



## Plan B 4.0: Mobilizing to Save Civilization by Lester Brown

Posted by [Gail the Actuary](#) on October 6, 2009 - 10:28am

Topic: [Environment/Sustainability](#)

Tags: [lester brown](#) [[list all tags](#)]

Lester Brown released a new book this week called **Plan B 4.0, Mobilization to Save Civilization**. The book is [for sale](#), but it can also be [downloaded free](#) as a PDF.

I participated in a conference call with Lester Brown, in which he talked about the book, and several of us asked questions. In this post, I will give you at least a brief introduction to the book.

Chapter 1 is an Introduction. This book really addresses problems of the whole world, not just a single area, such as the United States.



Chapters 2 and 3 give Brown's diagnosis of the problem. Chapter 2 is about population pressure on land (food) and water. Chapter 3 is about the issues of climate change, and also mentions that oil supply is decreasing. Brown indicates that he advocates a phaseout of coal because of its climate issues and because it is the "most easily replaced of the three fossil fuels" (p. 75).

Chapters 4 through 9 are all about solutions. According to the telephone call, Brown's goal is to reduce CO2 emissions by 80% by 2020, and more after that. Brown is very ambitious is what he would like to do, in only a few years.

Chapter 4 is about an **Energy Efficiency Revolution**.

The energy component of Plan B is straightforward. We raise world energy efficiency enough to at least offset all projected growth in energy use from now until 2020. We also turn to wind, solar, geothermal, and other renewable sources to largely replace oil, coal, and natural gas. In effect, Plan B outlines the transition from fossil fuels to renewable sources of energy by 2020. Difficult? Yes. Impossible? No! *Page 80*

The chapter talks about a shift to LED lighting, energy efficient appliances, LEED certified buildings, electrified transport, greater recycling, a smart grid, and retrofitting buildings. After describing all of these things, he says

One simple way to achieve all these gains is to adopt a carbon tax that would help reflect the full cost of burning fossil fuels. We recommend increasing this carbon tax by \$20 per ton each year over the next 10 years, for a total of \$200 (\$55 per ton of CO2), offsetting

it with a reduction in income taxes. High though this may seem, it does not come close to covering all the indirect costs of burning fossil fuels. It does, however, encourage investment in both efficiency and carbon-free sources of energy. *Page 108*

As far as I can see, this is the only mention of paying for all of the changes mentioned in this chapter.

Chapter 5 is about **Shifting to Renewable Energy**. According to Chapter 5:

With the Plan B energy economy of 2020, the United States will get 44 percent of its electricity from wind farms. Geothermal power plants will supply another 11 percent. Photovoltaic cells, most of them on rooftops, will supply 8 percent of electricity, with solar thermal power plants providing 5 percent. Roughly 7 percent will come from hydropower. The remaining 25 percent comes from nuclear power, biomass, and natural gas, in that order. *(Page 137)*

I don't see any indication of how this would be paid for. I also don't see any mention of the huge infrastructure changes that would be needed to accommodate such a change, either.

Chapter 6 is about **Designing Cities for People**. In this chapter, Brown covers topics such as redesigning cities for people, rather than cars; redesigning urban transport systems; the return of bicycles; reducing urban water use; farming in the city; and upgrading squatter settlements. He even mentions of the idea of starting new cities from scratch. The chapter concludes:

As the new century advances, the world is reconsidering the urban role of automobiles in one of the most fundamental shifts in transportation thinking in a century. The challenge is to redesign communities so that public transportation is the centerpiece of urban transport and streets are pedestrian- and bicycle-friendly. This also means planting trees and gardens and replacing parking lots with parks, playgrounds, and playing fields. We can design an urban lifestyle that systematically restores health by incorporating exercise into daily routines while reducing carbon emissions and eliminating health-damaging air pollution. *Page 166*

Chapter 7 is about **Eradicating Poverty and Stabilizing Population**. In this chapter Brown talks about educating everyone, improving nutrition, reducing childhood mortality, curbing the AIDS epidemic, reducing tobacco smoking, stabilizing populations, rescuing failing states, and eliminating poverty. Unlike previous chapters, this chapter has a budget for its worldwide goals. This is it:

Table 7–1. *Plan B Budget: Additional Annual Funding Needed to Reach Basic Social Goals*

Goal	Funding (billion dollars)
Universal primary education	10
Eradication of adult illiteracy	4
School lunch programs for 44 poorest countries	6
Assistance to preschool children and pregnant women in 44 poorest countries	4
Reproductive health and family planning	17
Universal basic health care	33
Closing the condom gap	<u>3</u>
Total	77

Source: See endnote 90.

Chapter 8 is about **Restoring the Earth**. Topics include protecting and restoring the forests, by reducing paper use and by developing alternative sources of energy; planting trees to sequester carbon; conserving and rebuilding soils; regenerating fisheries through marine protected areas; and protecting plant and animal diversity; and restoring water table. This section also has a budget.

Table 8–1. *Plan B Budget: Additional Annual Funding Needed to Restore the Earth*

Activity	Funding (billion dollars)
Planting trees to reduce flooding and conserve soil	6
Planting trees to sequester carbon	17
Protecting topsoil on cropland	24
Restoring rangelands	9
Restoring fisheries	13
Protecting biological diversity	31
Stabilizing water tables	<u>10</u>
Total	110

Source: See endnote 63.

About restoring water tables, Brown writes:

For stabilizing water tables, we have only a guess [about costs]. The key to stabilizing water tables is raising water productivity, and for this we have the experience gained when the world started to systematically raise land productivity beginning a half-century ago. The elements needed in a comparable water model are research to develop

more water-efficient irrigation practices and technologies, the dissemination of these research findings to farmers, and economic incentives that encourage farmers to adopt and use these improved irrigation practices and technologies. . .

In some countries, the capital needed to fund a program to raise water productivity can come from eliminating subsidies that often encourage the wasteful use of irrigation water. Some times these are energy subsidies, as in India; other times they are subsidies that provide water at prices well below costs, as in the United States. Removing these subsidies will effectively raise the price of water, thus encouraging its more efficient use. In terms of additional resources needed worldwide, including research needs and the economic incentives for farmers to use more water-efficient practices and technologies, we assume it will take an annual expenditure of \$10 billion. (Page 214)

Chapter 9 is called **Feeding Eight Billion People Well**. Topics include raising land productivity (higher yielding crops, more fertilizer, double cropping), raising water productivity (more efficient irrigation), producing protein more efficiently (more fish farms, crop residues to grow cows); localization of agriculture; strategic reductions in demand (eat less meat); and elevating responsibility for food security. These are a few of his ideas:

One way to quickly reverse this deteriorating political situation is for the United States to restrict the use of grain to produce fuel for cars. Given the turmoil in world grain markets over the last three years, it is time for the U.S. government to abolish the subsidies and mandates that are driving the conversion of grain into fuel. That would help stabilize grain prices and set the stage for relaxing the political tensions that have emerged within importing countries.

And finally, we have a role to play as individuals. Whether we bike, bus, or drive to work will affect carbon emissions, climate change, and food security. The size of the car we drive to the supermarket and its effect on climate may indirectly affect the size of the bill at the supermarket checkout counter. If we are living high on the food chain, we can move down, improving our health while helping to stabilize climate. Food security is something in which we all have a stake—and a responsibility. Page 237

The last chapter, chapter 10, is **Can We Mobilize Fast Enough?**. The chapter starts out:

There is much that we do not know about the future. But one thing we do know is that business as usual will not continue for much longer. Massive change is inevitable. “The death of our civilization is no longer a theory or an academic possibility; it is the road we’re on,” says Peter Goldmark, former Rockefeller Foundation president and current director of the climate program at the Environmental Defense Fund (EDF). Can we find another road before time runs out?

In this section, he talks about shifting taxes and subsidies (carbon or gasoline tax), phasing out coal, and stabilizing climate. About stabilizing climate he says:

Earlier we outlined the need to cut net carbon dioxide emissions 80 percent by 2020 to minimize the future rise in temperature. Here we summarize the Plan B measures for doing so, including both reducing fossil fuel use and increasing biological sequestration.

After energy demand is stabilized by dramatically improving efficiency, replacing fossil fuels with renewable sources of energy for generating electricity and heat will reduce carbon emissions in 2020 by more than 3.2 billion tons. (See Table 10-1.) The biggest single cut in carbon emissions comes from phasing out the use of coal to generate electricity. Other cuts come from eliminating all the oil and 70 percent of the natural gas used to generate electricity.<sup>41</sup>

In the transport sector, the greatly reduced use of oil will eliminate 1.4 billion tons of carbon emissions. This reduction relies heavily on the shift to plug-in hybrid and all-electric cars that will run on carbon-free sources of electricity such as wind. The remainder comes largely from shifting long-haul freight from trucks to trains, electrifying freight and passenger trains, and using green electricity to power them.<sup>42</sup>

*Page 253*

Brown talks about a mobilization, in a way similar to war mobilization, and shows war budgets, that could presumably be used for peaceful activities. He ends about talking about what you and I can do--

One of the questions I hear most frequently is, What can I do? People often expect me to talk about lifestyle changes, recycling newspapers, or changing light bulbs. These are essential, but they are not nearly enough. We now need to restructure the global economy, and quickly. It means becoming politically active, working for the needed changes. Saving civilization is not spectator sport.

Inform yourself, read about the issues. If you want to know what happened to earlier civilizations that found themselves in environmental trouble, read *Collapse* by Jared Diamond or *A Short History of Progress* by Ronald Wright or *The Collapse of Complex Societies* by Joseph Tainter. If you found this book useful in helping you think about what to do, share it with others. It can be downloaded free of charge from the Institute's Website, [earthpolicy.org](http://earthpolicy.org).<sup>68</sup>

Pick an issue that's meaningful to you, such as tax restructuring, banning inefficient light bulbs, phasing out coal-fired power plants, or working for streets in your community that are pedestrian- and bicycle-friendly, or join a group that is working to stabilize world population. What could be more exciting and rewarding than getting personally involved in trying to save civilization?

Clearly Brown believes that technology can save us, if we can make changes quickly enough. A lot of his ideas are good, if there are really resources available to do them. I am a doubter in this area, but I will leave the issue to others to discuss.



[3.0 United States License](#).