## Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming Lives Up to It's Impressive Title

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Drawdown, edited by Paul Hawken, provides an intelligent and practical to-do list for reversing global warming. It represents the first publication of "Project Drawdown," a coalition of scientists, technologists, and policy experts offering climate solutions that they plan to update periodically. Issued late in 2017 by Penguin Books, a major NY publisher, it has already become a "New York Times Bestseller."

Drawdown lives up to its impressive subtitle and bestselling status. With a balance of pragmatism and prophetic vision, the anthology offers hope at this dire time of climate crisis emergency. It is authoritative, with over 60 Research Fellows and nine Essayists, plus an impressive Board of Directors and Funding Supporters. This book is just what is needed as many American activists are in despair after the downgrading of the United States Environmental Protection Agency under appointee Scott Pruitt. Pruitt has been destroying years of work and important regulations, fostered by hard working scientists of the EPA through many years of labor!

Hawken— who has published successful books in past, most notably *Blessed Unrest*, a 2007 overview of the global-justice and sustainability movement—presents sophisticated ideas in a readable form. He spells out carbon dioxide instead of CO2 to avoid confusing a non-technologist audience. He also chose the term "drawdown" as a more compelling way to describe the challenge of *drawing* greenhouse emissions *down* to net zero by 2050. Hawken does not agree with those who would label this an impossibly ambitious task. To help him make his case, Hawken gathered impressive allies—researchers, modelers, climate scientists and technologists. The forward was written by Tom Steyer, a billionaire hedge fund manager from California who is also a philanthropist, political activist, and advocate of impeaching Trump.

Stabilizing the climate system will require a heroic political global effort, but both the Drawdown book and the Drawdown project show that the technology exists and is already successfully in use in various locales around the world to enable achieving this goal. Al Gore demonstrated the same in his valuable book: *Our Choice: A Plan to Solve the Climate Crisis*, published in 2009 as both a trade paperback and an interactive online text with engaging color illustrations. *Drawdown* from Penguin Books, NY, is also beautifully illustrated and more up-to-date in 2018.

Drawdown stands out among the many recent climate books because of the systematic process with which the team of contributors and researches set out to show that we really can stabilize the climate system in time to avoid a cascading global catastrophe. The compendium presents 80 "solutions," and 20 "coming attractions"—solutions not yet ready for prime time.

The proposed solutions cover a wide range, including both wind turbines and a plant-rich diet; both farmland restoration and net-zero buildings; both refrigeration management and educating girls. Nuclear power, for which PSEG requested a controversial rate hike, is also considered, but only as a "regret solution." We should be acting on many of these projects even without a climate crisis.

The solutions are ranked by the quantity of gigatons of carbon-dioxide equivalents that are avoided. The conventional economic cost is also evaluated when possible: The research team estimated a "net cost" taking both global costs and global benefits into account. (But women's role in family planning is treated as a human right that is "inappropriate to monetize.")

To demonstrate that it's not too late, *Drawdown* evaluates multiple scenarios. The middle scenario – neither optimistic nor pessimistic about our actions -- demonstrates a reduction of emissions to 1,442 gigatons by 2050. Is this enough? As Hawken says, it is possible, but there are additional issues that have not yet been considered: first, the impact of ocean and land sinks for carbon, and the impact of absorbed carbon on ocean life. He continues:

"...achieving drawdown requires that we do everything we can to address global warming as aggressively, completely, and thoroughly as possible now."

Though there needs to be more attention to fair trade and class systems for success, Hawken has mentioned a planned second book, to be composed entirely of "coming attractions." There's a forecast of a fascinating of marine *permaculture*, in particular. And perhaps the second book will address climate reparations? The issue of political will is always problematic, particularly now since the USA was pulled—kicking and screaming even by some in the Trump administration—out of the Paris Accord. But this is a breakthrough book, showing there is a way forward. It gives the climate justice movement a focus, and most of all demonstrates that hope is not lost if enough tribes, towns, states and countries can be mobilized for salvation of life on our only planet home. There is no planet B.

There's an inch of time to correct some of the worst effects of global warming. "Nothing new needs to be invented," says the introduction. "The solutions are in place and in action." As usual, the political will is needed and that is where we Climate Activists of Faith Action come in.