INTRODUCTION

We live in the time of what might be called the Great Burning. However, we tend to ignore the tremendous inferno blazing around us. Most of the combustion occurs out of sight and out of mind, in hundreds of millions of automobile, truck, aircraft, and ship engines; in tens of thousands of coal- or gas-fired power plants that provide the electricity that runs our computers, smartphones, refrigerators, air conditioners, and televisions; in furnaces that warm us in the winter; in factories that spew out products we are constantly urged to buy. Add all this burning together and it amounts to the energy equivalent of torching a quarter of the Amazon rainforest every year. In the United States, the energy from annual fossil fuel combustion roughly equates to the solar energy taken up by all the biomass in the nation. It's a conflagration unlike anything that has ever occurred before in Earth's history, and it is the very basis of our modern existence.

Obviously, it would be impossible to continue consuming the world's forests, year in and year out, at a rate that far outstrips their pace of regrowth. We'd soon run out of forest. Yet the Great Burning has persisted and grown, decade after decade, because its fuel consists of millions of years' worth of stored and concentrated ancient biomass.

The burning of fossil fuels cannot go on forever, either. Coal, oil, and natural gas are depleting, nonrenewable resources—they don't grow back. While we are not about to run out of them in the absolute sense, we have extracted the cheapest and best-quality fuels first, leaving the more expensive, dirtier, and harder-to-produce fuels for the next year's takings. As I argue in the first chapter of this book, we have already reached the point of diminishing returns for investments in world oil production. And oil is the most crucial of our nonrenewable resources from an economic standpoint.

At the same time, burning Earth's vast storehouses of ancient sunlight releases carbon dioxide into the atmosphere, resulting in global warming and ocean acidification. Climate change is contributing to a mass extinction of species, extreme weather, and rising sea levels—which, taken together, could undermine the viability of civilization itself. If civilization fails, then we will have no need for cars, trucks, aircraft, ships, power plants, or furnaces—or for the oil, coal, and gas that fuel them. If the world's policy makers decide to act decisively to mitigate climate change, the result will again be a dramatic curtailment of our consumption of fossil fuels.

Thus whether due to fossil fuel depletion, environmental collapse, societal collapse, or government policy, the Great Burning will come to an end during the next few decades. If the 20th century was all about increasing our burn rate year after blazing year, the dominant trend of the 21st century will be a gradual flameout.

How shall we manage the last days of the Great Burning? And what will come next? These are quite literally the most important questions our species has ever faced.

The 15 essays collected in this book explore those questions from a variety of angles. These pieces were written in the years 2011–14 and were originally published on the websites resilience.org, commondreams.org, and earthisland.org, and in *Orion* magazine. I've organized them in a way that seems sensible, though each chapter is self-contained:

1. "Ten Years After" reviews the debate about "peak oil" from the

perspective of more than a decade's work in tracking petroleum forecasts, prices, and production numbers. As we'll see, forecasts from oil supply pessimists have turned out to be remarkably accurate, far more so than those of official energy agencies or petroleum industry spokespeople.

2. Currently, economic cheerleaders tell us that "fracking" for shale gas and tight oil will result in an ongoing energy bonanza. In "The Gross Society" I argue that this rosy forecast is supported only by cherry-picked statistics; mainstream commentators fail to mention the need for soaring rates of investment and ever-increasing rates of drilling if the promised energy supply numbers are to be realized. When we look more deeply into oil supply statistics, an entirely different reality presents itself—one of diminishing returns on the investment of money and energy in the extraction process, and the requirement for ever-more extreme and environmentally risky extraction methods.
3. Fossil fuels are all around us, powering nearly every aspect of our economy, but we rarely actually see them. "Visualize Gasoline" helps us think about how much we take for granted—in terms of both the services oil provides, and the real price we pay.
4. In "The Climate PR Puzzle" I explore why it is so difficult to craft an effective public relations message to persuade policy makers and the general public to do what is actually needed to stop global warming; I also suggest how the discussion might be reframed.
5. "The Purposely Confusing World of Energy Politics" examines the reasons for, and implications of, the remarkable state of affairs described in the following sentence: Today it is especially difficult for most people to understand our perilous global energy situation, precisely *because* it has never been more important to do so.
6. Environmentalists tend to agree that consumerism is a deal-breaking barrier to the creation of a sustainable society. It's helpful, therefore, to know exactly what consumerism is (not merely a greedy personal attitude but a system of economic organization) and how it originated (not as a natural outgrowth of "progress" but

as the deliberate creation of advertising and marketing firms). "The Brief, Tragic Reign of Consumerism" tells this story, and explores how we might go about building an alternative *sufficiency* economy.

7. Some longtime environmentalists have been anticipating global social and ecological catastrophe for many years, yet it has so far failed to manifest in all its devastating glory; what we see instead are periodic localized economic and environmental disasters from which at least partial recovery has so far been possible. "Fingers in the Dike" explains why industrial society has been able to ward off collapse for as long as it has, and suggests ways to best make use of borrowed time.
8. In 2011 a student organization at Worcester Polytechnic Institute invited me to give an alternative commencement address to the graduating class (the official commencement speaker was Rex Tillerson, CEO of ExxonMobil). "Your Post-Petroleum Future" is the text of that address.
9. "The Fight of the Century" examines four scenarios for how national leaders may try to handle the economic decline that the overdeveloped world inevitably faces.
10. Environmental philosophers are currently debating the significance of our new geological epoch, which has been dubbed the *Anthropocene* in acknowledgment of humanity's dramatically expanding impact upon Earth's natural systems. Some commentators take extreme positions, arguing the new epoch will usher in either human godhood or human extinction. "The Anthropocene: It's *Not* All About Us" suggests instead that we are about to bump against the limits of human agency and thereby regain a sense of humility in the face of natural forces beyond our control.
11. "Conflict in the Era of Economic Decline" is the text of an address to the International Conference on Sustainability, Transition and Culture Change, held in Grand Rapids, Michigan, on November 16, 2012. It discusses the kinds of social conflict we are likely to see in the decades ahead as economies contract and weather extremes worsen—including conflict between rich and poor, conflict over

dwindling resources, and conflict over access to places of refuge from natural disasters. This chapter also proposes a "post-carbon theory of change" that encourages building resilience into societal systems in order to minimize trauma from foreseeable economic and environmental stresses.

12. The notion that we're entering an era of economic decline may be depressing, but "All Roads Lead Local" offers a relatively cheerful look at the opportunities opened by the end of cheap transportation fuel. Localism is currently one of the hottest trends in the United States, and the end of globalization potentially offers loads of psychological and cultural benefits, if we are willing and able to get ahead of the trend by building local production infrastructure.
13. Historically, sustained economic booms have always (sooner or later) been followed by periods of protracted economic decline. We are just now seeing the tapering of the biggest boom in history—the fossil-fueled industrial extravaganza of the 20th century. Are we headed for a new dark age? If so, might we lose many of our scientific and technological achievements, as other societies have done under analogous conditions? "Our Evanescent Culture and the Awesome Duty of Librarians" suggests we get started now at the important task of cultural preservation.
14. "Our Cooperative Darwinian Moment" points out that, while we inevitably face a critical bottleneck of overpopulation, resource depletion, and climate change, it's up to us *how* we go through the bottleneck—whether in ruthless competition for the last scraps of natural resources, or in a burst of social innovation that brings more cooperation and sharing. Biology and history suggest the latter path is viable; it is certainly preferable. However, our chances of taking it successfully will improve to the degree that we devote much more effort now to developing cooperative institutions and attitudes.
15. Finally, advocates for social change today face a nearly unprecedented opportunity, as I argue in "Want to Change the World? Read This First." However, to make the most of it, they will need

> to understand historic and current revolutionary transformations in the relationship between society and ecosystem. As society's energy systems inevitably change, we will need to reinvent our economy, our political systems, and the explicit and implicit ideologies with which we explain and justify our world. With so much at stake, there has—quite literally—never been a more crucial moment to be aware and active in helping shape the process of societal change.

Welcome to life beyond fossil fuels.

TEN YEARS AFTER

It has been more than ten years since the publication of my book *The Party's Over: Oil, War and the Fate of Industrial Societies*, which has seen two editions and many printings, translations into eight languages, and sales of roughly fifty thousand copies in North America. The beginning of *The Party's Over*'s second decade has coincided with a widespread reevaluation of what has come to be known as peak oil theory (which the book helped popularize). So it's a good time to take stock of both. The following is part memoir, part reassessment, and part reflection.

Memoir: What a Party It Was

Prior to the publication of *The Party's Over* I was a writer on environmental topics and a teacher in an innovative college program on "Culture, Ecology, and Sustainable Community." In 1998, I happened to read an article in *Scientific American* titled "The End of Cheap Oil?" by two veteran petroleum geologists, Colin Campbell and Jean Laherrère.[1] At that time, oil was trading for roughly ten dollars a barrel—about the cheapest it has ever been in real terms. The article made the case that "When the world runs completely out of oil is… not directly relevant; what matters is when production begins to taper off." The commencement of that tapering, the authors said, could

happen disturbingly soon: "Using several different techniques to estimate the current reserves of conventional oil and the amount still left to be discovered, we conclude that the decline will begin before 2010." History had already shown (in the 1970s) that a significant constraint to the availability of oil could have dramatic and widespread economic, financial, and political repercussions.

Around the same time, I began receiving an occasional series of emailed essays titled "Brain Food" by a retired software engineer named Jay Hanson, which discussed energy's importance in world events. I also joined an email list called EnergyResources. Hanson and others were discussing books like William Catton's *Overshoot* and Walter Youngquist's *GeoDestinies*, which I quickly devoured. As I began to recognize the central role of energy in human society, big questions I'd had about economic history—especially ones concerning the origins and significance of the Industrial Revolution—began to find answers. "The End of Cheap Oil" also led me to realize that, because humanity was on the cusp of a decline in available, cheap transport fuel, a contraction in trade and economic activity in general was fairly inevitable.

I waited for someone to write the peak oil book that would tell the story of energy, portray the politics and economics of petroleum, and lay out the world's prospects in the coming post-peak era. Surely a petroleum geologist or energy expert would step up to the plate. But none did (with the exception of Kenneth Deffeyes, whose 2001 book *Hubbert's Peak* was a bit technical and did not explain petroleum's extraordinary role in recent economic and political history). After a couple of years, I started researching the subject in earnest and put together a book proposal, which I sent to Chris and Judith Plant at New Society Publishers. They replied favorably. New Society would go on to become the foremost publisher of non-technical books in the peak oil genre, with titles by John Michael Greer, Dmitry Orlov, Sharon Astyk, and others.

The timing of the publication of *The Party's Over* proved to be pivotal: it came out in the same year the United States invaded Iraq.

In the spring of 2003, millions of Americans thronged streets in dozens of cities to protest the Bush–Cheney administration's stupid, horrific, and illegal war. Since Iraq had large, relatively untapped oil reserves, there was widespread speculation that the invasion was an exercise in trading "blood for oil." My book offered some support for this line of thought, so most of my early speaking invitations came from antiwar groups. All I had to do was remind audiences of Dick Cheney's words in a 1999 speech to the London Institute of Petroleum:

> Producing oil is obviously a self-depleting activity. Every year you've got to find and develop reserves equal to your output just to stand still, just to stay even.... By some estimates there will be an average of two percent annual growth in global oil demand over the years ahead along with conservatively a three percent natural decline in production from existing reserves. That means by 2010 we will need on the order of an additional fifty million barrels a day. So where is the oil going to come from?... [T]he Middle East, with two-thirds of the world's oil and the lowest cost, is still where the prize ultimately lies."[2]

In late 2003, I received a speaking invitation from Julian Darley and Celine Rich in Vancouver, Canada. They were in the process of organizing a local peak oil conference, and had just started a new nonprofit organization called Post Carbon Institute. They soon invited me to become a board member (and later, Senior Fellow).

The next year saw the first of several "Peak Oil and Community Solutions" conferences in Yellow Springs, Ohio (the second one was reported on at length in *Harper's*).[3] In 2004 I also attended the Association for the Study of Peak Oil (ASPO) international conference in Berlin,[4] where I met Campbell and Laherrère, Matt Simmons, and other oil experts.

The year 2005 saw speaking tours in South Africa and Britain, along with dozens more appearances in the United States. Especially

memorable was a conference in Kinsale, Ireland, organized by Rob Hopkins—who immediately impressed me as someone capable of doing great things (he started the Transition Towns initiatives just a year later). That summer the *New York Times Magazine* published a long profile article about Bill Clinton, mentioning that *The Party's Over* was on his current reading list and that he had underlined many passages and scribbled comments throughout. Also that year, James Howard Kunstler published *The Long Emergency*, which introduced an even wider audience to the dilemma of oil depletion.

By 2006 it was possible to speak of a peak oil "movement": Totnes in the UK had become the world's first Transition Town; both ASPO International and ASPO USA were holding annual conferences to highlight relevant technical issues; the Arthur Morgan Institute for Community Solutions was hosting annual peak oil gatherings in Ohio for the activist crowd; several peak oil websites, including TheOilDrum.com and EnergyBulletin.net, reported brisk traffic; the list of peak oil books and peer-reviewed papers was lengthening; and a growing roster of public speakers was lecturing on the dim prospects of the oil industry and the dimmer prospects of the world's oil-dependent economies.

My personal career morphed in tandem: I moved from teaching to a full-time position with Post Carbon Institute. When I wasn't on the road speaking, I was writing more books—*Powerdown* (2004), *The Oil Depletion Protocol* (2006), *Peak Everything* (2007), *Blackout* (2009), *The End of Growth* (2011), and *Snake Oil* (2013)—as well as blogs, articles, essays, reports, and forewords to, or endorsements of, other authors' books.

Post Carbon Institute meanwhile recruited 28 fellows; compiled a *Post Carbon Reader* that is now on college curricula around the nation; published other books (including *Energy: Overdevelopment and the Delusion of Endless Growth* and the *Community Resilience Guides* series); produced award-winning video animations;[5] and commissioned several important papers and reports, including David Hughes's influential critique of US shale resources, "Drill, Baby, Drill."[6]

A thrilling decade it was. And here we are now…with press articles appearing almost daily featuring some variation of the title, "Peak Oil Is Dead." What the hell happened?

Reassessment: Was (or Is) the Party Really Over?

The central claim of many recent "Peak Oil Is Dead" articles is that peak oil theorists were simply wrong.[7] Were we? Well, let's use *The Party's Over* as a representative example of peak oil literature and see. I reread the book (for the first time in several years) as preparation for writing this essay, and the following are a few critical notes.

Chapters 1 and 2, which tell the tale of energy's role in ecology, history, and the economy, are the book's foundation. Leaving aside the question of how skillfully it's presented, it still impresses me as a story that deserves to be known and understood by everybody. There's very little that needs revision here.

Chapter 3, which explains peak oil, is pivotal to the book's overall argument. By current standards, much of this material is simplistic and dated. I fixed some problems in the revised 2005 edition, but that version itself is now stale. *The Party's Over* doesn't offer an original analysis of oil reserves or production data; instead it surveys the forecasts of "peakists" who were active at the time, many of whom are now less active or deceased.

The most obvious criticism that could be leveled at the book today is the simple observation that, as of 2014, world oil production is increasing, not declining. However, the following passage from page 118 of the 2003 edition points to just how accurate the leading peakists were in forecasting trends: "Colin Campbell estimates that extraction of conventional oil will peak before 2010; however, because more unconventional oil—including oil sands, heavy oil, and oil shale—will be produced during the coming decade, the total production of fossil-fuel liquids (conventional plus unconventional) will peak several years later. According to Jean Laherrère, that may happen as late as 2015." On page 121 of the book I explicitly endorsed the forecast of a peak sometime in the period between 2006 and 2015.

From today's perspective that's still an entirely defensible assessment of global oil supply prospects. Worldwide production of regular, conventional oil (excluding deepwater oil, tar sands, tight oil, biofuels, and natural gas liquids such as propane) did indeed begin a gentle, continuing decline around 2006, and a peak for all petroleum liquids by 2015 is still likely though by no means certain. True, no peak oil theorist in 2003 was forecasting that US petroleum production would take off in 2011 due to the hydraulic fracturing and horizontal drilling of tight (low-permeability) oil-bearing rock formations in North Dakota and Texas. But tight oil (and tar sands, and deepwater oil) are substantially different from the conventional resources that drillers targeted in previous decades: they offer a low energy return on the energy invested in production (EROEI), require high rates of up-front investment, and imply increased environmental costs and risks. Tight-oil wells show such steep production decline rates that a peak followed by a sharp drop in output from the Bakken and Eagle Ford plays—which have driven the recent boom in US production—is probable in just the next few years.[8] Meanwhile, the ongoing erosion of global extraction rates of regular, conventional crude means that an ever-larger proportion of total supplies must come from unconventional sources. Conventional oil, with its high EROEI and low production cost, fueled unprecedented levels of economic growth during the twentieth century. That party is indeed over.

On page 117, I summarized Colin Campbell's view that "the next decade will be a 'plateau' period, in which recurring economic recessions will result in lowered energy demand, which will in turn temporarily mask the underlying depletion trend." That forecast appears to have been spot on. Meanwhile, Daniel Yergin (of energy consultants IHS CERA) and other petroleum industry-friendly energy commentators now tell us that peak oil is nothing to worry about because, instead of a peaking of crude *supply*, we are instead seeing *peak demand*, as consumption of oil in the United States, Europe, and Japan has fallen.[9] Why? Yergin and company cite improvements in vehicle

fuel efficiency, but in reality most of the reduction in oil consumption in the older industrial countries has come about simply because fuel prices are so high that people are driving less: they can't afford to fill the tank as often.[10] And prices are high because the only new sources of oil available to the industry are ones that are very expensive to develop. Analysts critical of peak oil failed to predict that petroleum prices would skyrocket to such an extent; indeed, during the past decade Daniel Yergin himself repeatedly (and wrongly) forecast falling oil prices.[11] "Peak oil demand" appears merely to be a rhetorical device that admits the reality of peak oil implicitly while denying it explicitly (we will return to this subject in "The Purposely Confusing World of Energy Politics" later in this book).

Meanwhile a comparison of forecasts by the peakists and their critics shows the former were generally far more successful in modeling oil production and price trends.[12]

The critics say peakists (like me) neglect basic economics: as oil prices go up, more supply comes on the market. This is correct up to a point; again, no peak oiler I know specifically foresaw the scale of the current US tight oil boom. However, Campbell and Laherrère did clearly forecast that higher prices would promote the development of unconventional petroleum sources (that's why Laherrère pegged the peak of "all liquids" several years later than the peak for regular crude). On the other hand, the peak oil critics themselves showed a lack of understanding of economic reality by ignoring the feedback between oil prices and the economy as a whole. Energy is what moves the economy; money is just a means of keeping track of wealth. Economics 101 tells us that supply of and demand for a commodity like oil (which happens to be our primary energy source) must converge at the current market price, but no economist can guarantee that the price will be affordable to society. High oil prices are sand in the gears of the economy.[13] As the oil industry is forced to spend ever more money to access ever-lower-quality resources, the result is a general trend toward economic stagnation. None of the peak oil deniers warned us about this.

The petroleum industry has undergone a profound shift in the past decade. Levels of investment in exploration and production have doubled, as have rates of drilling, but output has risen only modestly—and all of the increase has come from costly, problematic, unconventional sources. The world's ten largest publicly traded oil companies have collectively seen their production decline by more than 25 percent since 2004.[14] And the industry has taken on far more debt: this is especially true for the smaller companies that specialize in producing tight oil. The peak oil critics did not foresee this industry transformation at all, but anyone who read "The End of Cheap Oil" carefully in 1998, or *The Party's Over* in 2003, should have done so.

So much for Chapter 3. The following chapter discusses non-petroleum sources of energy, highlighting their various drawbacks and strengths. The section on natural gas requires substantial revision in light of the recent boom in US shale gas production (which I examine in my latest book, *Snake Oil: How Fracking's False Promise of Plenty Imperils Our Future*); otherwise, aside from the need for a general updating, there's little cause here for author embarrassment ten years on.

Chapter 5, "A Banquet of Consequences," discusses the likely societal impact of peak oil. While some of the more alarmist peak oil authors who were blogging during the years 2005 to 2010 suggested (or seemed to suggest) that society would effectively collapse before decade's end, *The Party's Over* paints a picture of developments likely to transpire over a longer period, from now until about 2050. A decline in available, cheap oil will impact the financial economy, agriculture, and transportation. We've already seen some problems along these lines as a result of oil prices exceeding a hundred dollars a barrel; more are on the way. There's not a lot here that needs revision ten years after the book's publication.

The final chapter, "Managing the Collapse," offers suggestions for what individuals, communities, and society as a whole might do to answer the challenge of peak oil and adapt to having less energy overall. If I were writing or rewriting this material today, I would point to recent efforts to prepare for the peak such as those organized by the

Transition Initiatives or by the city-sponsored Peak Oil Task Forces of Portland, Oakland, San Francisco, and Bloomington, Indiana. And I would cite several more recent books that do part or all of what this chapter attempted, but succeed more fully, elegantly, and entertainingly—such as Rob Hopkins's *Transition Handbook* and Albert Bates's *Post-Petroleum Survival Guide and Cookbook*.

One possible criticism of the book: while it briefly discusses climate change, it does so at insufficient length. This issue now dominates just about all energy policy discussions and deserved a more thorough treatment.

Altogether, nevertheless, *The Party's Over* fares pretty decently upon today's rereading—even if I do say so myself!

Reflection: Lessons from the Peak Oil Decade

What has been achieved in ten years by efforts to warn the world about peak oil? The book authors and bloggers who turned the subject of oil depletion into a cottage industry inspired hundreds of thousands—perhaps millions—of individuals worldwide to change their thinking, patterns of consumption, and expectations about the future. Some who read about peak oil changed careers or fields of study at university.

We peakists also changed the energy conversation: *peak oil* has become a recognized term and concept. In a way, the current "Peak Oil Is Dead" campaign is a testament to our success: the petroleum industry's public relations arm has been forced to expend resources putting out a fire that hardly amounted to a spark a decade ago. As a result of that campaign, even more people have heard of peak oil than before—though most probably have a highly erroneous impression of it.

Peak oil bashing is not entirely the province of the petroleum industry: a very few leftist writers have argued that peakism is a conspiracy covertly organized by the industry itself to talk up prices (and profits) through invoking a false anticipation of scarcity.[15] In my years researching the topic and my many interactions with oil geologists, engineers, and company representatives, I have seen no evidence to

support this view. Instead I've heard industry spokespeople use every possible rhetorical trick to draw attention away from the process and consequences of oil depletion.

Peakists within the industry are usually technical staff (usually geologists, seldom economists, and never PR professionals) and are only free to speak out on the subject once they've retired. The industry has two big reasons to hate peak oil. First, company stock prices are tied to the value of booked oil reserves; if the public (and government regulators) were to become convinced that those reserves were problematic, the companies' ability to raise money would be seriously compromised—and oil companies need to raise lots of money these days to find and produce ever-lower-quality resources. It's thus in the interest of companies to maintain an impression of (at least potential) abundance. Second, the industry doesn't want society to mount a serious effort to reduce its dependence on petroleum. People who take peak oil seriously are understandably nervous about petroleum dependency and are looking for a way out. The oil industry wants more highways, not more streetcars and bicycles; more pipelines, not more solar panels.

Resistance to the idea of peak oil has also come from mainstream economists. That's because (as *The Party's Over* explained on pages 169–72) peak oil effectively means the end of economic growth as we knew it during the 20th century. Growth is sacred to most economists: even credentialed insiders (economists like Jeff Rubin or investment fund managers like Jeremy Grantham) who question growth get pilloried by the priesthood. Politicians and business leaders love growth and hate anything that might call into question our ability to maintain it from here to eternity. For this reason alone, peak oil theory was destined for a public thrashing regardless of its accuracy.

Some within the peakist movement now say the term *peak oil* has outlived its usefulness, and it is time to find new ways to name and frame the issues of resource depletion and energy scarcity. Others say we've invested years of effort in popularizing the term and we're irrevocably identified with it anyway, so we simply have to do what we

can to rehabilitate it. Either way, many peakists are pretty dispirited these days.

Our public relations failure pales in comparison to our inability to achieve our real goal—which was to convince society to prepare for the end of the brief age of cheap, abundant energy. While individuals, a few organizations, and a handful of communities have indeed responded, the numbers are relatively small. National governments have done almost nothing. The best broad-scale policy would have been an international agreement to reduce production and consumption of oil in tandem (this idea was mooted as a proposal known as the Uppsala Protocol, the Rimini Protocol, or The Oil Depletion Protocol[16]). But aside from resolutions of support from the Portuguese parliament and the city councils of Portland, Oakland, and San Francisco, there has been no real governmental interest in such an agreement.

What have I learned? That it's hard to change the direction of society, but—given what's at stake—that it's worth trying. Knowing what I knew in 2003, I could not have lived with myself during the past dozen years had I not at least attempted to alert the general populace and tried to change the thinking of policy makers.

It's impossible to foresee how far the ripples created by the efforts undertaken to raise awareness about our precarious energy ecology will spread. Even though society is still headed toward a wrenching collision with resource limits, educated and aware people have begun to build low-energy alternative food, transport, and building systems that can support organized human life during the transition to a post-fossil-fuel future. How much more can be done in the time we still have? Let's find out.

For a book, it's the end of a decade. But it's not the end of the story.

— SEPTEMBER 2013