



DRAWDOWN

IS BASED ON METICULOUS RESEARCH THAT ANALYZES HOW AND WHEN WE CAN REVERSE GLOBAL WARMING.

Solutions

Land Use (25)

- Afforestation
- Agricultural Intensification
- Avoided Deforestation
- Bamboo
- Biochar
- Boreal Forest Restoration
- Carbon Farming
- Coastal Wetland Management
- Composting
- Conservation Agriculture
- Farm Water Productivity
- Farmland Restoration
- Grazing & Pasture Management
- Indigenous Land Management
- Multistrata Agroforestry
- Nutrient Management
- Peatland Protection
- Perennial Bioenergy Crops
- Regenerative Agriculture
- Silvopasture
- Sustainable Rice Production
- Temperate Forest Restoration
- Tree Intercropping
- Tropical Forest Restoration
- Tropical Staple Tree Crops

Energy (16)

- Biomass Energy Generation
- Co-generation
- Concentrated Solar Farms
- Distributed Energy Storage
- Geothermal
- In-stream Hydro
- Methane Digesters
- Micro-Wind Turbines
- Micro-Grids
- Net-Zero Buildings
- Rooftop Solar PV
- Solar PV Farms
- Utility-Scale Energy Storage
- Waste-to-Energy
- Wave/Tidal Energy
- Wind Turbines

Buildings (14)

- Alternative Cements
- Building Automation Systems
- Building with Wood
- Commercial LED Lighting
- District Heating & Cooling
- Efficient Appliances
- Energy Efficient Glazing
- Energy Efficient Roofs
- Household LED Lighting
- Household Water Saving Measures
- HVAC Efficiencies

Drawdown is that point in time when greenhouse gases peak and begin to decline on a year-to-year basis. It is the most important goal for humanity to undertake. It is not a daydream because Drawdown is based on research that maps, measures, and models solutions that are already in place.

Scientists have done an extraordinary job calculating the math on what will happen if we do not act to mitigate climate change. However, the math has not been done on a comprehensive array of the most effective solutions that are currently being implemented. Such an inventory has not been created despite three decades of committed international research on the topic. We are doing it because the success of the global climate movement depends on having a rigorous, detailed, and compelling path forward.

We are filling this void by doing the math on the atmospheric and financial impacts of state-of-the-shelf solutions if deployed globally and at scale over the next thirty years. State-of-the-shelf refers to techniques that are widely practiced, commonly available, economically viable and scientifically valid. Our findings will be communicated through an internationally published book, an open-source database, and a growing global network of partner organizations.

Reversing global warming requires a change in human perception and behavior. Perception depends on presenting a credible case that reversing climate change is possible. Behavior is contingent upon a clear understanding of what to do. To date, humanity has been more adept at imagining the end of civilization than its transformation, and more inclined either to throw up our hands in despair or to dream of silver-

bullet technologies, however unlikely.

Global warming is a genre of crisis never before encountered and requires an entirely different approach. It impacts all segments of society, across all countries and regions throughout the world. Its causes are deeply embedded in the global economy and the way of life for billions of people. To make the necessary changes required to address this crisis, all levels of society must act together applying meaningful climate actions grounded in facts that are vetted, accessible, credible, and actionable. The most substantive solutions to global warming are directly applicable and beneficial to society whether or not the climate crisis existed. The climate solutions modeled in Drawdown are financially viable, protect and restore natural resources, and benefit health and well-being of all people.

Drawdown tells a story of possibility, grounded in data and analysis. By cataloging what we already know how to do – and are already doing – we paint a picture of human brilliance, capability, and compassion. The skill and determination being expressed by humanity is a fact-based counter argument to the narrative that climate change is too vast, too hard, or too complex to tackle. In actuality there are many reasons to believe. Indeed, we analyze 100 of them.

At its core, Drawdown is a clear and detailed case of what is possible. We are counting what counts. By collectively drawing down carbon, we lift up all of life.

The list of solutions may challenge conventional wisdom about how to address climate change. Our analysis shows that the marquee solutions – renewable energy, energy efficiency, and forest preservation – are indeed critical. However drawdown cannot be achieved with those solutions alone. It requires a systematic approach that is broad and includes approaches often overlooked, such as educating girls in the developing world and twenty-one distinct land use practices that pull carbon out of the atmosphere, creating vital negative emissions.

Because root causes and cures for climate change are seen as immensely complex, solving global warming has been ceded largely to experts. Drawdown posits a different approach. A wide variety of actors can contribute significantly: students, teachers, researchers, philanthropists, investors, entrepreneurs, business people, farmers, policymakers, engaged citizens, and more.

The work of Drawdown is all the more critical following COP21. The consummation of the Paris talks was extraordinary. Remarkably, 195 countries agreed that climate change poses a serious threat to humankind and offered voluntary commitments to achieve stabilization at 1.5C – an unprecedented achievement. Missing from the proceedings, however, is a detailed and exacting description of how to achieve the goals of the agreement because no institution has assembled a comprehensive framework of existing solutions that could achieve drawdown.

The Drawdown coalition is that body. Thousands of person-hours of reading, research, interviewing, and model calculus underlie a rigorous accounting of what is possible. It thoroughly analyzes renewable energy and energy efficiency, and includes many other solutions including reducing black carbon with clean cookstoves, adopting low-carbon diets, eliminating food waste, and dematerialization. Drawdown is the work of a prominent and growing coalition of geologists, engineers, agronomists, researchers, fellows, writers, climatologists, biologists, botanists, economists, financial analysts, architects, companies, agencies, NGOs, activists, and other experts who draft, model, fact check, review, and validate all text, inputs, sources, and calculations. They include IPCC lead authors such as Karen O'Brien and Dan Kammen, writers such as Michael Pollan and Elizabeth Kolbert, activists such as Annie Leonard and Mike Brune, and over 200 others.

The work is extensive, complex, and exacting, but its outcome is beautifully simple: a dashboard that anyone can access, understand, and engage with, whose underlying data, sources, and algorithms are completely transparent. It is the essential tool human beings need in order to address climate disruption broadly and effectively, not only because it points the way forward but because it paints a picture of what is feasible, feeding the most critical element of addressing climate change: our collective imagination, creativity, and conviction. At its core, Drawdown is a clear and detailed case of what is possible. We are counting what counts.

– Paul Hawken

Retrofitting
Rooftop Solar Hot Water
Smart Thermostats

Food (4)

Clean Cookstoves
Healthy Diet
Nutrient Management
Reduced Food Waste

Cities (3)

Bike Infrastructure
Landfill Methane Capture
Walkable Cities

Transport (10)

Airplane Fuel Efficiency
Car Fuel Efficiency
Carpooling/Ridesharing
Electric Bikes
Electric Vehicles
High Speed Rail
Mass Transit
Oceanic Freight Improvements
Train Fuel Efficiency
Truck Fuel Efficiency

Behavior (4)

Educating Girls
Family Planning
Household Recycling
Telepresence

Materials (5)

Bioplastics
Commercial Recycling
Recycled Paper
Refrigerant Management
Water Distribution Efficiency

Coming Attractions (22)

Airships
Autonomous Vehicles
Boron Fusion
Compost Application Rangelands
Conductive Cooling
Direct Air Capture
Dynamic Skins
Enhanced Weathering of Minerals
Graphene Materials
Graphene Polymer Batteries
Hyperloop
Kite Sails
Living Buildings
Makani (Airbourne Wind Turbines)
Microbial Farming
Ocean Farming
Ocean Forests (Marine Permaculture)
Pasture Cropping
Perennial Grains & Staples
Perennial Feedstocks & Cropping
Repopulating the Mammoth Steppe

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