REVERSING CLIMATE CHANGE
How Carbon Removals Can Resolve Climate Change and Fix the Economy
By Graciela Chichilnisky and Peter Bal
Publisher: World Scientific Publishing
Publication Date: December 2019
Price: $48.00 / trade paperback
ISBN: 978-9814719353

“We must do more than stave off a further rise of carbon dioxide in the atmosphere. We need to reverse it if the planet is to be viable. Professor Chichilnisky’s achievement along with her co-author Peter Bal is to show us the way to rescue our future.”
– Edmund Phelps, 2006 Nobel Laureate in Economics

“Graciela Chichilnisky’s leadership in the global community, in producing policies to reduce greenhouse gas emissions that cause global climate change, has been revolutionary.” – Jay Inslee, Governor of Washington

For the first time in recorded history, humans are changing the planet in ways that endanger our basic life support systems,” warn award-winning economist Graciela Chichilnisky and business leader Peter Bal in their new book REVERSING CLIMATE CHANGE (World Scientific Publishing; December 2019). “We are at a critical point. The next few years will determine whether we will implement solutions or unleash irreversible and possibly catastrophic damage. We are truly at a point of no return.”

A professor at Columbia University and the co-founder and CEO of Global Thermostat, Chichilnisky is the economist who designed the carbon market and wrote it into the Kyoto Protocol. REVERSING CLIMATE CHANGE includes a detailed description of the technology she co-created which is used by Global Thermostat to remove CO2 directly from the atmosphere and that can reverse climate change. Bal is a business leader who
focuses on projects to improve the world’s ecosystems such as reforestation and natural plant absorption of carbon dioxide.

In *REVERSING CLIMATE CHANGE*, the authors discuss the science of climate change, the complex international negotiations needed to reach a compromise between developing and developed nations, the need for clean energy, the benefits of the carbon market, and the urgency of finding a way to extract carbon dioxide from the atmosphere and utilize it profitably. The book predicts the advent of the carbon revolution, a new economic era in which CO2 removed from the air will not only reverse climate change, but will become the main feedstock of economic growth, replacing petroleum.

Chichilnisky also presents a personal view of the negotiations that led to the Kyoto Protocol and later the Paris Accords, key international agreements to avert catastrophic climate change. She explains how she developed the concept of a carbon market which is part of the Kyoto Protocol; how it has been successfully implemented in many countries already; and how it will be expanded in the future. Other topics that the authors discuss include:

* Why climate policy has advanced in the United States at regional, state, and local levels even though the U.S. abandoned the Kyoto Protocol and the Paris Accords
* How to reconcile the disparity between industrialized and developing nations when it comes to capping greenhouse gas emissions and investing in renewable energy
* Why reducing current greenhouse gas emissions alone will no longer avert the risk of catastrophic climate change
* How climate change and global warming went from being a scientific debate to an economic and political debate
* Why the financial crisis and the environmental crisis are two sides of the same coin
* The importance of Green Capitalism and how it can stop a major climate disaster
* The pros and cons of a carbon tax versus a carbon market
* Steps for weaning the world’s energy systems off fossil fuels

more
In the final chapter of the book, Chichilnisky and Bal discuss the technology developed by Global Thermostat for capturing carbon dioxide and enabling its profitable re-use across industries, reducing harmful emissions and helping to close the global carbon cycle.

Most importantly, **REVERSING CLIMATE CHANGE** reveals unequivocally that the world is at a crisis point. It is clear that future generations will inherit a world that is very different from our own. Either they will inherit a planet with a severely diminished capacity to support human life or they will inherit a global economic system fueled by cleaner, renewable energy that respects ecological limits and is capable of meeting everyone’s basic needs. “Which path we set them on is entirely dependent on our response to this crisis,” write Chichilnisky and Bal. “Everything hinges on the choices we make today.”

---

**ABOUT THE AUTHORS**

Dr. Graciela Chichilnisky, co-author of **REVERSING CLIMATE CHANGE**, is a Professor of Economics and Mathematical Statistics at Columbia University, and Director of the Columbia Consortium for Risk Management. She is also co-founder and CEO of Global Thermostat, and co-creator of a carbon removal technology that can reverse climate change. The technology was chosen by **MIT Technology Review** as one of the Ten Breakthrough Technologies of 2019, curated by Bill Gates. In addition, Global Thermostat was named one of the top ten most innovative companies in energy by Fast Company and Dr. Chichilnisky was selected by International Alternative Investment Review as the 2015 CEO of the Year in Sustainability. In 2019, Global Thermostat and ExxonMobil signed a joint development agreement to advance breakthrough technology to scale up to the removal of 1 gigaton of CO2.

Chichilnisky worked extensively on the Kyoto Protocol, creating and designing the carbon market that became international law in 2005. In 2017, she was selected by the Carnegie Foundation for their prestigious Great Immigrant, Great American award and in 2018, she was awarded the Albert Nelson Marquis Lifetime Achievement Award.

Chichilnisky holds Ph.D. degrees in mathematics and economics from MIT and the University of California, Berkeley. She is the author of more than 300 scientific articles and 13 books, including **Saving Kyoto** which won the American Library Association’s 2010 Outstanding Academic Title of the Year and the American Geographical Society’s Book of the Month Award in October 2009. She acted as the lead author on the Intergovernmental Panel on Climate Change which received the 2007 Nobel Prize for its work in deciding world policy with respect to climate change.

Peter Bal, co-author of **REVERSING CLIMATE CHANGE**, is a businessman and ecological restoration practitioner. He sees carbon dioxide as an asset to be mined, focusing on natural plant absorption as well as industrial solutions to retrieve carbon dioxide from the atmosphere. He is currently working on a containerized carbon dioxide absorbing unit with Global Thermostat and also involved in setting up ecological research and training centers.