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continued . . .

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PLAN B 4.0

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PLAN B 4.0

Mobilizing to Save Civilization

Lester R. Brown

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Preface

Several months ago I was reading an article in *Newsweek* on climate and energy when a line jumped off the page: “Business as usual has started to read like the end of the world.”

Although this conclusion may surprise many, it will not surprise the scientists who track global environmental trends such as deforestation, soil erosion, falling water tables, and rising temperature. For some time they have been saying that if these trends continue we will be in trouble. What was not clear was what form the trouble would take.

It looks now as though food is the weak link, just as it was for many earlier civilizations. We are entering a new food era, one marked by higher food prices, rapidly growing numbers of hungry people, and an intensifying competition for land and water resources that has now crossed national boundaries as food-importing countries try to buy or lease vast tracts of land in other countries.

Unlike earlier grain price hikes that were caused by singular events—a drought in the Soviet Union or a monsoon failure in India—and were typically remedied by the next harvest, this recent rise is trend-driven. Among the trends responsible are population growth, falling water tables, rising temperature, ice melting, and the use of grain to produce fuel for cars.

In decades past, when grain prices climbed, the U.S. Department of Agriculture simply returned some cropland idled under farm programs to production, but now that land is all in use. Suddenly, food security has become a highly complex issue.

Energy policy may affect future food security more than agricultural policy. Eradicating hunger may depend more on the success of family planners than that of farmers. Raising water productivity may contribute more to future food security than expanding the irrigation water supply would.

In his book *The Collapse of Complex Societies*, Joseph Tainter observes that civilizations become progressively more complex as they evolve until eventually they cannot manage the complexity. I was reminded of this as I watched Congress wrestling with the climate bill, whittling away at its goals as this book was going to press.

International institutions are also wrestling with complexity. At this writing, all eyes are on the upcoming Copenhagen climate conference in early December. From my vantage point, internationally negotiated climate agreements are fast becoming obsolete for two reasons. First, since no government wants to concede too much compared with other governments, the negotiated goals for cutting carbon emissions will almost certainly be minimalist, not remotely approaching the bold cuts that are needed.

And second, since it takes years to negotiate and ratify these agreements, we may simply run out of time. This is not to say that we should not participate in the negotiations and work hard to get the best possible result. But we should not rely on these agreements to save civilization.

Some of the most impressive climate stabilization advances, such as the powerful U.S. grassroots movement that has led to a de facto moratorium on new coal-fired power plants, had little to do with international negotiations. At no point did the leaders of this movement say that they wanted to ban new coal-fired power plants only if Europe does, if China does, or if the rest of the world does. They moved ahead unilaterally knowing that if the United States does not quickly cut carbon emissions, the world will be in trouble.

We are in a race between political tipping points and natural tipping points. Can we cut carbon emissions fast enough to save the Greenland ice sheet and avoid the resulting rise in sea level? Can we close coal-fired power plants fast enough to save the glaciers in the Himalayas and on the Tibetan Plateau, the ice melt of which sustains the major rivers and irrigation systems of

Asia during the dry season? Can we stabilize population by reducing fertility before nature takes over and stabilizes our numbers by raising mortality?

On the climate front, everything seems to be moving faster. Only a few years ago summer sea ice in the Arctic Sea was shrinking, but it was projected to last for several decades. The most recent reports indicate that it could disappear in a matter of years.

Only a few years have passed since the most recent report by the Intergovernmental Panel on Climate Change (IPCC), but already the rise in carbon dioxide emissions, the rise in temperature, and the rise in sea level are all moving faster than even the IPCC's worst-case scenario.

The good news is that the shift to renewable energy is occurring at a rate and on a scale that we could not imagine even two years ago. Consider what is happening in Texas. The 8,000 megawatts of wind generating capacity in operation, the 1,000 megawatts under construction, and a huge amount in development will give it over 50,000 megawatts of wind generating capacity (think 50 coal-fired power plants). This will more than satisfy the residential needs of the state's 24 million people.

China, with its Wind Base program, is working on six wind farm mega-complexes with a total generating capacity of 105,000 megawatts. And this is in addition to the many smaller wind farms already in operation and under construction.

Most recently, a consortium of European corporations and investment banks has announced a proposal to develop a massive amount of solar thermal generating capacity in North Africa, much of it for export to Europe. In total, it could easily exceed 300,000 megawatts—roughly three times the electrical generating capacity of France.

And we could cite many more examples. The energy transition from fossil fuels to renewable sources of energy is moving much faster than most people realize. In the United States, for example, generating capacity for wind increased by 8,400 megawatts in 2008, while that from coal increased by only 1,400 megawatts.

The question we face is not what we need to do, because that seems rather clear to those who are analyzing the global situation. The challenge is how to do it in the time available. Unfor-

Unfortunately we don't know how much time remains. Nature is the timekeeper but we cannot see the clock.

Plan B is ambitious simply because this is what it is going to take to turn things around. Will it be difficult? No question. Are the stakes high? No question.

The thinking that got us into this mess is not likely to get us out. We need a new mindset. Let me paraphrase a comment by environmentalist Paul Hawken in a 2009 college commencement address. In recognizing the enormity of the challenge facing us, he said: First we need to decide what needs to be done. Then we do it. And then we ask if it is possible.

Lester R. Brown
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Earth Policy Institute
1350 Connecticut Ave. NW
Suite 403
Washington, DC 20036

Phone: (202) 496-9290
Fax: (202) 496-9325
E-mail: epi@earthpolicy.org
Web site: www.earthpolicy.org

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