

### **Dealing with Climate Change: Public Policies and Private Choices**

We will explore the many dimensions of the space of possible "solutions" to the climate crisis, from mitigation to adaptation, from personal choices to policies implemented by governments, from technical fixes to major overhaul of our economic, social and government systems. We will discuss how policy makers, scientists and others attempt to evaluate such proposals, considering not only dollar costs, but also their net energy and GHG costs, as well as biophysical and social costs and benefits.

#### **SOME RELEVANT TOPICS**

This list is not intended to be exhaustive!

- 1) Technological fixes: promises, limitations, and reality checks
  - a) Capture, removal and sequestration of CO<sub>2</sub>
  - b) Geoengineering projects, e.g., injection of atmospheric aerosols
  - c) Next-generation nuclear power
  - d) Massive infrastructure projects, such as flood barriers and sea walls
  - e) New or improved methods for energy storage
- 2) Mitigation policies: benefits and obstacles
  - a) Economic incentives: "cap and trade", carbon taxes
  - b) Full integration of renewable electricity sources into the electric grid\
  - c) Building standards and architectural design for energy efficiency
  - d) Vehicle emission and efficiency standards
  - e) Life-cycle calculation of CO<sub>2</sub> production (material acquisition, fabrication, shipping, use, disposal) with results reflected in prices.
- 3) Adaptation policies: dealing with harmful effects
  - a) Changes in zoning: coastal lands, fire-prone areas, flood plains, etc.
  - b) Changes in regulation of insurance companies
  - c) Water conservation and re-use, changes in agricultural practices, to deal with drought
- 4) Personal choices: which ones make a difference?
  - a) "Radical simplicity", learning to do with less
  - b) Transportation choices: elimination of air travel, electric vehicles, ...
  - c) Changes in diet (locally sourced, little or no red meat...)
- 5) "Blue sky": more drastic reorganization of politics, economics and society
  - a) Economic relocalization, bioregional economics
  - b) Taking population seriously (e.g., "contraction and convergence")
  - c) Reversing the growth of human expropriation of net primary production
  - d) Rewilding: reserving up to 50% of land for non-human species
- 6) What are other nations are doing to combat climate change or mitigate its effects?

## RESOURCE LIST

### International agencies and reports

IPCC reports [www.ipcc.ch/reports/](http://www.ipcc.ch/reports/)

International Energy Agency [www.iea.org](http://www.iea.org): reports and data

World Resources Institute: [www.wri.org/our-work/project/international-climate-action](http://www.wri.org/our-work/project/international-climate-action): reports and data

Grantham Research Institute on Climate Change and the Environment:  
[www.lse.ac.uk/granthaminstitute](http://www.lse.ac.uk/granthaminstitute): reports and data

World Bank Climate Change Knowledge Portal [climateknowledgeportal.worldbank.org/](http://climateknowledgeportal.worldbank.org/): data

Commodity Futures Trading Commission, [Managing Climate Risk in the U.S. Financial System.pdf](#)

The Club of Rome [clubofrome.org/](http://clubofrome.org/). The publishers of "Limits to Growth" (1972) remain very active, for example: Planetary Emergency Plan (2019) <http://clubofrome.org/impact-hubs/climate-emergency/>

### Special journal issues, book, etc.

"Nuclear Energy: Context and Outlook", The Bridge, Fall 2020 [www.nae.edu/239120/Fall-Issue-of-The-Bridge-on-Nuclear-Energy-Revisited](http://www.nae.edu/239120/Fall-Issue-of-The-Bridge-on-Nuclear-Energy-Revisited) (special issue from the National Academy of Engineering)

"Witnessing Climate Change", Dædalus, Fall 2020 [www.amacad.org/daedalus/witnessing-climate-change](http://www.amacad.org/daedalus/witnessing-climate-change) (special issue from the American Academy of Arts and Sciences)

Project Drawdown (2020). **The Drawdown Review: Climate Solutions for a New Decade** [www.drawdown.org/drawdown-review](http://www.drawdown.org/drawdown-review), also earlier **Drawdown** by Paul Hawken (2017), available from [www.academia.edu](http://www.academia.edu)

**The Science of Energy**. One of the Great Courses, available on Kanopy from your public library. Can be streamed on your computing device. Table of contents at [www.thegreatcourses.com/courses/the-science-of-energy-resources-and-power-explained.html](http://www.thegreatcourses.com/courses/the-science-of-energy-resources-and-power-explained.html)

Noam Chomsky and Robert Pollin (2020). **Climate Crisis and the Global Green New Deal**. (Verso)

Rob Hopkins (2019) **From What Is to What If: Unleashing the power of imagination to create the future we want**. (Chelsea Green Publishing)

Bill McKibben (2018). **Falter: Has the Human Game Begun to Play Itself Out?** (Henry Holt and Company)

Joel Wainwright and Geoff Mann (2018). **Climate Leviathan: A Political Theory of our Planet's Future**. (Verso)

### Sites with many good articles

*Atlantic Planet* [www.theatlantic.com/projects/planet/](http://www.theatlantic.com/projects/planet/) (new project, but promising)

Climate News Network [climatenewsnetwork.net](http://climatenewsnetwork.net): daily news stories with links

Carbon Brief: Clear on Climate [www.carbonbrief.org](http://www.carbonbrief.org)

Rapid Transition Alliance [www.rapidtransition.org/](http://www.rapidtransition.org/)

Guardian climate [www.theguardian.com/environment/climate-change](http://www.theguardian.com/environment/climate-change): frequent news stories and long-read reviews with plenty of links

Articles by Christopher Flavelle in the NY Times [www.nytimes.com/by/christopher-flavelle](http://www.nytimes.com/by/christopher-flavelle) and elsewhere

The Economist [www.economist.com/climate-change](http://www.economist.com/climate-change): fortnightly newsletter, also special section on “21st Century Power” in the Sept. 17, 2020, issue

Brookings Institute [www.brookings.edu/project/cross-brookings-initiative-on-energy-and-climate/](http://www.brookings.edu/project/cross-brookings-initiative-on-energy-and-climate/): research papers and articles

The Rules [therules.org/](http://therules.org/): a site that was active from 2012 to 2019 and still maintains its archives of media articles and case studies.

### **Some individual articles**

Jonathan Shaw, "Controlling the Global Thermostat: Coming to terms with climate change's relentless, long-term fallout", [www.harvardmagazine.com/2020/11/features-controlling-global-thermostat](http://www.harvardmagazine.com/2020/11/features-controlling-global-thermostat)

Lawrence Weschler, "Scylla and Charybdis: Beyond climate denial and despair", [www.theatlantic.com/science/archive/2020/10/lawrence-weschler-beyond-climate-denial-and-despair/616698/](http://www.theatlantic.com/science/archive/2020/10/lawrence-weschler-beyond-climate-denial-and-despair/616698/)

Richard Rhodes (2020). "Why Nuclear Power Must Be Part of the Energy Solution", [e360.yale.edu/features/why-nuclear-power-must-be-part-of-the-energy-solution-environmentalists-climate](http://e360.yale.edu/features/why-nuclear-power-must-be-part-of-the-energy-solution-environmentalists-climate)

E. Dinerstein et al. (2020). "A 'Global Safety Net' to reverse biodiversity loss and stabilize Earth's climate" [advances.sciencemag.org/content/6/36/eabb2824/tab-pdf](http://advances.sciencemag.org/content/6/36/eabb2824/tab-pdf)

"Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications" [taxfoundation.org/carbon-tax](http://taxfoundation.org/carbon-tax)

Nuclear in the news: [www.sciencemag.org/news/2020/10/departments-energy-picks-two-advanced-nuclear-reactors-demonstration-projects](http://www.sciencemag.org/news/2020/10/departments-energy-picks-two-advanced-nuclear-reactors-demonstration-projects) and [climatenewsnetwork.net/nuclear-power-hinders-fight-against-climate-change/](http://climatenewsnetwork.net/nuclear-power-hinders-fight-against-climate-change/)

Steve Keen (2020). [www.acclimatise.uk.com/2020/09/22/nobel-prize-winning-economics-of-climate-change-is-misleading-and-dangerous-heres-why/](http://www.acclimatise.uk.com/2020/09/22/nobel-prize-winning-economics-of-climate-change-is-misleading-and-dangerous-heres-why/)

T.M. Lenton et al. (2008) "Tipping elements in the Earth's climate system", [www.pnas.org/content/105/6/1786](http://www.pnas.org/content/105/6/1786)

### **Advocacy plus information**

Post Carbon Institute [www.postcarbon.org](http://www.postcarbon.org) Projects on resilience, energy transition, limits to growth.

[oilchangeus.org](http://oilchangeus.org) "The remaining barriers to our clean energy future are political."

### **Doing the math**

Carbon Brief includes a valuable "Factchecks" section [www.carbonbrief.org/category/in-focus/factchecks](http://www.carbonbrief.org/category/in-focus/factchecks) that "does the math" for many projects (for example on the lifetime emissions costs of electric vehicles) in a digestible form.

Making sense of climate scenarios [climatescenarios.org](http://climatescenarios.org) Graphics, numbers; not too user-friendly.

The Carbon Vault [science.sciencemag.org/content/369/6508/1156-full](http://science.sciencemag.org/content/369/6508/1156-full): promise and costs of mineralization of CO<sub>2</sub>

Doing the math on LNG: [www.policyalternatives.ca/bc-carbon-conundrum](http://www.policyalternatives.ca/bc-carbon-conundrum)

Many good articles that are not behind the paywall at [www.macrobusiness.com.au/category/carbon-economy/](http://www.macrobusiness.com.au/category/carbon-economy/)