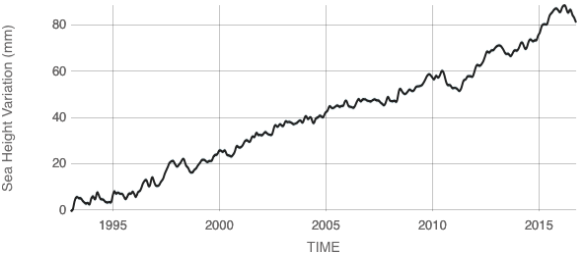
GENERAL OVERVIEW

The problem

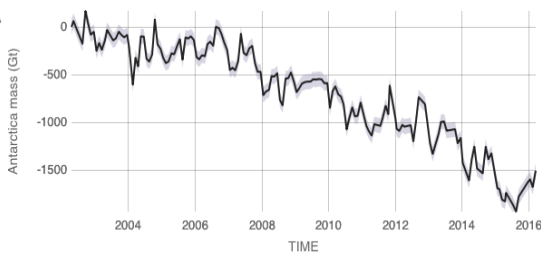
Global Climatic Change is a process, which characterizes the rapid, radical shifts in our global environment and poses many threats to our future. It is a mark of a new climatic era posterior

to the last ice age ending 7,000 years ago. It is unprecedented in the rate by which it advances and the significant proof of human involvement.

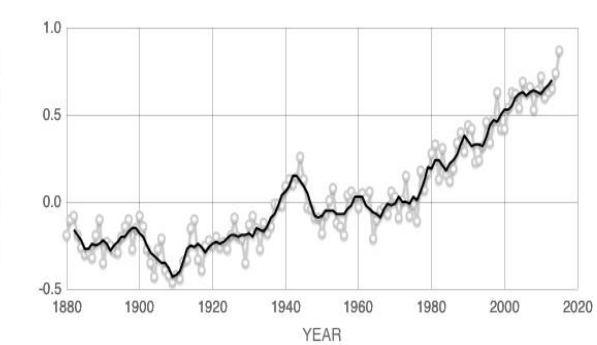
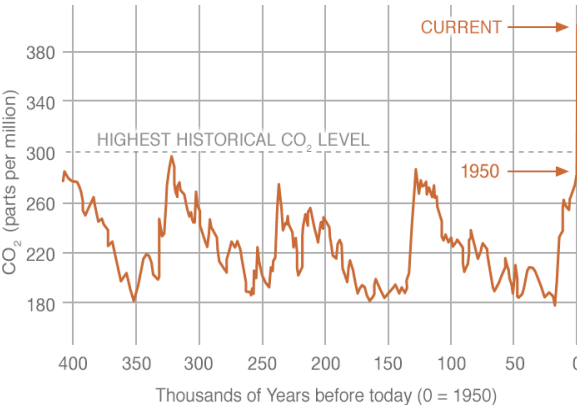
The fact that it is taking place is nearly undisputable. Generally, scientists point to the rise in sea level, decrease of arctic ice mass, a historic high of CO₂ emissions in the air and finally the rise in temperature as proof of climate change.



Source: climate.nasa.gov



Source: climate.nasa.gov



Source: climate.nasa.gov

Moreover, 97% of environmental scientists have achieved consensus that Climate change is at least partly a result of human contribution as the process of change in the world’s climate is very different from those of the past, which could be caused solely by external involvement.

These scientists claim that prior to this climatic era, changes were caused primarily by some sort of an alternation in the earth’s orbit around the sun or by an alternation in the energetic output of the sun, which resulted in a change in climate all through the earth and the atmosphere. Whereas, today the changes are caused by accumulation of the suns energy within the atmosphere as the rise in gas concentration in the atmosphere prevent it to escape, thus achieving what is called call the “greenhouse effect”. In practicality, this is shown by warming at the surface and cooling in the stratosphere and a change in climate without a corresponding change in the energetic input to the Earth.

With the evidence laid out, it is imperative that one realizes the potential effects and threats such a change poses. It is estimated that the main issue will be the increase of scale, frequency and magnitude of dangerous climatic events, including storms, heat waves, hurricanes and droughts. Moreover, sea levels are expected to rise and arctic ice to diminish, thus inevitably destroying the natural habitats of many species of the animal kingdom. Lastly, temperatures are expected to continue rising, which could be devastating for certain areas on our planet.

Innovative methods as a solution?

Carbon Offsetting

The practice of carbon offsetting is one of the measures taken to reinvent the approach to environmental activism pursued especially by states of The European Union. It creates a market, which allows companies or individuals to compensate for their carbon emissions by reducing them elsewhere. Through the purchase of carbon credits companies contribute to forestation, renewable energy and energy reduction projects whilst receiving a higher emission cap for themselves. This way participants of the process achieve a state in which the net amount of carbon emissions emitted into the air equals zero and is thus *carbon neutral*. Additionally, companies or individuals that participate in reduction projects can sell carbon credits, thus profiting themselves.

Inferably, if the system is to function, two core assumptions must be maintained. First, there must be a cap on the number of carbon emissions, so that there is a demand for acquiring a greater cap when one cannot manage to control his/her emission output. And Second, the projects made to reduce carbon emissions must be proven to be additional, so that actual reduction is achieved. For example, take a hypothetical example provided by the guardian newspaper:

“Take the example of an offset project that distributes low-energy lightbulbs in a developing country, thereby reducing energy consumption over the coming years. The carbon savings would only be classified as additional if the project managers could demonstrate that, for the period in which the carbon savings of the new lightbulbs were being counted, the recipients wouldn't have acquired low-energy bulbs by some other means. For instance, in the case of the lightbulb project, the local government might start distributing low-energy bulbs to help reduce pressure on the electricity grid. If that happened, the bulbs distributed by the offset company would cease to be additional, since the energy savings would have happened even if the offset project had never happened.”

From this assumption, criticism stems. Although it might be highly probable, additionality of a project is never absolutely certain as no-one can foresee the future, solely predict. More so, some opponents of this project suggest that rather than aiding the fight against global climatic change, this practice is a tool to help our guilty conscience, similarly to how buying indulgences from the church to compensate for your sins worked in the Middle Ages.

Inventiveness/ Investment to innovation

It has been of necessity or the strive to comfort that the global populace has never ceased innovating and evolving and yet seemingly this practice takes a second place when it comes to protecting our environment. Environmental scientists keep collecting data on the worsening of the environment and urging states to adopt restrictive measures and norms without stopping to develop a new solution that might solve the issue. The benefit of technological innovation lies in the motivation and alternative that it provides to states rather than urging them to lose their competitive advantage.

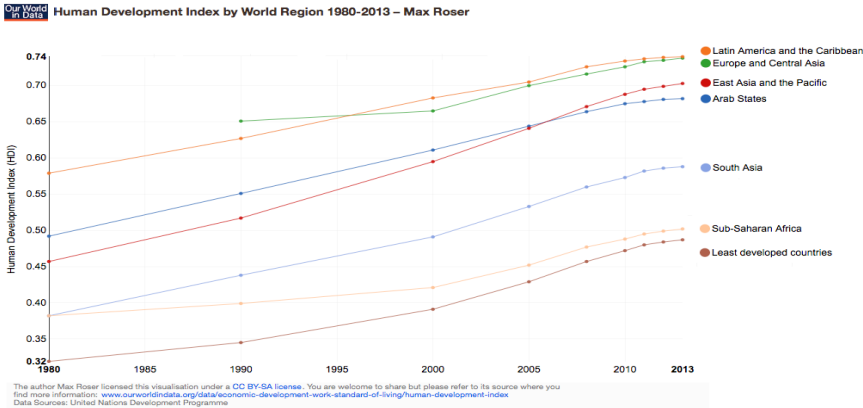
The best illustration of how innovation may be in complete equilibrium with government interest and the protection of the environment are the Dutch dams. With one quarter of their land below sea level, the Netherlands sought a viable solution to protect its landmass from flooding whilst preserving the habitat of fish and the organisms within their natural habitat. Therefore, extremely complex dams were created encapsulating both these concerns and although primarily seen as overly expensive or not protective enough, they were a result of an incredible compromise and are now internationally acclaimed for their aid to the society.

Critics of this approach, however, might argue that the downfall of such a plan is the time sensitivity of the issue as for instance the EU states that 80% of carbon emissions must be reduced by 2050 to prevent an irreversible rise in temperature by 2°C.

Development

With Europe, the United States and other generally developed, democratic states being by far the most momentous proponents of restrictive measures and global environmental protection, it is necessary to realize that the lack of focus on global economic development in environmental protection might be a significant contributor to its dysfunctionality. Hence, adapting the view that a lack of restrictions and other measures taken to protect the environment might in fact be beneficial in future prompting of restrictions.

This view comes back to the very first statement made in this paper that nowadays economic considerations outweigh other noneconomic, non-military considerations, including the environment. However, clearly this approach has positive results on economic development, not only due to the global rise in HDI (Human Development index), indicating global welfare, yet also due to the case studies that prove that if a corresponding free capitalist economic system is implemented, it is the best system for rapid development, such as in the cases of China and India.



Therefore, if we assume from historical evidence, such as the development in Europe or the U.S., that economic and societal development is in fact the best system for prompting future domestic policy shifts to protect the environment, it is arguable that reducing restrictions and increasing the role of the free market is essential to maximize development. Moreover, states and transnational corporations would have to engage in foreign investment to maximize the effects.

Similarly, to the last approach, critics might argue with time-sensitivity of the issue.

MAJOR PARTIES INVOLVED

The United States

The U.S. environment protection agenda has for a long time been of the most restrictive globally. They sponsored and co-sponsored countless UN resolutions on the matter and have themselves passed countless domestic bills reinforcing environmental protection. Among the most notable are “The Clean Air Act” or the creation of EPAs (Environment Protection Agency). However, some fear that with the recent president-elect’s attitude to environmental protection, this long-standing agenda could suffer serious setbacks.

The European Union

Europe as one of the most developed regions in the world has in recent years adapted ambitious, extremely restrictive and protective legislation on protection of natural habitats, keeping the air and water clean, ensuring proper waste disposal, improving knowledge about toxic chemicals and helping businesses move towards a sustainable economy. It is truly the largest proponent of environmental legislation and the measures taken include for example Carbon Offsetting or extensive setting of Carbon Emissions caps.

The Russian Federation

The Russian Federation has after ever-increasing international pressure slightly shifted its environmental agenda legislatively to a more protective manner, however, critics of the regime claim that it is still very far from actual implementation. This reluctance can be seen especially in far-eastern regions where gas companies seem to have zero limits imposed on their conduct and the effects on the environment are undoubtedly extremely deteriorative.

Peoples Republic of China

The Peoples Republic of China is one of the most evident examples of how development

leads to environmental restriction. At the beginning of the century, they were by far the largest producer of carbon emissions globally and now, although they still maintain that level of production, they have pledged to achieve significant reduction by 2050. However, although their policies shifted radically, they are still far behind the restrictiveness of European and North-American states and thus conflict over the severity of such restrictions arises.

TIMELINE OF KEY EVENTS

1987: MONTREAL - Governments adopt a treaty pledging to restrict emissions of chemicals damaging the ozone layer.

1988: NEW YORK - The U.N. General Assembly endorses the creation of the Intergovernmental Panel on Climate Change.

1990: LONDON - The IPCC releases its first scientific assessment of climate change.

1992: RIO DE JANEIRO - World leaders gathering for the first Earth Summit sign the United Nations Framework Convention on Climate Change.

1997: KYOTO, Japan - The Kyoto Protocol is adopted.

2004: MOSCOW - President Vladimir Putin signs a bill confirming Russia's ratification of the Kyoto Protocol.

2007: OSLO, Norway - Former U.S. vice president and climate campaigner Al Gore and the IPCC share the Nobel Peace Prize for their efforts to raise awareness about global warming.

2009: COPENHAGEN, Denmark - The first attempt to craft a global emissions treaty to replace Kyoto, which is set to expire in 2012, falls apart amid disputes between rich and poor countries over who should do what.

2011: DURBAN, South Africa - U.N. climate talks produce a major breakthrough as countries agree to adopt a universal agreement on climate change in 2015.

2013: STOCKHOLM - The IPCC says it's "extremely likely" that human influence is the dominant reason for warming temperatures recorded since the mid-20th century.

2015: PARIS - More than 190 governments meet in the French capital to finish what's envisioned as a landmark deal to rein in greenhouse gas emissions after 2020.

PREVIOUS ATTEMPTS TO RESOLVE THE ISSUE

As outlined in prior arguments, the resolution of the issue was largely reliant on taking restrictive measures and adopting norms limiting the environmental damage done. Some countries/ individuals, however, resorted to innovation in the field of energy savings or energy production. Moreover, structural innovation of restrictions took place in Europe and other developed countries through the practice of carbon offsetting.

APPENDIX

For more information about climate change: NASA 2016. "Global Climate Change- Vital Signs of the Planet" <http://climate.nasa.gov> (January 16, 2016).

For a detailed description of Carbon Offsetting: Carbon Neutral 2016. "Carbon Offsetting Explained" <http://www.carbonneutral.com/resource-hub/carbon-offsetting-explained> (January 16, 2016).

For international policy outcomes: IOP Science 2016. "An international comparison of the outcomes of environmental regulation" <http://iopscience.iop.org/article/10.1088/1748-9326/9/7/074019/pdf> (January 16, 2016).

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Resource entitlement: defining the minimum environmental and financial conditions of fossil fuel exploitation by transnational corporations.

By Maxmilián Sup

INTRODUCTION

The question of the exploitation of natural resources is incredibly diverse, complicated and always brings emotions. Its impact on society ranges from the social to the political to the economical to the environmental. Therefore, a protocol should be established tackling these impacts.

At a basic level, people need food, water and shelter. Populations are projected to increase and economies grow, there will be great pressure on the energy industry in meeting energy demand. Energy consumption is estimated to grow by 56% between 2010 and 2040 (EIA 2013). However, from recent climate reports, it is with great urgency that energy is delivered in a sustainable, environmentally friendly and “greener” manner at a much greater scale than previous UN targets state.

Despite most of the transnational companies headquarters are situated in More Economically Developed Countries(MEDCs), the majority of potential natural resources in the world at this moment are in Less Economically Developed Countries(LEDCEs). MEDCs, hungry for consumption are dependent on rich deposits of minerals and large forests in less developed countries.

Although most resources are to be found in LEDCEs, there is an unequal distribution of the resources, as MEDCs consume more whereas LEDCEs have limited access to fundamental resources such as food and water. This leads to several political consequences aside from the better-known negative environmental impacts of the exploitation of resources.

While oil and gas companies suggest that their business objectives are long term and “sustainable” for future generations, there is increasing concern that global oil production has

already reached its peak (Lloyd and Subbarao 2009). While coal has shown a general trend of being phased out (REN21 2012), there has been controversy surrounding further gas exploration operations (particularly fracking).

The Kyoto Protocol (1992) and the consequent environmental summits since have proven climate science to be credible. Greenhouse gas (GHG) emissions, primarily from the extraction, processing and burning of fossil fuels contribute heavily to environmental pollution and global warming (OECD 2012a). The consequences of further pollution were acknowledged of having negative effects to people's health, the economy, and resilience of current infrastructure and technology (Harrison 2006, UNEP 2012).

Definition of key terms

Natural resources - Substances provided by nature that are useful to human beings and have an economic value. They can be classified as biotic or abiotic; renewable or non-renewable; potential or actual resources.

Exploitation - The action of making use of and benefiting from resources.

Fossil fuels - Fossil fuel is a natural fuel such as coal or gas, formed in the geological past from the remains of living organisms (Oxford dictionary). These are mostly natural gas, oil and coal. All fossil fuels produce water and carbon dioxide when they fully combust, which in turn causes the renowned greenhouse effect. But as hydrocarbons burn, these fuels also contain other substances, like for example Sulphur. Such impurities found in fuels cause major health problems to human and animal populations. Sulphur reacts with oxygen when the fuel combusts and forms a gas called Sulphur dioxide, which is poisonous and acidic. This causes a substantial deterioration to the environment as it is a cause of acid rain.

MEDCs - An MEDC (More Economically Developed Country) is a nation with a highly developed economy and an advanced technological infrastructure relative to LEDCs.

LEDCs - An LEDC (Less Economically Developed Country) is a nation with lower living standards and an underdeveloped industrial base. In less politically correct terms, it is also referred to as a Developing Country or a Less Developed Country.

GHG - a gas in an atmosphere that absorbs and emits radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. Those are not only CO₂.

Statement of the problem

Oil and Gas (O&G) companies tend to base business decisions on short-term profitability and any potential investment competes with others that offer extremely high rates of return. While the lack of adherence to regulation and the disasters that have followed have brought a lot of negative publicity to the industry, high dependence of the world economy on O&G has enabled it to maintain its profits without changing its practices. Oil and gas companies have a large stake in the deliverance of fossil fuels, especially when most of these companies have historical principles embedded in oil and gas production.

Despite this, it has been important for gas and oil companies such as British Petroleum (BP), Royal Dutch Shell and Exxon Mobil to project an “environmentally friendly” image by marketing their investments in renewable technologies. With all the financial resources the O&G companies have available to invest in reducing the environmental impacts of their extremely polluting products while also investing in alternative products, it is important to change the business climate so that investing in green technology becomes directly beneficial for these firms. Regarding wide-spread environmental concern, oil and gas companies have been the culprits of horrendous environmental damage during their operations (Ocean Planet 1995, Harrison 2006, Thompson 2010). Most evidently, oil spills have sparked the public’s concern on the ethics and conduct of these transnational companies. Gas leakages and fracking have also been subject to intense environmental scrutiny, contaminating water supplies and inhibiting ecosystem functions (Harrison 2006).

To make these truths more harrowing; most global oil and gas leakages have either been unreported or their causes have remained unaccounted for (Harrison 2006). This begs the question of environmental transparency of energy businesses, despite the evidence of growing environmental consciousness in the biggest energy players.

Conclusion

Clearly, states need a clear and coherent framework whereby oil and gas companies can make the transition from fossil fuel intensive to green-energy intensive, utilising renewables such as solar, wind, hydropower, and biofuels as well as taking initiative in developing new technologies (World Economic and Social Survey 2011).

MAJOR PARTIES INVOLVED

The United States

The US is of the biggest consumers of energy, mostly deriving from fossil fuels. In recent years, due to the tightening of international, federal, state and local legislation the US has started to increasingly use alternative energy sources. Almost a quarter of the world energy production from renewable sources is created by the States, with hydroelectric power being the major sector, followed by wind power and biomass. They sponsored and co-sponsored countless UN resolutions on the matter and have themselves passed countless domestic bills reinforcing environmental protection. Among the most notable are “The Clean Air Act” or the creation of EPAs (Environment Protection Agency). However, some fear that with the recent president-elect’s attitude to environmental protection, this long-standing agenda could suffer serious setbacks.

The European Union

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Germany

Germany has been a world leader for renewable energy production. Recently the country has made the decision to phase out nuclear power in favour of renewable energy sources. Almost 12% of the world renewable energy production is produced by Germany. The major sectors of

energy production in the country are wind power, biomass and solar energy.

Saudi Arabia

Saudi Arabia is one of the top three oil exporters. The reserves in the country are the second largest in the world, estimated to be 268 billion barrels. These barrels used to take the first place in the world until Venezuela announced that they had increased their proven reserves to 297 billion barrels in January 2011.

Iran

Iran has the fourth largest oil reserves and one of the largest natural gas reserves amongst all the countries in the world. The country is one of the leading members of the OPEC and GECF. Iran has received \$47 billion in oil export revenues. Both natural gas and oil consumption account for nearly half of Iran's domestic energy consumption. The lift of the sanctions under the impending nuclear deal with the US is expected to increase exports and change the global energy scene.

The Russian Federation

Russia has the biggest ever known natural gas reserves of any other place in the world. They come second as far as coal reserves are concerned, and lastly the country comes eighth largest on oil reserves. The country is lacking renewable energy production. The Russian Federation has after ever-increasing international pressure slightly shifted its environmental agenda legislatively to a more protective manner, however, critics of the regime claim that it is still very far from actual implementation. This reluctance can be seen especially in far-eastern regions where gas companies seem to have zero limits imposed on their conduct and the effects on the environment are undoubtedly extremely deteriorative.

Peoples Republic of China

The Peoples Republic of China is one of the most evident examples of how development leads to environmental restriction. At the beginning of the century, they were by far the largest producer of carbon emissions globally and now, although they still maintain that level of production, they have pledged to achieve significant reduction by 2050. However, although their policies shifted radically, they are still far behind the restrictiveness of European and

North-American states and thus conflict over the severity of such restrictions arises.

Bloc positions

OECD

OECD countries have an important role in global economic markets. They continue to supply oil and gas corporations with subsidies, which helps them to maintain the exploitation of fossil fuels. Non-OECD countries, particularly emerging economies and super-economies such as the BRICS are projected to consume a lot more energy and also emit more GHGs, while OECD consumption may stabilize (EIA 2013).

OPEC

OPEC is an oil cartel that has a pivotal role in oil pricing. A high percentage of their economy is reliant on oil and gas exploration and also the reason for their economic growth and geopolitical power. Countries that have been mentioned in OECD also have a large stake in the oil industry, and also for poorer countries such as Azerbaijan whose economies have grown as a result of their oil reserves (OECD 2012b).

Highest oil consuming countries (2010)

USA, China, Japan, India, Saudi Arabia, Germany, Canada, Russia, South Korea and Mexico

Countries with the highest proven gas reserves

Russia, Iran, Qatar, Turkmenistan, USA, Saudi Arabia, Venezuela, Nigeria, Algeria and Australia

Highest natural gas consuming countries (2011)

USA, Russia, China, Iran, Japan, Canada, Saudi Arabia, UK, Germany and Italy

Highest renewable energy producing countries

China, USA, Brazil, Canada, Russia, India, Germany, Norway, Japan and Italy

Highest renewable energy consuming countries:

Denmark, Iceland, Portugal, Spain and Germany

TIMELINE OF KEY EVENTS

1861: John Tyndall, a British physicist discovers that water vapour and other gases can increase the “greenhouse effect”.

1886: The Motorwagen, generally considered the first automobile, is invented by Karl Benz,

creating a brand-new market for the consumption of fossil fuels.

1958: Charles David (Dave) Keeling by methodical measurements of CO₂ in Antarctica, gives undeniably proofs that CO₂ concentrations are growing.

1965: US Committee panel warns that global warming represents a serious risk for the environment.

1987: Montreal Protocol is signed, thus limiting chemicals that threatens the ozone layer and having a substantial impact on climate change.

1992: United Framework Convention on Climate Change, Rio De Janeiro.

1995: IPCC Second Assessment Report definitively corroborates the thesis that human influence has played a huge role in the rising of atmospheric CO₂ concentration.

1997: The Kyoto Protocol is agreed upon. It fixed obligatory limits to CO₂ emissions, planning their annual world decrease of 5% from 2008-2012. Since the Protocol ended in 2012, an extension is in place, called the Doha Agreement, but only 36 states have signed it.

2004: MOSCOW - President Vladimir Putin signs a bill confirming Russia's ratification of the Kyoto Protocol.

2007: OSLO, Norway - Former U.S. vice president and climate campaigner Al Gore and the IPCC share the Nobel Peace Prize for their efforts to raise awareness about global warming.

2009: COPENHAGEN, Denmark - The first attempt to craft a global emissions treaty to replace Kyoto, which is set to expire in 2012, falls apart amid disputes between rich and poor countries over who should do what.

2011: DURBAN, South Africa - U.N. climate talks produce a major breakthrough as countries agree to adopt a universal agreement on climate change in 2015.

2013: STOCKHOLM - The IPCC says it's "extremely likely" that human influence is the dominant reason for warming temperatures recorded since the mid-20th century.

2015: G7 resolves to progressively eradicate fossil fuels consumption by 2099.

November 2015: In Paris, in the 21st United Nations Climate Change Conference, it is expected that countries will reach a universal binding agreement over CO₂ emissions.

UN INVOLVEMENT: RELEVANT RESOLUTIONS, TREATIES AND EVENTS

- United Nations Conference on Environment and Development, Rio de Janeiro 1992: The conference concerned the energy system and its Agenda 21 underscored the fact that the contemporary rates of consumption of fossil fuels are unsustainable; it asserted the need of

harnessing more balanced and sustainable energy sources.

- United Nations Framework Convention on Climate Change (UNFCCC), 21 March 1994: The convention is almost universally adopted and its aim was the “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”.³
- Kyoto Protocol, 11 September 1997: Entered into force in 2005. The states have made a commitment from 2008 to 2012. The Protocol was extended by the Doha Agreement, but only 36 states have committed for the second term.
- 9th session of the Commission on Sustainable Development (CDS-9), 2001: The members of the Commission decided to reserve more political and economic will to the implementation of cleaner and more sustainable energy worldwide.
- Johannesburg Plan of Implementation, World Summit on Sustainable Development, 2002: It called for a multitude of diversified actions, while reaffirming the beneficial effects of a sustainable energy system in the eradication of poverty and the fostering of economic growth. It also set the goal to distribute alternative, clean, affordable energy in rural and impoverished areas.
- Sustainable Energy for All initiative, 2011, UN Secretary-General: The initiative has set three objectives to be fulfilled by 2030: ensuring global access to modern energetic sources, duplicate the universal energy efficiency and double the percentage of renewable energy usage worldwide.
- General Assembly Resolution 65/151, 16 February 2011: It declared 2012 the “International Year of Sustainable Energy”.
- UN Rio+20 Conference on Sustainable Development: “The Future We Want” was signed, urging members, among other things, to address the goals of universal access to energy services and increase of renewable energy production.
- Resolution A/C.2/67/L.52 21 December 2012, The General Assembly declares 2014- 2024 the “Decade of Sustainable energy for all”.

APPENDIX

Renewable Global Status Report <http://www.ren21.net/status-of-renewables/global-status-report/>

Regulating multinational corporations
<http://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1025&context=auilr>

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“Energy for sustainable development” <https://sustainabledevelopment.un.org/topics/energy>;

“Promotion of New and Renewable sources of energy, Report of the Secretary-General”

http://www.un.org/ga/search/view_doc.asp?symbol=A/69/323&Lang=E;

“United Nation Framework Convention On Climate Change”

http://unfccc.int/kyoto_protocol/items/2830.php;

“DIRECTIVE 2009/28/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL” <http://eur->

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