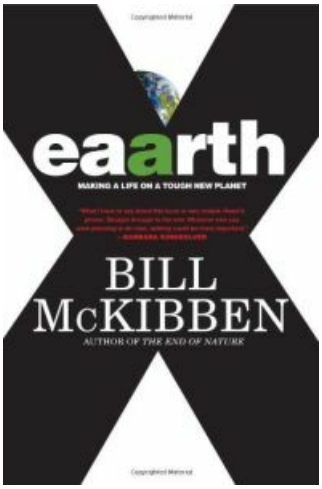

Book Eaarth

Making a Life on a Tough New Planet

Bill McKibben
Times Books, 2010

Recommendation

Educator and environmentalist Bill McKibben states his uncomfortable, disturbing conclusions plainly: Earth as you knew it no longer exists. You now live on "Eaarth," which humankind has damaged so much that it is no longer the same planet. The conditions that shaped civilization for centuries are permanently altered. People must change their ways of living or, the author asserts, accept their doom. McKibben's message will challenge many readers' basic assumptions about life, economics and society. At times, the book's organization can be tricky, because McKibben seems to move too fast and jump from topic to topic. He's been fighting the environmental battle for so long that he's intimately familiar with concepts that may be controversial or new to some readers. Nonetheless, this jeremiad touches on so many crucial aspects of life on Earth (and Eaarth) that *BooksInShort* recommends it as a respected advocate's wake-up call to everyone skeptical about climate change or dwindling resources, and to those who want to shape a livable future – on this planet.

Take-Aways

- The idea that people could fundamentally change the planet used to be unthinkable. Yet, fundamental change is already happening.
- Atmospheric carbon dioxide has reached dangerous levels and continues to rise.
- Global warming means more floods, more droughts, more forest fires, more pests, more diseases, more risk, less certainty and poorer crop yields.
- The dangerous push to grow ever larger economically is woven into the DNA of Western civilization, but getting bigger won't solve the problem of global warming.
- Fighting global warming is possible, but world governments have been slow to act.
- Individuals and governments must act now to stop the damage.
- To be viable, communities must slash CO_2 production and generate energy locally.
- People should focus on concrete realities, like growing their own food.
- Humankind must conserve biological diversity, energy and society's infrastructure.
- The Internet can help you develop the skills you will need to survive on planet "Eaarth."

Summary

Living on a Changing Planet

In 1968, when Apollo 8 broadcast the first images of Earth from space, people saw the planet in all its beauty. It was blue and white and wonderful. Its glory struck even trained astronauts. That world is gone. Its richly balanced blue oceans are darkening and turning brown as the planet changes due to global warming – and everyone will suffer from it. Emissions from burning fossil fuel have caused temperatures to rise by more than 1.5°F (1°C) – so far. This has increased storms over the oceans, creating larger systems carrying more rain and making more lightning. Rainfall now goes up 1.5% each decade. Since the rain doesn't fall where it is needed, the extra lightning starts more forest fires.

> "The project we're now undertaking – maintenance, graceful decline, hunkering down, holding on against the storm – requires a different scale. Instead of continents and vast nations, we need to think about states, about towns, about neighborhoods, about blocks."

Climate change also affects the tropics, which "have expanded more than two degrees of latitude north and south since 1980." Such shifts disrupt weather patterns, bringing permanent drought conditions to large parts of Australia and the US. In Tibet and Bolivia, glaciers are melting, changing regional ecologies and economies. Oceans are absorbing more CO_2 from the atmosphere, leading to increased water acidity, which makes it harder, for example, for oysters to reproduce, and which may completely destroy coral reefs.

> "The planet on which our civilization evolved no longer exists."

People got caught off guard in a profound way, rarely realizing that they were living through "a huge experiment" that humanity was running on itself and on the planet, a trial unlike anything beforehand. Until recently, people didn't know they had inflicted long-term damage on the Earth. As technology advanced, scientists and global leaders started discussing global warming, but for decades, they saw it as only a "threat" that wouldn't cause real, visible impact any time soon.

> "We know, definitively, that the old planet 'worked.' That is, it produced and sustained a modern civilization. We don't know that about the new one."

For 10,000 years, carbon dioxide (CO_2) levels in the atmosphere were stable at "roughly 275 parts per million" (ppm). This changed with the arrival of the Industrial Revolution. Since then, CO_2 levels have been going up, currently at the rate of two ppm per year. Around 2000, experts estimated that 550 ppm would indicate a dangerous level. More recent studies show that much lower levels – around 350 ppm – show negative effects. Today's CO_2 levels have surpassed that redline. Humankind still could push the level back below 350 ppm though that is a difficult goal for scientific and technological reasons. However, it's not even the biggest obstacle. Political leaders worldwide have not done enough to address the situation. When President Barack Obama took office in 2009, he announced a number of bold environmental policies, but at a UN conference on global warming, he made only token commitments to reducing carbon emissions.

Too Little, Too Late

While some individuals, cities and states are taking action to slow global warming, it is too little, too late. Expect the following catastrophic results to become more common:

- **Rising temperatures and changing weather** – As temperatures increase, more people will die from heat waves, and laborers won't be able to work as much because of the heat. It isn't just that the weather will be warmer. Rains will fall more erratically and in torrential downpours. Droughts will become permanent as weather patterns shift. Storms will be more intense. Forest fires will become annual events.
- **Crop failure** – Expect less productive cropland and smaller farm animals. Crops require specific weather conditions to produce enough yield to feed Earth's population. As the climate changes, more crops will get drowned by the rains and fried by the sun. Those that survive won't carry as much protein. Some plants won't grow where they once did.
- **Pests and diseases** – Warmer weather will lead to shorter winter freezes that won't kill off some pests. Others will breed more quickly because of extended hot seasons.
- **Flooding** – As more rain falls within less time, many rivers will overflow. As the glaciers melt, the oceans' water levels will rise, causing more flooding.
- **Increased costs** – Growing food in a new world and reinforcing the infrastructure to meet its needs will cost more. New diseases will force up medical costs.
- **Inaccurate risk assessments** – People, industries and societies make judgments about how safe a situation or an undertaking is. The entire insurance industry bases its practices on these judgments. As climate conditions change, people and organizations will be less able to assess potential risk. Levees or bridges that used to be strong enough will no longer suffice – just one way damaged infrastructure makes it harder for society to plan.

Growth Is a Habit, but Not the Answer

Economic growth has long been mankind's cultural imperative. However, that is coming to an end. This "reflex" is an adaptation that fit the old world, not the new one. It just isn't possible to keep growing forever. This is true even for the "green growth" championed by former vice president Al Gore and *New York Times* columnist Thomas Friedman. Green growth might have helped break our bad habits, but only if humanity had started changing decades ago. It is too late now. The economy that shaped contemporary Western civilization is like a "racehorse, fleet and showy," designed for speed. It performs well on an optimal track. However, when conditions change – when the track gets muddy or rocky – the horse slides or stumbles and becomes vulnerable. Eaarth is that changed track, so instead of a racehorse, we need a "workhorse," a draft horse economy, not as fast or flashy, but able to keep going.

> "Across the country communities have begun to transform themselves."

Just as the workhorse will go slower than the racehorse, so will the new economy go slower than the one society now takes for granted. This change will require a serious mental shift. In the old economy, increasing speed was the norm. Now, the "Slow Food movement" and "the Slow City campaign" already are working toward that reduced tempo. They signal the sort of redirection society should implement. As society slows down, it also needs to downsize. As the world has gotten faster, major elements of the Western economy have gotten bigger. Houses have become larger, retail spaces have expanded and organizations – particularly banks – have become not just bigger, but "too big to fail." Organizations that get too large can't react well to changed conditions. "Anything too big to fail is, by definition, too big." Having clumsy, oversized institutions leads to debacles like the 2008 economic trauma, where the big banks overreached and crumbled, while many small, local banks did fine.

Historical Precedents

The US won't find it easy to change directions. In its early years, colonists felt a strong local sentiment. American soldiers in the Revolutionary War fought for their farms, their communities and their homes. The Articles of Confederation were built on the philosophy of the Declaration of Independence, emphasizing local autonomy and staving off central government. As the states fought among themselves, they left the nation without the money or credit to raise an army. The United States had an immediate need for a stronger central government. James Madison earlier gave this need a philosophical, or at least conceptual, underpinning in his paper, "The Federalist No. 10." He argued that in "a larger republic," which drew government representatives from different places, you could avoid the risk of one "faction" dominating another. But the economic drive for a large central government dwarfed these early justifications.

> "Embracing the local doesn't mean abandoning the connection to something larger."

The tensions among local towns, regions and the nation continued throughout US history – fought through argument, through legislation and, in the case of the Civil War, through armed conflict. Always, the urge to increase the scale of the federal government or to fulfill the idea of a grand "National Project" carried the day. Conquering the frontier, building a continental railroad, creating an interstate highway system, sending a man to the moon...are all huge projects. Even in areas that seem totally distinctive, like the "Green Revolution," size won. Big agriculture has been a huge success at producing food and shipping it worldwide, allowing unprecedented population growth. However, this has reached a point of diminishing returns. Given that easy oil is about gone, the writing on the wall is clear: the current civilization must change its behavior.

Which Communities Are Best Suited for Life on Eaarth?

The overblown lifestyle that currently defines Western civilization is impossible to sustain because it depends on easy access to fossil fuel, now increasingly scarce. What happens when the world runs out of oil? The way people eat today is also dangerous and unsustainable, since the food supply depends upon "globally traded grains," which are grown as monocultures on industrial farms. Terrorists could easily disrupt the world's food supply by attacking food transports. If an infection hit a few monocrop species, everyone would go hungry. And, continuing to pump CO_2 into the atmosphere will drive climate change further. These challenges have no magical cure; they're too big and too difficult.

> "We'll need to change to cope with the new Eaarth we've created."

However, people can create communities that are better suited for life on Eaarth. Communal and individual action can help combat climate change. Healthy, pleasing green communities would share these characteristics:

- **Reduced CO_2 emissions** – The developed world needs to slash carbon emissions by 80%, starting now. That's a massive challenge, but because current systems carry so much waste, conservation can take huge steps forward even without technological breakthroughs. Conservation and existing technologies can slash 20% off the top. This includes such simple measures as insulating your hot water heater, using public transportation or riding your bike to work.
- **Alternative forms of energy** – Which form of green energy residents of the US should use depends on the region where they live. The Pacific Northwest offers good hydropower. The Atlantic coast generates wind power. The Southwest can use solar.
- **Local focus** – Fossil fuels are attractive because they are portable. Many alternative energy sources don't move well. Transmitting electricity over long distances causes great energy losses. Alternative energy must stay local for maximum benefit. The more you do locally, the more you insulate yourself from disruptions that will affect the global economy – and, in most cases, the less carbon you will put into the atmosphere. So grow as much food as you can. Practice "community-supported agriculture." Cultivate food that grows locally, instead of buying out-of-season fruit that's been shipped thousands of miles. You can't remain part of the global economy and produce everything locally – like cars or computers – but you can do a lot.
- **Community oriented** – The concept of community has withered in many ways. When you live in a region with cheap, accessible power, you don't think you need a real sense of community. You might drive to visit your friends, go to work or move if things get tough. None of that will be as easy in a post-carbon world. You'll need to know the people near you, so you can join them in doing essential regional projects, like helping your neighbors move, growing a garden or sharing ways to save energy.
- **Diverse** – Contemporary Western culture suffers a paradoxical sameness: Though many people are free to do what they want, they do the same things. In a changing world, diversity will provide a kind of insurance. Instead of monocrop agriculture, sustainability calls for multiple plant varieties to ensure the biggest and best yields. Society will need multiple energy sources; it won't have a single reliable source.
- **Conservation oriented** – The US's physical infrastructure is crumbling. Many roads and bridges urgently need repair. That need will intensify with more severe weather and floods. Rather than building anew, communities must preserve what they have.
- **A concrete focus** – Rich societies can afford to focus on abstract and artificial matters, such as ideas (ideological purity), economic activity (jobs like advertising) or processed, artificial foods. In a tougher world, people will need to focus on real work and real food.
- **Internet augmented** – To survive on Eaarth, you'll need skills you might not need now, such as farming, composting or generating local energy. Fortunately, the Internet offers an abundance of information that can help you develop such skills. You can also use the web to augment and jump-start atrophied local community structures: start email newsletters, alert your neighbors about emergencies, and spread information about goods to share or give away.

About the Author

Author, educator and environmentalist **Bill McKibben** also wrote *The End of Nature*. He founded the 350.org and Step It Up organizations.