



Windfall: The Booming Business of Global Warming

McKenzie Funk

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A fascinating investigation into how people around the globe are cashing in on a warming world:

McKenzie Funk has spent the last six years reporting around the world on how we are preparing for a warmer planet. Funk shows us that the best way to understand the catastrophe of global warming is to see it through the eyes of those who see it most clearly—as a market opportunity.

Global warming's physical impacts can be separated into three broad categories: melt, drought, and deluge. Funk travels to two dozen countries to profile entrepreneurial people who see in each of these forces a potential windfall. The melt is a boon for newly arable, mineral-rich regions of the Arctic, such as Greenland—and for the surprising kings of the manmade snow trade, the Israelis. The process of desalination, vital to Israel's survival, can produce a snowlike by-product that alpine countries use to prolong their ski season.

Drought creates opportunities for private firefighters working for insurance companies in California as well as for fund managers backing south Sudanese warlords who control local farmland. As droughts raise food prices globally, there is no more precious asset.

The deluge—the rising seas, surging rivers, and superstorms that will threaten island nations and coastal cities—has been our most distant concern, but after Hurricane Sandy and failure after failure to cut global carbon emissions, it is not so distant. For Dutch architects designing floating cities and American scientists patenting hurricane defenses, the race is on. For low-lying countries like Bangladesh, the coming deluge presents an existential threat.

Funk visits the front lines of the melt, the drought, and the deluge to make a human accounting of the booming business of global warming. By letting climate change continue unchecked, we are choosing to adapt to a warming world. Containing the resulting surge will be big business; some will benefit, but much of the planet will suffer. McKenzie Funk has investigated both sides, and what he has found will shock us all. To understand how the world is preparing to warm, *Windfall* follows the money.

Windfall: The Booming Business of Global Warming Details

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From Reader Review Windfall: The Booming Business of Global Warming for online ebook

Jennifer Kay says

My review for The Associated Press: <http://bigstory.ap.org/article/windfa...>

Apparently, if you look at climate change the right way, it looks like money instead of disaster — if you're looking at it from a corporate boardroom, for example, and not, say, coastal Bangladesh.

Journalist McKenzie Funk spent six years traveling the world to report "Windfall," his account of how governments and corporations — many of whom heavily contribute to the problem of global warming but balk at mandates to cut greenhouse gas emissions — are confronting climate change with engineering, money and lawyers. ... (to read more, follow the link above)

C says

How to profit from climate change:

- * buy stock in shipping companies that can travel through the Northwest Passage
- * buy stock from oil companies that can drill in the Arctic
- * move to Greenland or Norway
- * buy stock in reinsurance companies like Munich Re that can raise premiums on the back of natural disasters
- * buy fertile farmland and the water rights so you can grow food on it
- * buy stock in companies that build desalination plants or provide fresh water
- * move out of Bangladesh, Saigon, Manhattan, the Marshall Islands, and lots of other places that will be under water due to rising sea

Best of all, be rich so you can live safely in an increasingly difficult environment, and keep poor migrants out of your safe space.

Brutal!

Alva says

This becomes one of the books I think necessary to understand and move forward in the current period. Funk writes with Swiftian satiric wit, but the real power of his message emerges over the whole span of the book rather than in any particular eviscerating portrait; and that message is that all of us on the rich side of the Wall are as complicit as any of the profiteers Funk engages with in the Arctic, the tropics, drought-marked inlands or searise-marked coastlands. I get his message to be that we are in the process of abandoning the wretched of the earth as we pull up the lifelines; the injustice that the worst victims of climate change had little or no role in it (and still don't, per capita). A book like this convinces me more than ever that California's willingness to make some economic sacrifices to provide a model of how decarbonization is

feasible, even if expensive, is one of the more moral ways of dealing with a First World fundamentally unwilling to take responsibility for the planet as a whole.

Venky says

Global Warming is a threat that is as potent as any other dreadful calamity that can be envisaged as striking Earth in the near future. In spite of agenda backed opposition consisting of a phalanx of optimists who make a living pooh poohing ecologists, environmentalists and activists as naysayers, prophets of doom and inveterate pessimists, the fact that we are staring at an environmental disaster (predominantly man made) of gargantuan proportions is unmissable.

However can Global Warming trigger an upward shift in the monetary fortunes of a few daring and intrepid 'prospectors' willing to place impetuous bets on Climate Change? Are there people like that in the first place? Combining wicked wit and a wealth of research McKenzie Funk in this unique and revelatory book introduces us to a mind numbing world of pioneering profiteers, fascinating fund managers, boisterous business magnates and Wall Street experts who aspire to strike gold by pledging their bets on the topical phenomenon of Climate Change.

Traveling extensively to places obvious and obscure, Funk introduces us to an amazing group of people who make a literally booming business out of Global Warming. The dangerously melting Arctic is exploited by fund managers and oil majors alike to create pathways (The Northern Passage) and to drill deep for flushing out what is expected to be a treasure trove of oil and natural gas – an exercise that will resolve the woes of fuel guzzling carbon emitting powers in the higher north of the Globe.

Funk travels with a Wall Street raider to the dangerous and strife torn country of South Sudan where the former in a series of innovative and inventive deals with the rebel General procures hundreds of thousands of acres of fertile arable land at the cost of displacement and death suffered by hapless indigenous people. A precipitously rising sea level in island nations such as the Maldives, Kiribati and Tuvalu offers immense potential to Dutch engineering companies to peddle mind numbingly complex and gravity defying solutions such as the creation of entire floating cities – sprawling megapolises with stilts that are impervious to rising and gushing flows of water! Funk also gives us a ringside view of the scientific empire of the business tycoon Nathan Myhrvold, whose obsession with Geoengineering knows no limits or barriers even though the benefits arising out of such a process is to say the least – riddled with questions and credible doubts.

Funk does not despise the tactics or the strategies employed by these people in carving out personal and corporate fortunes by staking myriad claims permeating climate change. He only asks every stakeholder to engage in a thorough, realistic and reasonable introspection. He exhorts us to stop treating the subject of global warming as a Zero-sum game. Every winner need not prosper at the cost of a helpless and mutely obliging loser. Global warming and climate change makes no exception. It impacts all of us as part of a well-integrated and tightly knit humanity. Collaboration instead of commercial completion is the only lasting solution.

All the global stakeholders will do well to assimilate this message and act on it sooner rather than later if Mother Earth has to have a future.

Rick says

Probably the most depressing book I've read in years.

Governments, Multinationals and Big Banks -- not to mention the occasional intrepid private entrepreneur -- laying out their game plans to make big money off the *opportunities* afforded by global warming, such as: an ice-free arctic, increasingly water-desperate populations and the threat of destruction from ever more powerful storm surges.

Genetically-engineered mosquitos to fight the spreading menace of dengue fever, giant *mixers* to stir the ocean to reduce acidification and simulated volcanic eruptions (that is, pumping sulfur into the stratosphere) to help cool the earth...I don't know whether to laugh or weep.

Aaron Thibeault says

*A full executive summary of this book is available here: <http://newbooksinbrief.com/>

The main argument: That the earth's climate is warming, and we are the main cause of this phenomenon (through the emission of greenhouse gases, including especially carbon), is now beyond dispute to anyone with an objective mind and an appreciation of science.

The clearest and most obvious effects of global warming are the melting of glacial ice and the corresponding rise in sea levels. But the effects of a warming world do not end here, we now know. The models tell us that warming also means less rain and even drought and desertification in some areas; more rain in others, often in deluges; stronger storms, such as hurricanes and cyclones; and an acidifying ocean.

On a human scale, this means salinated and eroding coast lines; desiccated farmland and more wild fires in drier areas; increased flooding and soil erosion in suddenly wetter areas; more destructive and deadly storms; and threatened sea life.

With all these negative effects, you would think that the people, companies and governments of the world would be eager to step in and do everything we can to stem the rising tide of climate change (including especially cutting emissions). Instead, however, what we have seen is much talk and little action.

There are several reasons for this complacency. One of the leading ones is that the effects of climate change often seem somewhat removed from our daily lives. Indeed, even though we are now seeing the beginnings of many of the effects listed above, most of us glimpse at most a small fraction of these effects. And besides, it is difficult to attribute any one of them to global warming specifically. What's more, we like our way of life, and it's difficult to imagine changing it for something as abstract and often remote as global weather patterns.

In connection with this, many of us are wont to think that the best approach to climate change might simply be to adapt. We're an innovative species, after all, what's to stop us from innovating our way out of trouble?

This idea is especially appealing to the innovators and entrepreneurs among us, for whom not only peace of mind, but profits await. Given that this is the case, it is no surprise that we are already beginning to see some very innovative business approaches to adapting to the new normal. Everything from extensive water desalination plants, to man-made floating land-masses, to storm-surge sea walls, to snow machines and indoor skiing resorts.

Continuing with our wishful train of thought, it might also occur to us that as we are innovating to adapt, we should also be able to innovate to help mitigate and even halt climate change without necessarily weaning ourselves off oil until it is more convenient to do so. Once again, there are profits to be made here, and once again, such innovations are already underway. Everything from the development of alternative forms of energy (including solar, wind, and other renewables), to ingenious ways to manipulate the weather and climate back to normal (known as geoengineering).

Beyond optimism (some might say denial), and the fact that there are big profits to be made from adapting to climate change, there is also one other factor to consider in our relative complacency when it comes to halting and reversing carbon emissions. That is that while many of the effects of climate change listed above are bad for many people, at least some are good for some people some of the time—at least in the short-term. For instance, while melting ice stands to swamp some parts of the world, it is also leaving large tracts of land in the arctic open for resource exploration and shipping routes. In addition, while shifting hydrology is leading to the loss of large tracts of farmland in drier areas, it is also often leading to richer agriculture in newly warmer, wetter areas. Also, while shrinking farmland and water resources is leading to food and water shortages, and rising prices, those in control of these precious resources are making a fortune.

As we can see, then, being complacent about cutting carbon emissions is not only pleasant for most of us, for some of us, it's even a windfall! And that brings us to the topic of the book: all the things that are now being done to profit off of climate change (which we have now been introduced to above).

First off, on the whole this book is very good. It is extremely well researched and very well written. Also, the author does well to make sense of our relative complacency regarding cutting emissions, and just what is being done to address climate change right now. My one and only objection to the book is that though the author claims he will be entirely neutral in the book, it becomes clear that he favors the carbon emissions cutting route to the adaptation route (all the while admitting to recently having bought a bigger car, and flying all over the world for the purposes of his book). And one does wonder whether in the end the author's political stance really does affect his supposedly objective reporting (though for the most part we don't get the impression that this is true). All in all, though, a very good and interesting book. A full executive summary of the book is available here: <http://newbooksinbrief.com/>

Alex Kaplan says

Extremely interesting book. There hasn't been a shortage of global warming books, but I don't know of any looking at it from this angle. The book keeps up a good pace with the globe - trotting reporting of the author. I was pretty impressed with each of the sections tackling a different angle of the effects of global warming on business projections and governments. Particularly would recommend the sections related to Greenland and what is currently going on in the fresh water "market."

Neil Bhatiya says

A great introduction to how the world, including the private sector, is responding to the opportunities presented by climate change - oil exploration in a melting Arctic, border security to keep out migrants, private firefighting in the American West, and how the Dutch want to export seawall building.

Cwiegard says

Really excellent example of good research journalism applied to the topic of global warming. But rather than repeating the basic science, author Funk chooses to explore the weird and scary economic sector of global warming profit-making. Maybe you thought that global warming was a hoax, or that it is a threat to human survival that inspires us to collective self-sacrifice? Wrong on both, reports Funk. Human nature dictates that a long term threat such as global warming, when run through the filter of national and individual self interest, becomes a reason to invest in oil fields north of Greenland, water rights in Australia, or fences to eliminate climate refugees from Bangladesh. Plenty of money is being made, and plenty more will be made. But that money will pass into the hands of those who are already wealthy, rather than the few thousand trained scientists who record and model the progress of AGW.

It's not pretty, the world that Funk shows us. But this strange world is absolutely real. This book is sure to be the most important one on the topic of climate change published in 2014, though it is so full of information that the reader may suffer from brain fatigue in the later stages.

Richard Reese says

McKenzie Funk's book, *Windfall*, explores the question, "What are we doing about climate change?" Readers are introduced to ambitious speculators who are eager to make enormous profits on new opportunities resulting from a warming planet. They are not investing in research for sharply reducing carbon emissions. They are obsessed with keeping the economic growth monster on life support. Climate change investment funds will soon become gold mines, creating a flood of new billionaires. The future is rosy as hell.

Mining corporations are slobbering with anticipation as Greenland's ice melts, providing access to billions of dollars' worth of zinc, gold, diamonds, and uranium. A defunct zinc mine, which operated from 1973 to 1990, provides a sneak preview of the nightmares to come. The Black Angel mine dumped its tailings into a nearby fjord. The zinc and lead in the runoff was absorbed by the blue mussels, which were eaten by fish, which were eaten by seals. Investors won, the ecosystem lost.

Other entrepreneurs are anxious to turn the torrents of melt water into hydropower, providing cheap energy for new server farms and aluminum smelters. Meanwhile, the tourism industry is raking in big money serving the growing swarms of disaster tourists.

As the Arctic ice melts, sea levels could rise as much as 20 feet (6 m). A number of low-lying islands are already on death row — the Maldives, Tuvalu, Kiribati, the Marshall Islands, Seychelles, Bahamas, and the Carteret Islands. Islanders are pissed that faraway rich folks are destroying their home. Bath time is also predicted for large portions of Manila, Alexandria, Lagos, Karachi, Kolkata, Jakarta, Dakar, Rio, Miami, Ho

Chi Minh City, and a fifth of Bangladesh. There may be a billion climate refugees by 2050.

Five nations have shorelines on the icy Arctic Ocean: Canada, Russia, Norway, Denmark (Greenland), and the United States (Alaska). Beneath the rapidly melting ice are billions of dollars' worth of oil, gas, and coal. We would be wise to leave this energy in the ground but, of course, we won't. There will be abundant testosterone-powered discussion over borderlines in the region, and this might include blizzards of bombs and bullets. Both Canada and Denmark claim ownership of Hans Island. Russia has planted a flag on the North Pole.

A melted Arctic will also provide a new shipping lane, connecting the Atlantic and Pacific, providing a much shorter and much cheaper alternative to the Panama Canal. Both sides of the Northwest Passage are owned by Canada, but other nations, like the U.S. and China, disagree that Canada owns the waterway. They prefer it to be an international route of innocent passage, like Gibraltar. Funk took a cruise on the Montreal, a frigate of the Royal Canadian Navy. They were engaged in Arctic war games, which included an exercise that seized a naughty American ship.

The core driver of climate change is simple: "add carbon, get heat." As carbon emissions skyrocket, so does the temperature of the atmosphere. We can't undo what has already been done, damage that will persist for centuries, but it would be rather intelligent to quit throwing gasoline on the fire. Unfortunately, the titans of capitalism have a different plan. Renewable energy cannot power our nightmare, and environmental activism has failed. Governments are careful to ignore the prickly issue, because voters delight in living as wastefully as possible. Technology is our only hope.

Cutting emissions would blindside our way of life (and so will not cutting emissions). But cleverly adapting to climate change will greatly enrich the titans, temporarily. There's growing interest in seawalls, storm surge barriers, and floating cities. Israelis are making big money selling snowmaking and desalinization equipment. Biotech firms are working like crazy to produce expensive drought resistant seeds. India is building a 2,100 mile (3,380 km) fence along its border with Bangladesh, to block the flood of refugees that are expected when rising seas submerge low-lying regions.

Others dream of making big money creating monopolies on the supply of freshwater, which is diminishing as the torrents of melting ice rush into the salty oceans. There are two things that people will spend their remaining cash on, water and food. Crop yields are sure to drop in a warming climate. This will lead to rising prices, and create exciting opportunities for profiteering. A number of wealthy nations are ruthlessly acquiring cropland in third world regions.

Funk visited Nathan Myhrvold, a Microsoft billionaire, who now runs Intellectual Ventures. His plan is to keep economic growth on life support by creating a virtual volcano called StratoShield. Volcanoes spew ash into the atmosphere, which reduces incoming solar heat, and cools off the climate. StratoShield would spray 2 to 5 million metric tons of sulfur dioxide into the stratosphere every year. This would make the sunlight one percent dimmer, and enable life as we know it to continue, with reduced guilt, for a bit longer (maybe) — hooray!

Funk also visited Alan Robock, who opposes the plan. Volcanic ash is not harmless. The goal of StratoShield is to block heat. The catastrophic side effect is that it's like to severely alter rain patterns in the southern hemisphere, spurring horrendous droughts, deluges, and storm systems. On the bright side, life in Microsoft country, the Pacific Northwest, would remain fairly normal, and the sulfur dioxide sunsets would be wonderfully colorful.

Funk didn't mention that the geoengineering, if it actually worked, would have to be done permanently. Beneath the shield, ongoing emissions would continue to increase the atmosphere's carbon load. If the shield was discontinued, and full sunlight resumed, the consequences would not be pleasant.

Myhrvold's former boss, Bill Gates, is running a foundation that's spending billions of dollars to eradicate disease. The mosquitoes of the world are nervous, fearing near term extinction. The foundation is dedicated to promoting the wellbeing of humankind. Oddly, it has spent nothing on research to cut carbon emissions. Folks will be spared from disease so they can enjoy drought and deluge. There is no brilliant win/win solution. The path to balance will be long and painful.

Funk finished his book in 2012, a very hot year for climate juju all around the world. He had spent six years hanging out with tycoons, "the smartest guys in the room." All were obsessed with conjuring highly complex ways of making even more money by keeping our insane civilization on life support, for as long as possible, by any means necessary.

Climate change is a manmade disaster, and those most responsible are the wealthy consumers of the north. Funk imagines that the poor folks of the south will be hammered, while the primary perpetrators remain fairly comfortable. It's a wicked problem because "we are not our own victims." We feel no obligation to reduce our emissions or consumption. We care little about misery in faraway places.

I am not convinced that the north will get off easy. Anyone who spends time studying the Earth Crisis will eventually conclude that humans are remarkably clever, but pathologically irrational. We've created a reality far too complex for our tropical primate brains. We've created a culture that burns every bridge it crosses. Funk reminds us that, "We should remember that there is also genius in simplicity." I agree.

Lydia Castillo says

The first book I've read about global warming and its effects around the world. It was an easy, interesting, and infuriating read. I recommend it to everyone. It allows you to further understand the happenings of all things climate related. READ IT!

Rakesh Nagilla says

Windfall is about how companies, people, agencies across the planet are seeking an economic opportunity from global warming.

Mr Funk travelled all the continents for his research and separated the global warming into 3 categories: Melt, Drought and Deluge.

Melt, brings new economic opportunities for people where more land is arable and mineral rich.(Arctic belt) How israelis developed early desalination methods and are now being used for artificial snow generation across the world for skiing or other winter activities.

Drought, is helping private fire fighters make money working for insurance companies. How asset management companies are buying off land in African countries like Sudan. McKenzie also covers how locals are trying to fight spreading of Sahara with Great green wall. Effects of drought and refugees to other countries.

Deluge, is about rising sea levels. At the current rate, bottom half of low lying bangladesh will be submerged and all the people will have to seek refuge in India. On the other side, how a dutch company is trying to profit from building floating cities and sea walls. So are companies like Monsanto, Intellectual ventures which is loading on patents in the new field of geo engineering, hoping for a big pay day in future when the world will move towards getting used to global warming instead of fighting it.

I really enjoyed the book, particularly McKenzie's writing. Highly recommend it. J

Preston Kutney says

A lot of books that I've read on climate change treat adaptation as taboo - an unacceptable admittance of defeat. They focus on mitigation, and warn against assuming that we can engineer ourselves out of this crisis. Windfall is a book about climate change that accepts the premise that society will fail to do enough to avoid the effects of a warmer planet. It is a cynical but practical examination of how society and business will adapt, and the speculators, inventors, and hedgers who are positioning themselves for a windfall.

When most of us imagine a future affected by climate change, we see a future where everyone has seen the light and taken collective action, even if it is too little too late. We see carbon pacts, energy shortages, bicycles and electric cars. But what if the climate changes and we don't? What if society remains technocratic, hyper individualist, and profiteering? What if the response to a climate crisis is not collective action, but a gold rush?

Funk looks at this from a couple of angles:

1. THE MELT - what happens when thousands of square miles are uncovered by retreating ice sheets in Greenland and the Arctic? (Short answer: Canadian military (who knew that even existed) defending newly melted land, shooting machine guns at icebergs in training exercises)

Also, the tricky situation that Canada, Greenland, Russia etc find themselves in, wherein they technically stand to gain from climate change, so what is their obligation to the rest of the world? In my favorite line from the whole book, Vladamir Putin on climate change:

"We shall probably save on fur coats and other warm things."

2. THE DROUGHT - The ultimate effect of global warming is to disrupt the temporal and spatial distribution of water. Temporally, rain will become more sporadic and intense. Spatially, snowpack is decreasing and cities are becoming less permeable - returning water to the oceans faster. Water is heavy - 8.3 lb per gallon - and to move it without significant help from evaporation and gravity or the USACE, is still too expensive for private companies.

"There are all these Zen-like things about water. It's the most necessary of all commodities. There's no substitute for it at any price. And we cannot make water.

If we run out of energy, life will be crappy. But if we run out of water, we die."

3. THE DELUGE - sea level rise and more sporadic, intense precipitation may wash many coastal and delta communities into the ocean. When migrations occur, or island nations are subsumed into the sea, where do those people go? What will "environmental refugee" laws look like?

If you're looking for a fairly structured high-level look at the effects of climate change, and some interesting anecdotes about climate change adaptation, this is it.

I am endlessly entertained by "what if" scenarios, and the intersection of economics and the environment, so I found this to be a real treat.

Blue says

Thank you GoodReads First Reads for a free copy of Windfall in exchange of my honest review.

I was a bit hesitant about starting Windfall, as I do not need to read a book about "the truth" of global warming or climate change. I was delightedly surprised to find that McKenzie Funk wrote, instead, a book that is truly as advertised: a book about the economics of climate change. As such, Funk reports expertly on the efforts of sovereign states, tiny islands, giant oil companies, think tanks, and various businesses who are/have been aiming to profit from the climate changes that are happening and are continuing to happen.

Funk travels to many places and meets with many influential men (all men, hmm...), who are all possibly small and large players in the next world war to come, whenever it may be. The book connects many dots with thin, invisible, tangible strings that bind the whole of Earth in a very tight and uncomfortable network; from the independence movement of Greenland to the wall of trees being built in Senegal to the wire fence India is building around Bangladesh to the snow machines that were inspired by the Russian gulags, Windfall witnesses the silent decisions that are shaping the future of humans and the Earth now.

Funk took six years to investigate and write this book, and a great job he has done. His writing is precise and crisp, with a good balance between every-day personal experiences and an account of his findings from his travels and interviews as well as his research.

Highly recommended for anyone interested in the politics of immigration, poverty, water rights, and international relations. Also recommended for anyone who has children or plans on having children. Expect a page-turner, albeit a rather bleak one (if you are socialist leaning, that is; otherwise a happy read, if you live and earn in the rich, Northern countries of the world.)

Anca Iordachescu says

Quite an insightful book on the "profiteers" of climate change, and the endangered, solution-less ones, however for a non-interested person, it might seem too much.

I appreciated the almost-neutral writing and the extensive documentation, really offered me another view on the other side of the coin.

I would recommend it for people interested in global warming and some possible "opportunities" which arise

from it, in the sense that "nothing is inherently bad".
