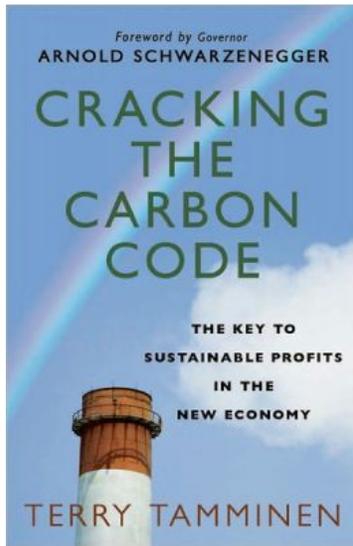


Book Review



Cracking the Carbon Code: The Key to Sustainable Profits in the New Economy, by Terry Tamminen; New York: Palgrave MacMillan, 2011, 172 pp. \$30.00 (hardcover); \$15.00 (eBook)

Reviewed by Logan Yonavjak

California's Landmark Global Warming Solutions Act (AB32): A Paragon for Climate Legislation

Cracking the Carbon Code can almost be viewed as two separate, but very complimentary books. Chapter 1 provides a concise, but intimate overview of Terry Tamminen's experience as an advisor to Governor Arnold Schwarzenegger during the passing of the landmark AB32 "Global Warming Solutions Act" in 2006. Beyond California, under Tamminen's watch, dozens of U.S. states, in addition to Canada and China, became vested in various carbon reduction policies and initiatives that are in various stages of development today.

Chapter 2 and the remainder of the book are devoted to the author's innovative and straightforward framework for how a company can begin to address cutting and managing carbon emissions over the short and long term. Throughout this informative book, Tamminen demonstrates leadership and strategic thinking that leave readers persuaded that cutting emissions is a win-win for the economy, their individual business, and the environment.

Enterprise Decision-making in lieu of Climate Change

Businesses, governments, and individuals are all trying to figure out how to navigate the challenging and dynamic environmental and economic implications of climate change. Suffice to say, these impacts are fundamentally altering decision-making at every level of society and will continue to do so. However, the scientific consensus is clear: we need to quickly decarbonize our economy if we want to avoid the most extreme negative impacts of climate change.

Even if business and policy leaders acknowledge the reality of climate change and the general implications for the New Economy (Tamminen makes the assumption that they mostly do), this usually means everyone has his or her own opinion for how to specifically navigate the decision-making, or, alternatively, has no clue where to begin.

According to Tamminen, “this dizzyingly varied jumble of people, places, concepts, and acronyms are all oddly shaped pieces of a mosaic that, taken together, equal a new owner’s manual for the economy of the 21st century.”

This new owner’s manual, along with “hundreds of new laws, incentives, politics, inventions, Nobel Prize winners, science debates and disappearing natural resources,” all add up to something Terry Tamminen has deemed the “Carbon Code.” Sounds confusing, right?

Cracking the Carbon Code

How are businesses, governments, and individuals, especially those with little background in science, supposed to make sense of all of this, particularly as it affects their specific needs? Again, without a clear roadmap, confusion and apathy can ensue. Tamminen’s goal in *Cracking the Carbon Code*, is focused on helping decision makers decipher this code.

Viewing low-carbon approaches as a necessary evolution in our economic development, Tamminen professes that “those who crack the Carbon Code will be able to spot the companies and technologies that are to the new low-carbon economy what Microsoft and Apple were to the information technology revolution of the 1980s.” In other words, we’re entering a new phase of the global economy, and smart businesses recognize this whether they like it or not.

Laying the Framework

Instead of feeling like a burden, Tamminen's writing style makes the de-carbonizing process feel like a game, or at least an invigorating exercise for those interested in getting ahead of the curve. Eventually, he argues, all companies will have to adopt some form of carbon mitigation, or be out-competed.

First, he strategically frames the Carbon Code roadmap around companies using carbon (which refers to the six "greenhouse" gases emitted from decaying materials and the combustion of fossil fuels) as a yardstick to measure their progress in improving efficiency and eliminating waste, in essence taking control of their destiny in lieu of climate change. This way, he intelligently puts the onus directly on the decision-maker.

Moreover, this roadmap isn't just important for direct emitters of carbon, like coal-fired power plants, it's relevant for a wide range of stakeholders, including businesses, investors, shareholders, governments, and consumers. After all, Tamminen argues, doesn't every organization want to cut waste and improve efficiency? What better way to do it than by using carbon as a yardstick? Tamminen believes that once enterprises learn the process, more will see the light and jump on the bandwagon.

The Historical DNA of the Carbon Code

Before breaking down the roadmap, in the very first chapter, Tamminen sidesteps any debate or discussion about whether climate change is happening and, thankfully begins the book with a brief and informative history of the people and steps responsible for the development of the "historical DNA" of the Carbon Code, instigated by the passage of California's AB32 law (the Global Warming Solutions Act of 2006). As I learned in greater detail, this legislation essentially laid the groundwork for catalyzing other statewide and regional support in the United States and international support in China and Canada.

Tamminen, who originally served as secretary of the California Environmental Protection Agency (and was then appointed to Cabinet Secretary, Chief Policy Advisor to the Governor) was in the thick of the development and passage of AB32 with Governor Arnold Schwarzenegger (who wrote a very motivating foreword for the book, and drew an analogy between Cracking the Carbon Code and a bodybuilding workout). This section

provides a more intimate understanding of the political maneuvering required to get this landmark legislation passed in the Golden State.

It was also interesting to hear a detailed account of Tamminen's interactions with President Obama during his first presidential campaign, as well as how he helped persuade Vice Minister Xie Zhenhua of China to create energy efficiency goals and launch a new subnational carbon registry similar to the Chicago Climate Exchange, beginning in Jiangsu province. (At the time Xie Zhenhua was China's chief delegate to the UN climate negotiations as well as the vice minister of the National Development and Reform Commission.)

The Roadmap

After the brief historical overview, Tamminen moves quickly into the core material of the book, which consists of a five-step process that companies can take to become more efficient, sustainable, and competitive in the global economy. Through these steps, Tamminen reminds business leaders that lowering emissions can mean lower risk and potentially higher profits:

1. *Time Your Carbon Tipping Point: Deciphering regulation and business trends that determine when carbon concerns will reach your doorstep.*
2. *Build a Fence: Measuring your company's carbon "footprint" and deciding what emissions you must accept as part of your responsibility—and which ones are someone else's.*
3. *Cut the Carbon: Reducing your company's carbon emissions in the most cost-effective manner and unlocking hidden "carbon assets" that may generate new revenues.*
4. *Manage What Can't Be Cut: Mitigating risks associated with a price on carbon, including the secrets to entering the carbon credit markets.*
5. *Estimate Carbon Resilience: Evaluating the long-term prospects for your company's carbon footprint and learning to adjust accordingly. This step includes understanding benchmarks for continuous improvement by comparing your company's carbon performance against others in the industry—and learning to stay ahead of the pack.*

Tamminen embeds each section of the process with examples from companies that have successfully cracked the Carbon Code and also with those that are still struggling to master the lessons; he aptly calls them "winners" and "losers." He walks the reader

through key questions in each section that can guide a high level analysis of how to cut emissions. For instance, in Chapter 1, the key questions to consider are:

- 1) *When will my business or industry be regulated?*
- 2) *When will customers demand that I deal with my company's carbon footprint?*
- 3) *When will the impacts of climate change affect the assets or business model of my company?*

Although seemingly straightforward questions, they can be difficult to answer, depending on the context. In the United States, for example, electricity companies are the first to be targeted because utilities can pass new costs on to consumers under structured rate programs that are typically controlled by public utility commissions or city councils. Their purpose is to prevent sudden rate spikes that might otherwise disadvantage either businesses or low-income consumers. However, other industries may not see regulation for some time, including ethanol and industrial landfills.

Also, companies need to think beyond regulation when planning their decision making for climate change. Customers and the general public may demand to know and see evidence of efforts to reduce companies' and product and service carbon footprints ahead of regulation.

Even if a company is not receiving pressure from customers or the general public, there is still a need to evaluate how the impacts of climate change may affect their business assets or the overall business model. After timing the carbon "tipping point," the second step is for companies to actually measure their direct and indirect emissions and figure out a way to publicly record this carbon footprint that can comply with both government regulations and public expectations.

The third step involves the work of actually cutting carbon emissions. Tamminen highlights energy efficiency measures as the most strategic focus area for companies—with the most benefits coming from lighting, motor efficiency, appliances, and building insulation.

In what he deems the process of "leasing the sky," the fourth step that Tamminen outlines involves managing what can't be cut directly by buying a combination of allowances and offsets, or just hedging your bets.

And, after a company has gone through the work of timing, measuring, cutting, and managing, it has to continue evolving. The final step in Tamminen's process requires continuous improvement and evaluation. Companies can't stop after they've gone through

the first four steps, they must look at their “Carbon Financial Resilience” over the long-term, evaluate areas of “Hidden Carbon,” and measure themselves against others in their industry to stay competitive and realize all the benefits of measuring and managing their carbon.

Recognizing Increased Profits and/or Lower Risks

Throughout the book, Tamminen reminds readers that all the companies he highlights have only begun to crack the code, but are often recognizing increased profits and lower risks to their business. He urges companies to reframe the situation and see an opportunity for businesses to use carbon as a measure of efficiency, and, by reducing waste, increase profits. These examples make the reader feel less daunted, and even excited, by the opportunity to de-carbonize.

Tamminen is very skillful at reframing the carbon issue as an opportunity for businesses. As an example, in Chapter 2, page 27, he poses the question in relation to a national carbon tax, “a price on carbon would essentially be a cheap insurance policy. In fact, businesses spend billions each year for insurance to offset risks that are far less likely to impact their bottom line—because it’s good risk management.”

Another valuable aspect of the book is Tamminen’s recounting of past tipping points in the economy and the inevitable business backlash against change—once companies see the benefits of measuring and reducing their emissions, it will be as if *not doing it* is an archaic business approach.

The author also compiled a resource guide with a list of organizations and other resources for more information, including policy and data-tracking sources; carbon offset developers and validators; carbon calculators, carbon trading and registries; and carbon issue organizations, associations, and nonprofit groups; and an extensive glossary of terms.

At the end of reading the book, I’d be surprised if any company representative didn’t see the process of reducing emissions differently, and realize that the game is changing. To adopt Tamminen’s lingo, the winners will Crack the Carbon Code, and the losers will lose out on a major opportunity, that just may mean the difference between staying in or going out of business in the 21st century.

Tamminen takes the first step in leading the horses directly to water, but making them drink is another matter altogether. There are still many companies that have a vested interest in continuing to perpetrate the carbon economy.

I think this quote from Tamminen is a great way to end: *“The dying old economy—represented by trade associations rooted in century-old thinking—is doing all it can to protect business-as-usual, an apple cart that is being rapidly tipped over by progressive, profitable businesses that have cracked the Carbon Code.”*

Logan Yonavjak is an Independent Impact Investing Consultant and 2015 MF Candidate at Yale University. She can be reached at Logan.yonavjak@yale.edu.