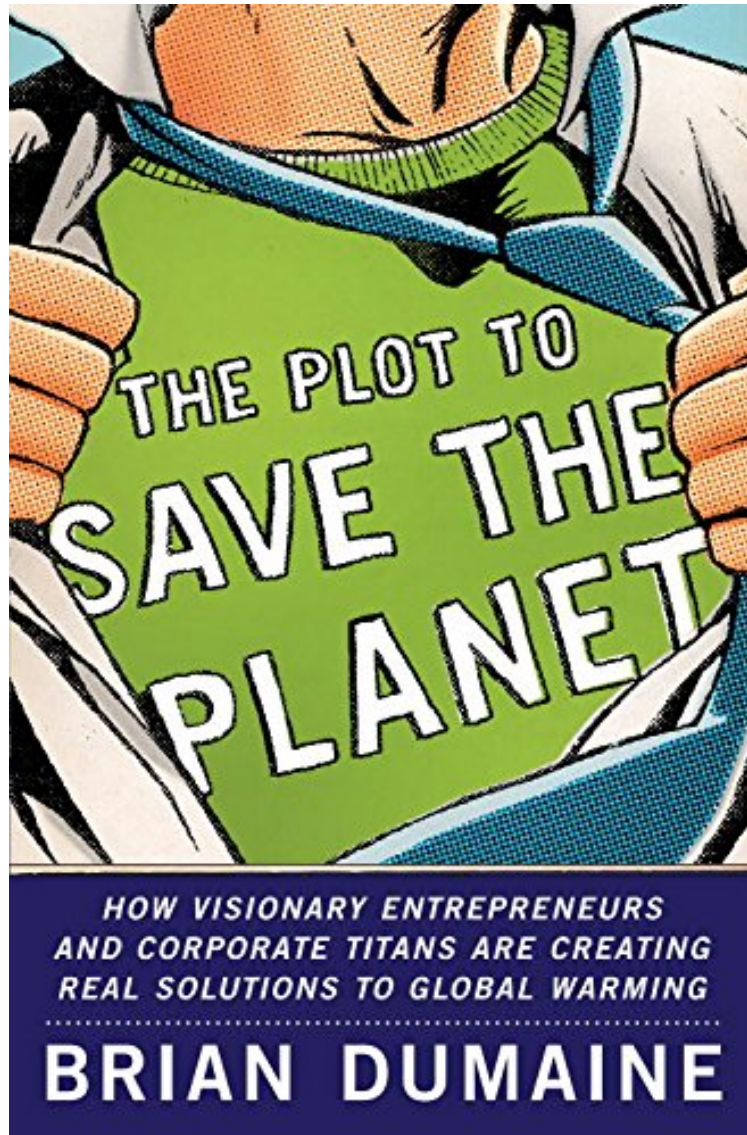


[Mobile library] The Plot to Save the Planet: How Visionary Entrepreneurs and Corporate Titans Are Creating Real Solutions to to Global Warming

The Plot to Save the Planet: How Visionary Entrepreneurs and Corporate Titans Are Creating Real Solutions to to Global Warming

Brian Dumaine

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Brian Dumaine : The Plot to Save the Planet: How Visionary Entrepreneurs and Corporate Titans Are Creating Real Solutions to to Global Warming before purchasing it in order to gage whether or not it would be worth my time, and all praised The Plot to Save the Planet: How Visionary Entrepreneurs and Corporate Titans Are Creating Real Solutions to to Global Warming:

3 of 3 people found the following review helpful. Reasons for hope

By D. BlankFortune magazine veteran Brian Dumaine has just published a highly readable new book. It will be of interest to anyone in need of having their spirits lifted from the assumptions that we will be hostages forever to third world oil despots, or that global warming must inevitably lead to Pittsburgh being the next great beach town. He identifies technological advances that are likely to play a significant role in lessening our middle east oil Jones, and reduce greenhouse gas emissions. What makes this an exciting read is that these are not theoretical laboratory experiments, these are tested technologies that are already working their way into daily economic life, or at minimum are in the prototype stage. My favorite is the algae that eats carbon and poops biodiesel. Dumaine is a guy who looks more at home in wingtips than Birkenstocks - another reason to feel some optimism after reading the book. He has done his own research and filtered all these ideas through the screen of how much venture capital each idea is attracting. The VCs get plenty of things wrong, but it is not usually because they have failed to thoroughly consider the economic viability of an idea, and these all pass the test. Read it. You'll sleep better.

1 of 1 people found the following review helpful. Fascinating detail about possible green alternatives

By Dennis LittrellI found this very interesting, but not as hopeful as I think Brian Dumaine intended. All the green ideas and enterprises envisioned by the entrepreneurs that Dumaine talked to depend on being cost effective. Solar panels, wind turbines, scrubbed coal, safe nuclear, ponds of algae eating CO₂, ethanol from switchgrass, etc., will not be developed until they can produce energy as cheaply as fossil fuels. Dumaine even has a chapter with a subtitle that spells it out: Chapter 2: "Green is the Color of Money: Nothing Happens without Money." These green alternatives will become cost effective when governments either install a carbon tax that will raise the cost of fossil fuels or otherwise subsidize the green alternatives. Dumaine, incidentally likes the idea of a carbon tax as opposed to what is called a "cap and trade" system in which companies or nations that do little polluting can sell shares to companies or nations that are polluting more. In this way corporations and nations will be encouraged through the marketplace to reduce their polluting ways. The sad thing is that right now it looks like the world as a whole and the US in particular are not ready to decide which, if either, of these solutions to employ. Another way green alternatives can become cost effective is to wait until fossil fuels become scarce and therefore so expensive that solar, wind, etc., are cheap without subsidies. The danger with this plan--which is the one we have been following willy-nilly--is that by then we may be berthing our ships at the port of Memphis, Tennessee and growing our bananas by Canada's Hudson Bay. That is, if we're lucky. More likely we will be engaged in brutal warfare for scarce resources while we watch the poor people of the world starve to death. And in any case our standard of living will plummet since the relatively high standard of living we enjoy today is based on available, inexpensive energy which will become scarce without alternatives. Reading this book makes it clear that our energy and pollution problems are with us not because we lack ideas on how to combat them. Dumaine demonstrates that there are ideas aplenty, from hydrogen fuel cells to solar panel farms to ocean wave turbines to geothermal energy, etc. What we lack is the political will to do what is necessary to enact these ideas and the wisdom to choose the right combinations since it is clear that there is no single solution to replacing fossil fuels. When I say "political will" I mean we have to elect people who will have the courage and the foresight to look beyond tomorrow's bottom line and see the consequences clearly some decades down the road when fossil fuels will be in short supply relative to demand, when the only economically feasible answer will be to burn massive amounts of coal in the quick and dirty way coal is burned today. The result will be the return of the horrific pollution that darkened the skies of 19th century London, only this time the extent of the clouds will be greatly increased. Another disturbing thing about reading this hopeful and very interesting book is what has happened since the book was written. With the global financial crisis upon us, the venture capital for green alternatives has dried up like a shallow pond fanned by hot desert winds. Suddenly we are not using as much oil as we did just a few months ago. The result: a precipitous fall in the price of oil. What this means is that many green alternative projects are suddenly not cost effective. Oil at \$150 a barrel makes solar and wind farms good investments. At \$50 a barrel, they are likely to lose money. Incidentally--or not so incidentally, depending on your perspective--our children and grandchildren, whether they like it or not, are subsidizing our use of fossil fuels. They will have to pay the environmental costs. Dumaine quotes Hermann Scheer, a member of Germany's parliament as expressing this view, and then explains: "...though it looks like we now enjoy cheap fossil fuels, the fact is that we are dumping the real costs--the droughts and floods caused by global warming, air pollution, and world conflicts--on our children and their children. It is not the legacy decent people should leave their offspring." (p. 171) Dumaine estimates this de facto subsidy at about \$500-billion worldwide per year. He estimates that the true price of gas to society is \$3 to \$4 more than we currently pay. (p. 172) If the real cost were added on in the form of a carbon tax, green alternatives would become cost effective and investors would not fear becoming suddenly priced out by an OPEC decision to pump a lot more oil. In answer to those who think that green technologies need to stand on their own without government subsidies, Dumaine notes that "many twentieth-century American industries would not have developed as quickly as they did--if at all--without government largesse." He points to the auto industry which benefited from the billions of federal dollars that our government invested in the interstate highway system as an example. He could add the trucking industry as well. One of the reasons for this head in the sand attitude so prevalent in the United States is the faith-based belief that the future will take care of itself or that something like the "rapture" will come and make all our good intentions moot. And then

there are people who care only about themselves and the here and now. Not so strangely that is the way corporations, by their very nature, "think." It is these short-sighted and bottom-line directed entities that are largely making the decisions for us about how we will fuel our economies. We need to make those decisions ourselves. 5 of 6 people found the following review helpful. A Sustainable Future By Dr. Joseph S. Maresca The author explains that "green=growth". Ultimately, carbon emissions drive costs up on many fronts. Traffic jams cost \$65 billion dollars annually. The book provides some unique engineering feats to promote the "green" goal. For instance, a raised floor in a building facilitates an efficient use of the duct system so that night air cools the building from the bottom up. Resultingly, less air conditioning is used. The Pope Manufacturing Co, of Hartford has built an electric car costing \$98,000. The Tesla auto costs .02/mile to drive. Transportation is known to account for 20% of Greenhouse gases. Walmart has cut back energy use by creating "green supercenters" . Lower energy use means more profits. i.e. This feat is accomplished by using motion sensors to control the freezer light. The German government guarantees that renewable energy companies will make money. Heiner Gartner has created a solar energy complex ; wherein, 10,000 solar panels fuel 1500 houses. Q Cells is a profitable solar energy company. Carbon sequestration is a process; wherein, greenhouse gases are buried. The ABB Grid System is a Swiss company specializing in power. The author explains a scenario; whereby, the Mojave Desert can power the entire West Coast. This book ought to be read by the entire USA Congress.

American entrepreneurs, corporate tycoons, and financiers are plotting what they do best—creating new industries that change the world and making billions in the process—a plot that will ultimately save the planet. *The Plot to Save the Planet* is an illuminating and inspiring look at the "conspiracy" to make green technology the Silicon Valley of the twenty-first century—the creator of massive numbers of jobs and huge amounts of wealth. Suddenly, the ugly mudslinging between environmentalists and big business has abated, and these two previously opposed forces are now strange bedfellows in a race to head off climate change. How is this new frontier being shaped? Brian Dumaine is your guide in this intriguing look into the very near future filled with colorful and informative stories about the entrepreneurs, investors, and corporate mavericks who are managing to pull off the feat of combining economic growth and environmental protection to battle global warming. You'll read about: • The savvy investors: Why Warren Buffett is investing heavily in wind power; and why John Doerr, the venture capitalist and early backer of Google, is saying that "green tech is bigger than the Internet and could be the biggest economic opportunity of the twenty-first century." • The cars of the future: The competitively priced plug-in hybrids that will get 60 miles to the gallon, and the battle being waged by fifteen start-ups competing to capture the electric car market. • The fuels without fossils: New sources of energy from plants such as prairie grass and algae that could capture a big chunk of the \$300 billion U.S. wholesale gasoline market. • The corporate mavericks: Companies such as Duke Energy and GE who are creating the low-carbon business models of the future, as well as cleaner ways to provide our power needs. • The energy-miser homes and buildings: The new Bank of America Tower in New York City and the green low- and middle-income homes being constructed by visionaries who were told it couldn't be done and still be affordable. • The "thin film" solar energy: How it is making the cost of heating a home comparable to traditional methods without emitting greenhouse gas. Plenty of obstacles still exist—among them resistance from the rich and powerful owners of the world's oil supply, developing nations such as China with their reliance on coal, and an American public reluctant to give up their McMansions, SUVs, and extreme air-conditioning. But the battle cry has been sounded. The green overhaul of the utility, energy, construction, shipping, and automobile industries is well on its way and—contrary to prevailing fears—the ultimate solutions will sustain the environment without demanding huge sacrifices to our contemporary comforts and lifestyles. From the Hardcover edition.

"We've all read the dire warnings about global warming. Now, here's a great book about the opportunities for ingenuity and entrepreneurship. Brian Dumaine describes the visionaries who are at the forefront of green technology and how they are not only going to save the planet but create an economic boom in the process. His case studies include inspiring entrepreneurs, mavericks, and imaginative academics all allied in a noble cause." —Walter Isaacson, CEO of the Aspen Institute; and author of *Einstein: His Life and Universe* "Brian Dumaine has given us a superb and informative tour of the emerging new energy economy." —R. James Woolsey, VantagePoint, venture partner and former CIA director "Through engaging anecdotes from forward-thinking businesspeople in energy, furniture design, transportation, and more, Dumaine shows that from here on out, it will pay to think green." —Plenty magazine "May well be the best survey of private investment and innovation in creating a cleaner, more efficient twenty-first-century economy." —Ben Jervy, National Resources Defense Council From the Hardcover edition. About the Author BRIAN DUMAINE is the editorial director of *Fortune Small Business*. Prior to that he was the international editor and assistant managing editor of *Fortune* magazine. Over his twenty-eight-year career at Time Inc. he has written or edited hundreds of cover and feature stories and devoted much of his editorial energies to environmental issues and the rapid rise of the green movement and its impact on capital markets, corporations, and executive

thinking. Excerpt. copy; Reprinted by permission. All rights reserved. | Big Energy We Can Put Sea Walls Around New York

What are the obstacles to cleaning up our planet? First, we must confront the idea that the American economy is inextricably entwined with the oil industry. Probably the most vivid illustration of this challenge came in the summer of 1979. Gasoline shortages were so severe that American drivers waited for as long as four or five hours to fill their tanks. The turmoil of the Iranian revolution had caused a slowdown in that nation's oil production and helped push world prices to record highs. In the United States, stations closed on weekends for lack of supply. On the nightly news, viewers watched incidents of name-calling, fistfights, and worse. In Freemansburg, Pennsylvania, the wife of a gas-station owner was struck by a car that had been waiting in line. As the husband held his bleeding wife in his arms, motorists filled up and sped off without paying. Miami police arrested two thieves who drove into a gas station, parked over an underground tank, dropped a hose through a hole in the floorboard of their van, and pumped the precious liquid into a 350-gallon storage tank hidden in the back of their vehicle. | Despite the high prices and fuel shortages, when a cardigan-clad President Carter asked citizens to turn down their thermostats and drive less, he was accused of fostering "an age of malaise." Americans were vividly made aware of the risks of having an oil-dependent economy. After Ronald Reagan defeated Jimmy Carter in 1980, oil prices began to fall, eventually reaching precrisis levels. America was once again hooked on oil. One of Reagan's first symbolic gestures was to tear out the White House solar panels that Carter had installed. The oil crisis had presented an opportunity to transition to an economy driven by alternative energy. Solar and wind companies were being created. The Carter administration had invested heavily in synthetic fuels. But with the return of cheap oil, there seemed to be no appetite to move to unproven technologies. The new president was sending a clear signal to the nation: the way to solve the energy crisis was not to develop clean technologies to replace fossil fuels; instead, the answer lay in finding and producing more coal and oil. Americans wanted sprawling suburban houses, big cars, and limitless air-conditioning. To meet those needs, a consortium of powerful politicians and industrialists, with remarkable efficiency, spent the next two decades turning an already oil-dependent nation into the planet's largest consumer of fossil fuels, one that used nearly five times more than the world average. Corporate giants such as ExxonMobil, Chevron, and ConocoPhillips created an infrastructure of tankers, pipelines, refineries, and gas stations so efficient that Americans can own 243 million cars and trucks—more than two vehicles for every three citizens—and fill them up anywhere in the country in less than five minutes. Americans, in fact, consume more than a gallon of gasoline a day for every man, woman, and child. And that is in addition to the coal and natural gas we use. Dominion in Virginia, Duke Energy in North Carolina, FPL Energy in Florida, and Pacific Gas Electric (PGE) in California built hundreds of coal or natural gas plants to heat Americans' homes, cool its office towers, and run its factories. They helped to make our economy the largest in the world. Despite occasional blackouts, these power companies have been a model of industrial efficiency, providing electricity twenty-four hours a day during heat waves, droughts, storms, deep freezes, and blizzards. Such abundance doesn't come cheap. Over the last fifty years, the energy industry has invested hundreds of billions of dollars in power plants, refineries, and gas stations. As a result, American oil companies and utilities represent a staggering worldwide economic force. As of 2006, Fortune 500 oil companies alone generated nearly \$1 trillion in sales and \$88 billion in profits,³ and employed 299,000 people. Americans' utilities generated \$330 billion in sales and \$24 billion in profits, and supported 400,000 jobs. That does not take into account the automotive industry, which depends on an unlimited stream of oil. The U.S. motor vehicles and parts industry chalked up \$580 billion in sales in 2006 and employed 1.5 million people. In all, big oil, big power, and big auto represent roughly 15 percent of the U.S. economy and employ 2.2 million people, more than enough to populate the city of Houston. The world's thirst for energy grows each day. If we continue on our current course, the global oil, utility, and auto industries will produce and burn ever more fossil fuel and emit enough greenhouse gases to irrevocably change our climate. A private equity conference for the energy industry, held at New York City's staid Union League Club in early 2007, presented a stark picture of the world's future need for oil and coal.⁴ John Rice, vice chairman of GE, was the keynote speaker that day. His division builds power plants and equipment; it also provides financial services for the energy industry and has annual revenues of \$47 billion. Rice said, "We've never seen anything like the current global energy demand, and there are no signs of it abating. Demand is strong in China, India, South America, and the Middle East. In places such as China and Saudi Arabia, the governments don't want blackouts or brownouts because the populations there won't tolerate it. People see that the 'haves' have power and they want it too. Politicians who don't address this will be voted out of office. Some two billion people in the world don't have access to affordable power. All this will require big energy infrastructure investments." One participant estimated that in the United States alone \$700 billion had been invested in energy to date and predicted that \$800 billion more would be invested by 2020 in coal and nuclear power plants, in oil refineries, and in other fossil fuel infrastructure. As I listened to these numbers, I turned to a private equity banker sitting beside me and asked, "What about global warming?" "We're going to keep looking for oil and building coal plants unless people want to stop driving their cars and live in the dark and in cold houses," he replied. I pressed on. "What about melting ice sheets and rising sea levels?" Without missing a beat, he said, "We can put seawalls around New York and the shores of New Jersey. We can afford to do that. The Dutch have lived that way for

hundreds of years; they built walls to keep themselves safe from the sea.” But, I said, “global warming is going to hit the Southern Hemisphere the hardest. The Pentagon is analyzing how to deal with the millions of refugees displaced by floods and famine who might head north toward the U.S. border.” Well, said the banker, “I’m not saying it’s going to be pretty, but we can live with it.” To avoid such a bleak scenario, today’s small scrappy clean-energy start-ups must grow big enough to compete against ExxonMobil and other huge conglomerates. In the meantime, Rex Tillerson, Exxon’s CEO, is determined to keep the world’s oil wells gushing far into the twenty-first century. A growing number of environmentalists, scientists, politicians, and investors are attacking big oil, urging these companies to pursue green energy on a massive scale. So far, there has been no significant response—though, for example, Britain’s BP now stands for “beyond petroleum.” BP, Royal Dutch Shell, Chevron, and other members of the big-oil fraternity have invested in biofuels, wind power, and solar power. Shell has put \$40 million into Iogen, a maker of biofuels headquartered in Ontario, Canada. Yet it is hard to give too much credence to the sincerity of companies whose wealth derives from fossil fuels. John Melo, who ran BP’s massive gasoline distribution system in the United States before he defected to a biofuel start-up, explains big oil’s indifference to alternative energy: “The refiners care about one thing. They care about processing crude and making more products. They don’t care, and, as a matter of fact, they’re not very interested in what’s happening to renewable fuels. If anything, that is a distraction, something that gets in their way, and it shows up very, very actively in the attitude and in the investment choices they make.” ExxonMobil’s case illustrates what he is talking about. Up until late 2006, the company’s leaders scoffed at the notion of global warming. Public documents show that Exxon gave money to organizations that publish papers, run Web sites, and write letters contending that global warming isn’t happening, or isn’t proven, or isn’t connected to human activity. The company says it has since stopped funding such organizations. At a 2006 energy conference Tillerson finally admitted, “We know our climate is changing, the average temperature of the earth is rising, and greenhouse gas emissions are increasing.” But he is adamant about not investing any meaningful portion of the company’s massive RD budget in alternative fuels. In a 2007 Fortune magazine interview, Tillerson said, “We’re only going to invest our shareholders’ money where we think they can get the kind of returns they expected when they invested their money with ExxonMobil.”⁵ It is clear that Tillerson simply doesn’t believe he can get the same kind of returns by investing in solar, biofuels, and other types of alternative energy that he can by pumping oil. The company is worried that if oil prices drop dramatically, as they did in the 1980s, alternative energy would turn out to be a bad investment. The company would ra...