

## Combatting Climate Change Requires A Transition To New Economic Values: An Interview With Graciela Chichilnisky

By Marcus Rolle June 20<sup>th</sup> 2016



Climate change represents the greatest threat facing humankind. Yet, not only is very little being done to combat the climate change threat, but there are still vocal climate change deniers around us, some of whom are even running for the presidency of the United States. Moreover, there seems to be confusion about the most effective ways to combat climate change. The latest effort by global leaders to address the problem of climate change, as reflected in the Paris Agreement of late 2015, falls short of implementing the necessary steps to save the planet.

But this begs the question. What are the necessary steps that need to be taken to prevent a catastrophic climate change scenario? In this exclusive interview for Rozenberg Quarterly, world renowned economist and climate change authority Graciela Chichilnisky discusses the nature of the problem of climate change, highlights what is at stake, and argues cogently what should be done to save the planet.

*Professor Chichilnisky, it is widely known that climate change can be caused by both natural variations and human activity. Is the climate change being observed today due to natural variations or are its causes to be found in human activities and greenhouse gas emissions?*

Scientists all over the world are in agreement that the climate variations we observe today are due to a global change in climate, and that increased greenhouse gases in the atmosphere from human activity, particularly the burning of fossil fuels since 1945, are responsible for climate change. This is not a gentle warming trend, it is the melting of the North and the South poles, and a confirmed rising level of the oceans worldwide that will engulf large areas of the planet, and include 43 island nations states.

*In the United States, virtually all leading Republican figures, including Donald Trump, who has already wrapped up the Republican nomination, argue that climate change is based in pseudo-science. What's going in here? Are Republicans so out of touch with reality, or are they simply interested in protecting vested interests in the fossil fuel economy?*

The Republican party is conservative by nature and resists change, even the acknowledgment of the need for change. This is a natural human response. Denial is known to be the first psychological response to a traumatic event, and climate change is potentially catastrophic. Denial is a natural first response and can take the form of denouncing climate

science as pseudo-science. However understandable the reaction may be, we cannot remain mired in the first response to a traumatic event, and need action. It is now possible to take action as there are technologies that can remove the carbon that is already in the atmosphere in an affordable way, and this is needed now to avert catastrophic climate change. But it requires moving from the stages of denial and anger to the stage of acceptance. Then we can take action and create global policy as needed.

*However, there are some scientists and former astronauts who claim that NASA's studies of climate change, for example, are based in highly complex models which have proven highly inadequate in the last. Any comments on this?*

Indeed, climate models are recent scientific developments and they are complex. This is true. Nobody can predict the weather exactly for example. But the scientific evidence for the overall climate change trend is now overwhelming accepted by most scientific bodies, including the IPCC which is the UN scientific body consisting of thousands of scientists from all over the world, and nobody debates that.

*Can you briefly map the menace of climate change according to the most likely catastrophic scenario?*

The melting of the North and the South Poles is already happening, and will raise the level of the oceans worldwide engulfing hundreds of millions of people who live in coastal zones and low areas, for example in Miami, Florida, in Shanghai, and in island states. According to the OECD this can cause trillions in economic losses. Hundreds of millions of people will migrate for survival. Mass migration will create political stress and social disorder or even wars, and major political and economic chaos, the beginning of which is already observed even in the EU and the US. We can expect extraordinary losses of life and suffering in developing nations. Western democracy as we know it is at stake.

*You have been arguing for the implementation of Carbon-Negative Technologies to halt the course of catastrophic climate change. Briefly, how do these technologies work, and how widely do they need to be utilized? For example, will a handful of plants in each country around the world be sufficient to clean the air from carbon dioxide?*

Carbon Negative Technology™ has been invented and is now proven. It is starting to be used commercially for removing CO<sub>2</sub> from the atmosphere and selling it for economic uses, such as greenhouses, water desalination, building materials, beverages, bio-fertilizers, and plastics, as done by the award winning company Global Thermostat in Silicon Valley. (GT). Costs are now sufficiently low that removing CO<sub>2</sub> and selling it as just explained, is a commercially viable proposition and can immobilize enough CO<sub>2</sub> on earth to clean all the CO<sub>2</sub> that humans put in the atmosphere, which is about 30 gigaton/year. A handful of these carbon negative plants in each nation will not suffice. On average, we need to build 200 carbon negative Global Thermostat plants per nation in the world. Global Thermostat's carbon negative power plants can reduce the CO<sub>2</sub> in the atmosphere while producing needed energy, therefore reversing the role of power plants from the worst emitters of CO<sub>2</sub>, to cleaners of the atmosphere. This will be a major transformation of the world economy

*Is technology alone sufficient in bringing about the necessary changes in policymaking in order to combat climate change?*

Technology alone does not suffice. We need policy changes implemented through the global body that is responsible for averting climate change, the UNFCCC. We had substantial successes but much more needs to be done. The UN global carbon market that I designed and wrote into the Kyoto Protocol and became international law in 2005, was a major step forward as it had mandatory emissions limits for the world's worst emitters. Trading in this UN carbon market reached \$175Bn/year in 2011 and provided sufficient funding through the Clean Development Mechanism (CDM) to developing nations to implement green technology such as photovoltaic power in China, and can do the same now for carbon negative technologies. The technology is here now and the funds are here to implement it if we persist with the appropriate UNFCCC policies. The 2015 Paris Agreement has appropriate goals but offers no implementation.

*Is capitalism itself responsible for climate change?*

China and Russia are some of the worst emitter nations in the world, and they are socialistic nations. At first sight therefore the response is no, capitalism is not responsible for climate change at the national level. However, the trading and the use of fossil fuels that is at the core of the climate change issue – more precisely, the international market itself – which is the same for capitalistic and socialistic nations, can be said to be a creature of international capitalism.

This creature can be considered responsible for the overexploitation of petroleum and other natural resources, which are over-extracted in poor nations and overconsumed in rich nations. The expansion of international markets was fostered by the Bretton Woods institutions that were created in 1945 and were extremely successful in their task, globalizing the world economy. However, these institutions and their objectives that were fine then, have since then over-achieved, and are now at the core of the problem of overexploitation of global resources, including the atmosphere, bodies of water and biodiversity, on which human survival depends. We need to change this aspect of global capitalism. An institutional change is needed fast, and is definitely possible. It is at least as possible as was the creation of Bretton Woods themselves, and of the UN global carbon market This needs to be done right now.

*Assuming you were in a position to advise the next president of the United States on policy issues around the environment and climate change, what specific recommendations would you make that could be quickly implemented in a fairly broken political system like the one that currently exists in the US?*

Implement the carbon market in the US, and facilitate carbon negative technologies to help achieve reduced emissions and no economic cost and clean the atmosphere. That in itself suffices to precipitate a number of other needed changes

—

*Graciela Chichilnisky* is Professor of Economics and of Statistics at Columbia University, Visiting Professor of Economics at Stanford University, Founder and CEO of Global Thermostat, and the architect of the Kyoto Protocol Carbon Market. See: [www.chichilnisky.com](http://www.chichilnisky.com)