



## BOOK REVIEWS

***Hot, Flat, and Crowded: Why We Need A Green Revolution—and How It Can Renew America*, by Thomas L. Friedman. New York: Farrar, Straus and Giroux, 2008. Hardcover, 448 pages, \$27.95. ISBN-10: 0-374-16685-4.**

Denis Collins

Despite pot shots from the left, Thomas Friedman really is a revolutionary, and he's a good guy to have on your side if you're trying to save the world. *The World is Flat*, his previous bestseller inhaled by America's business leaders, was primarily descriptive—capitalism was taking over the world whether you liked it or not, so you better get in tune with your creativity, the one thing that cannot be outsourced to nations offering cheap labor. *Hot, Flat, and Crowded* is his green globalization manifesto, rallying the leaders of capitalism around a unifying theme—“Code Green”—they can, and must, conquer.

*Hot, Flat, and Crowded* takes seriously the dire warnings of Al Gore and most of the world's climate change experts. Capitalism's generators have been using dirty fossil fuels (coal, oil, and natural gas) because they are relatively cheap and abundant. Unfortunately, the world is doomed unless dirty fossil fuels are not rapidly replaced with “clean electrons” and other green technological innovations, enhanced energy efficiencies, and conservation. The nation that dominates the production of clean power and energy-efficiency technologies will become the world's leading exporter and harness the political and military power associated with such economic supremacy.

The book's first half summarizes the latest information about climate change and why reliance on fossil fuels is bad for the United States. Even if you know this already, the book includes information as recent as the summer of 2008 that you can use to update lecture notes. It is a very useful consolidation of information, though fewer anecdotes and even more data would have been helpful.

The second half provides solutions the Obama administration's Chief Energy Officer should explore. Radical change usually requires a crisis to spur action. We missed the chance to change our national energy policy after the 1970s Arab oil embargo and the 9/11 tragedy. The most recent economic crisis, which occurred after the publication of this book, provides yet another opportunity for change.

What does all this have to do with business ethics? Everything.

Developing and implementing an ethic of stewardship is the primary ethical issue demanding our attention. Of course we want world peace, an end to poverty, and the development of ethical people and an ethical economic system, but achieving all this would be a pyrrhic victory if the following day Earth is destroyed by a human-made climate catastrophe. The Earth is Kitty Genovese, the infamous case

of a woman continually knifed outside a New York City apartment complex, who screamed for help until she died, while witnesses remained behind closed doors, too afraid to act, or waiting for someone else to take the lead.

Why has Friedman, the three-time Pulitzer Prize winning *New York Times* columnist, put himself out there to announce the sky is falling? Because, simply, it is: greenhouse gases, particularly carbon dioxide, get stuck in the atmosphere, creating a man-made ceiling that captures heat and tragically changes our eco-system.

Capitalism is a victim of its own success. The adoption of capitalism is credited with helping 200 million people in China and India rise out of abject poverty over the past two decades. At its current rate of success, experts predict, global capitalism will push an additional 1.8 billion people into a middle class existence in the next decade. If these new entries continue to adopt the consumption lifestyle of Americans, the human species will become extinct.

### *The Problems*

Friedman highlights five problems associated with our current dirty energy-dependent operating system: increasing demand, growth of petro-dictators, climate change, loss of biodiversity, and energy poverty in underdeveloped nations.

#### *Increasing Demand*

The world is getting more crowded. The global population has risen from 1.7 billion consumers in 1900 to 6.6 billion consumers in 2007. The number of cities with a population of 1 million or more has increased, from 111 in 1960 to more than 300 in 2008; forty-nine of them are in China. Metropolitan areas with populations greater than 10 million (megacities) have increased from five in 1975 to twenty in 2008.<sup>1</sup>

Friedman puts population growth impacts in perspective using Tom Burke's "Americum" unit of analysis. An Americum is any group of 350 million people living an American lifestyle. The world has evolved from two Americums (North America and Europe) to five (add China, India, and a combination of Southwest Asian nations, Australia, and New Zealand). Soon there will be nine Americums (another one each in China and India, Russia/Central Europe, and South America/Middle East). Two Americums created a global environmental crisis, what will nine Americums cause?

Some startling facts regarding China's economic growth and energy use: one gigawatt of electricity is added to the grid every two weeks; the world's largest casino, located in Taipa, requires energy equivalent to powering 300,000 homes; 14,000 new cars are sold every day; a new coal-fired power plant is built every other week; and forty large airports will be constructed in the next few years. China is also the new home of some of America's worst-polluting manufacturing companies.

And don't forget Russia. Moscow, designed to manage 30,000 cars, now has more than three million. Every mile driven by each additional car owner contributes another pound of CO<sub>2</sub> into the atmosphere.

#### *Transfer of Wealth to Oil-Rich Countries and their Petro-Dictators*

Friedman's years of geo-political expertise as a *New York Times* reporter has sensitized him to the ways that energy-needy nations, such as the United States, financially support and stabilize dictators who govern oil-producing nations, such as Iran, Somalia, and Saudi Arabia. In 2008, more than \$600 billion was diverted to OPEC nations.

Friedman is particularly upset with the United States for “helping to strengthen the most intolerant, antimodern, anti-Western, anti-women’s rights, and antipluralistic strain of Islam—the strain propagated by Saudi Arabia” (79). Saudi Arabia is responsible for exporting Salafi-Wahhabi Islam—which is anti-Shiite, anti-Jew, anti-woman, and anti-homosexual—throughout the Arab world. He reminds the reader that fifteen of the nineteen hijackers participating in 9/11 were Saudis, and oil revenue represents the main source of funding for Islamic jihad terrorists. Iran, for its part, funded the Hezbollah’s attack on Israel through Lebanon. China is equally guilty, funding the Sudanese government responsible for the Darfur massacres.

Why are there no democracies among the twenty-three nations that derive most of their export income from oil and gas? Friedman attributes it to his “First Law of Petropolitics”: the price of oil and the amount of freedom have an inverse relationship—when the price of oil goes up, freedom declines, and vice versa. If a nation can make a fortune by drilling holes in the ground, there is little need to grow the economy in other ways, such as developing the educational, political, social, and entrepreneurial skills of its citizenry.

### *Disruptive Climate Change*

The scientific community has achieved near unanimity in its belief that global warming is occurring; there has been an increase of 1.44 degrees Fahrenheit since 1750, with the steepest increase occurring after 1970. A significant amount of this increase is attributed to human activities. For ten thousand years, the earth’s atmosphere contained 280 CO<sub>2</sub> molecules per million. Since the time of the Industrial Revolution, CO<sub>2</sub> has steadily risen: every million molecules of atmosphere now contain 384 CO<sub>2</sub> molecules. Without any changes, some scientists estimate that in fifty years CO<sub>2</sub> will account for 550 per million molecules. The higher the CO<sub>2</sub> level, the warmer the climate.

The warmer weather results in a faster rate of water evaporation, causing dry regions of the Earth to become dryer (more severe droughts), and wet regions to become wetter (more severe rain storms). Friedman often argues based on anecdotal evidence, not hard data. Yet, hard data is available. In Madison, Wisconsin, my place of residence, the number of days per decade of one inch or more of rain has increased from fifty-five in the 1940s to seventy-two in the 1970s, and 120 in the first decade of the twenty-first century.<sup>2</sup>

These severe storms and droughts are not only lethal, they also cause a drain on the economy. Table 1 (p. 130) lists weather disasters and the damages incurred since August 2005, when Hurricane Katrina made landfall—based on information from the Department of Commerce’s National Climatic Data Center website.<sup>3</sup>

### *Biodiversity is in Decline*

Humans are killing other species through pollution, hunting, and economic development. Friedman notes that “Conservation International currently estimates that one species is now going extinct every twenty minutes, which is a thousand times faster than the norm during most of the earth’s history” (141). The outcomes of rapidly declining biodiversity are uncertain.

**Table 1: Weather Disasters in the United States since Hurricane Katrina**

Date	Disaster	Damage
Entire 2008	Widespread Drought	\$2 billion
September 2008	Hurricane Ike	\$27 billion; 82+ deaths
September 2008	Hurricane Gustav	\$5 billion; 43 deaths
July 2008	Hurricane Dolly	\$1.2 billion; 3 deaths
Summer-Fall 2008	Widespread Wildfires	\$2 billion; 16 deaths
June 2008	Midwest Floods	\$15 billion; 24 deaths
June 2008	Midwest/Atlantic Storms & Tornadoes	\$1.1 billion; 18 deaths
May 2008	Midwest Storms and Tornadoes	\$2.4 billion; 13 deaths
February 2008	Southeast/Midwest Tornadoes	\$1 billion; 57 deaths
Entire 2007	Great Plains and Eastern Drought	\$5 billion
Spring-Fall 2007	Western Wildfires	\$10 billion; 12 deaths
April 2007	Spring Freeze East and Midwest	\$2 billion
April 2007	East/South Severe Weather	\$1.5 billion; 9 deaths
January 2007	California Freeze (Agriculture)	\$1.4 billion; 1 death
Entire 2006	Widespread Wildfires	\$1 billion; 28 deaths
Spring-Summer 2006	Widespread Drought	\$6.2 billion
June 2006	Northeast Flooding	\$1 billion; 20 deaths
April 2006	Midwest/Southeast Tornadoes	\$1.5 billion; 10 deaths
April 2006	Midwest/Ohio Valley	\$1.1 billion; 27 deaths
March 2006	Midwest/South Storms and Tornadoes	\$1 billion; 10 deaths
October 2005	Hurricane Wilma	\$16 billion; 35 deaths
September 2005	Hurricane Rita	\$17.1 billion; 119 deaths
August 2005	Hurricane Katrina	\$133.8 billion; 1,833 deaths

### *The Underdeveloped World Remains Energy Poor*

Whereas the world's middle class wants to consume more energy to improve its quality of life, those living in abject poverty require energy to survive. Hospitals, for instance, need energy to fuel life-saving technologies and to refrigerate vaccines. Currently, 1.6 billion people, 25 percent of the world's population, do not have regular access to electricity. Government corruption and civil wars exacerbate efforts in Africa to finance public utilities. When these problems are solved, and appropriate economic development finally takes root on the malnourished continent, all of the previous problems will be accelerated.

### *The Solutions*

How can we save the world and capitalism? The already familiar mantra for a green energy system is: innovation, efficiency, and conservation. Friedman dedicates a chapter to each of these necessary approaches, which require changes in cost accounting and government regulations.

*Cost Accounting*

Scorecards matter. Those currently keeping score cheat by not accounting for all of the costs in the price of the product they offer.

The easy solution to our environmental mess is to master Friedman's annoying and whimsical economic calculation: REEFIGDCPEERPC < TTCOBCOG. The letters mean: A Renewable Energy Ecosystem For Innovating, Generating, and Developing Clean Power, Energy Efficiency, Resource Productivity, and Conservation, whose costs are less than The True Cost Of Burning Coal, Oil, and Gas.

We rely on fossil fuels because they are cheaper than alternative fuels. Fossil fuels are cheaper because significant costs associated with their procurement, production, and disposal are not included in the product price.

Fair and transparent rules of the game demand that all externalities associated with the dirty fuel system be internalized in the price of products, through carbon and gasoline taxes. In the short term, gasoline and heat prices would dramatically rise. This necessary pain will be offset by attracting the world's most creative minds to find a way to produce clean electrons at a lower price.

*Innovation*

How can we attract clean energy innovators? Friedman recommends a combination of tax incentives, regulatory incentives, and renewable energy mandates. Capitalism operates according to the laws of supply and demand. There is an insufficient supply of clean energy because, although there is more than sufficient need, there is insufficient demand for it. Companies will pay engineers to develop green energy products, and venture capitalists will fund them, when there is a reasonable belief that consumers will purchase them.

First generation products are always more expensive than succeeding generations which benefit from improved efficiencies. But if no one purchases the more expensive, imperfect first generation products, which must compete against dirty energy alternatives using crooked scorecards, then companies and venture capitalists will not allocate resources to develop them.

The United States has much to learn from Europe. Germany, Denmark, and Spain did not choose a particular product as a green energy winner. Instead, they mandated that utilities purchase a particular amount of green energy by a specific date. The governments created a market, and it was up to companies and engineers, funded in part by government subsidies, to determine how to meet the demand efficiently and effectively. Wind turbines, now in their third generation, jumped to the forefront. Some American green industry companies have moved operations, and jobs, to Europe to be closer to their major customer.

The United States already has had some success in this process by initiating a federal cap-and-trade program to reduce acid rain. Companies had to purchase new technologies to meet the ever decreasing pollution limitations, which spurred innovation. Many states have established their own green energy mandates, but this patchwork market lacks the certainty that would come about through a cohesive federal mandate.

### *Efficiency*

The biggest opportunity for energy savings is reduced electricity use in homes, offices, and factories, which together account for nearly 40 percent of the nation's CO<sub>2</sub> emissions. Innovative "smart homes" are in the development stage, and promise homeowners well-integrated personal energy plans, wherein energy is downloaded during low-demand periods, stored, and then accessed when needed.

Unfortunately, the United States has a self-defeating electricity efficiency system. Electric companies, which make their largest profits selling electricity to consumers, are being asked to encourage consumers to consume—and thus purchase—less energy, which contradicts its profit mission. This strategy has never worked well, regardless of the application: consider the efforts of cigarette and alcohol companies to persuade consumers to reduce product consumption.

Government can play a vital role by establishing efficiency standards that would create a market for more efficient energy innovations and improved technologies. The standards can apply to individual items, such as air conditioners, computers, and laundry machines, or to an entire multi-unit entity, such as a home.

How can we engage powerful public utilities to support and market "smart homes"? Friedman suggests a type of gainsharing plan: determine a historical cost baseline for a particular home. If, through the adoption of energy saving efficiencies, a home consumes less electricity, then share the energy cost savings between the home owner and the public utility.

The government can also work around utilities. The city of Oakland, California, has a unique jobs training program focused on clean energy initiatives, such as weatherizing buildings and installing solar panels.

### *Conservation*

Lastly, conservation continues to play an essential role in energy use reduction. This is the least developed part of the book, quite possibly because it is the most complex; it entails changing human attitudes as well as behaviors. Currently, there are too many competing interests. The conservation challenge is to develop stakeholder decision-making mechanisms in which: (1) government officials, based on input from biodiversity experts, determine which areas are off-limits to development; (2) investors who have an interest in protecting biodiversity are brought into the discussion (such as eco-tourist firms); and (3) local populations are educated about the importance of biodiversity. These efforts can be funded by industrial nations seeking carbon credits for their environmental misbehaviors.

Innovation, efficiency, and conservation are all inter-related. Quick and successful collective action is not possible in some areas without government taking a leadership role. Initially, hybrids violated size regulations for New York City taxi cabs, which averaged 7-10 miles per gallon. After modifying the size regulation, the city passed a law in 2007 requiring all taxis to achieve 30 miles per gallon by 2010.

China is also pursuing some quick actions. Performance appraisals for government officials include achieving 16 percent renewable energy use by 2020 (compared to 7% in 2007). Swift law changes include setting air-conditioning thermostats no lower than 79 degrees Fahrenheit, replacing 50 million incandescent lights with energy-efficient lights, and banning the production, sale, and use of ultra-thin plastic bags.

Innovation, efficiency, and conservation can also save lives, literally. Military bases in Iraq had been consuming 10,000 gallons of diesel fuel daily, most of it to air condition tents. Insurgents targeted fuel delivery convoys. A new technique for insulating tents was adopted, reducing fuel consumption by an average of 57%. The military is now testing the use of wind turbines and solar panels to generate the energy.

### *What Can Business Ethics Professors Do?*

What can business ethics professors do about all this besides educating students about what government and industry councils should do? A lot.<sup>4</sup>

Our captive audience consists of MBA and returning adult students who manage companies, and traditional undergraduate students who represent the next generation of business leaders.

First, we must model sustainability by involving students, faculty, and staff in greening campus operations.<sup>5</sup> In 2005, Edgewood College created a “Green Campus Task Force” to more directly engage students, faculty and staff in developing an environmentally sustainable living and learning community on campus. We catalogued our previous green campus accomplishments and created an Environmental Indicator Report to serve as an annual benchmark. The following year, Edgewood College received Green Tier certification from Wisconsin’s Department of Natural Resources (DNR) for superior environmental performance.<sup>6</sup>

The heart of Green Tier certification is the implementation of an Environmental Management System (EMS) in accordance with ISO 14001 best practices. As part of our culture of sustainability, we constructed the first LEED (Leadership in Energy and Environmental Design)<sup>7</sup> certified residence hall in the state. In addition, we constructed a 1,200 foot boardwalk on our lakefront property that enables college, community groups, and neighbors to appreciate and manage the wetland. All sustainable initiatives are now monitored by a Campus Sustainability Coordinating Team comprised of faculty, staff, and students.

Second, our part-time MBA students apply “The Natural Step” environmental management framework to assess their organizations’ operations and initiate changes that improve environmental performance.<sup>8</sup> Students determine ways their organizations can reduce wasteful dependence on fossil fuels and unnatural substances. They then propose three strategies for addressing a particular environmental improvement area and evaluate each in terms of cost, effectiveness, and length of time to implementation. Based on this analysis, they partner with an organizational change agent to initiate an improvement. The most common accomplishments include recycling and reducing the use of computer paper, installing energy efficient lighting and motion sensors, eliminating hazardous chemical use research labs, and conserving energy by turning off computers at the end of the day.

Third, undergraduate students enrolled in our Spring semester “Social Responsibility in Business” class manage the annual Eco-Olympics, a competition among residence halls to reduce electricity, heat, and water consumption. Benchmarks are obtained for heat and electricity use for each residence hall for the month prior (usually mid-January to mid-February) to the Eco-Olympics. Student teams are formed in class, one team per residence hall. Each team independently develops and implements multiple strategies for educating and inspiring residence hall occupants to reduce heat, electricity, and water use. Each team also conducts an “eco-audit” of

each residence hall room to determine who has the most eco-friendly rooms. New measures are obtained for heat and electricity use at the end of the contest, typically two months later, in association with Earth Day (April 22). Prizes are awarded to the residence halls with the greatest percentage reduction in heat and electricity use, and the most eco-friendly rooms.

As a result of the Eco-Olympics, residence hall students are educated by their peers about environmental issues and energy conservation techniques. The greatest increased awareness about environmental issues, however, occurs among the students enrolled in the class, who teach residence hall students about environmental issues and energy conservation techniques, and motivate them to change behaviors.

These types of class projects are not only essential for accomplishing learning objectives, but they are also essential for helping the earth heal its wounds and to prevent more drastic damage.

### Notes

1. [www.worldatlas.com/city pops.htm](http://www.worldatlas.com/city pops.htm), accessed February 19, 2009.
2. Stephen Vavrus/UW-Madison, *Capital Times*, June 18, 2008: 7.
3. [www.ncdc.noaa.gov/oa/reports/billionz.html#chron](http://www.ncdc.noaa.gov/oa/reports/billionz.html#chron), accessed February 19, 2009.
4. Denis Collins, "Creating Environmental Change through Business Ethics and Society Courses," in *Advancing Business Ethics Education in the 21st Century*, ed. Diane Swanson and Dann Fisher (Charlotte, N.C.: Information Age Publishers, 2008), 243–63.
5. Denis Collins, "The Environment at Work," *Madison Magazine* (September 2007): 32.
6. [www.dnr.state.wi.us/org/caer/cea/environmental](http://www.dnr.state.wi.us/org/caer/cea/environmental), accessed February 19, 2009.
7. [www.usgbc.org](http://www.usgbc.org), accessed February 19, 2009.
8. Brian Natrass and Mary Altomare, *The Natural Step for Business: Wealth, Ecology and the Evolutionary Corporation* (Gabriola Island, B.C. : New Society Publishers, 1999); see also [www.naturalstep.org](http://www.naturalstep.org), accessed February 19, 2009.

***Business, Integrity, and Peace: Beyond Geopolitical and Disciplinary Boundaries*, by Timothy L. Fort. Cambridge University Press, 2007.**

William C. Frederick

The theme, argument, and aspiration of this book are that the business corporation can be a major force for peace in the world. In promoting this idea and ideal, the author takes a rather contrarian stand against the more popular view that casts business as a war profiteer, an advocate of a defensive or even aggressive foreign policy along with the military strength to back it up, and a willing partner with corrupt government officials by doing business in numerous conflict zones while ignoring issues of equity, justice, and deprivation of human rights associated with warfare. An even more remarkable feature of the argument is that business's peacemaking potential emerges, not from a radical transformation of business as we know it but from normal business operations carried out with a more mindful awareness of opportunities already present but not yet fully realized. The reasoning is subtle but