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This month sees the official release of my new book [Afterburn: Society Beyond Fossil Fuels](#). To celebrate, April's Museletter includes the full introduction to Afterburn along with links to the first two installments of a four-part video series that accompanies it, and a link to a recent interview on the themes of the book.

Introduction to AFTERBURN: Life Beyond Fossil Fuels

We live in a 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, smart phones, 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 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 re-growth. 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, non-renewable 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 will argue in the first chapter of this book, we have already reached the point of diminishing returns for investments in world oil production. And petroleum is the most crucial of the fossil fuels 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.

Whether due to fossil fuel depletion, environmental collapse, or climate 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 21st century will be a gradual flame-out.

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 2011-2014, and were originally published on the websites resilience.org, commondreams.org, and earthisland.org/journal, 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 over 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 requirement for soaring rates of investment and for 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 long-time 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 US, 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 food and 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 at developing cooperative institutions and attitudes.

15. Advocates for social change today face a nearly unprecedented opportunity, as I argue in **Want to Change the World? Read This First**. However, in order 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, this will bring the necessity for a reinvention of 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.

Finally: as of this writing (January 2015) oil prices have been falling precipitously. The Afterword discusses how this trend, if it's sustained, may undercut unconventional oil production and initiate the inevitable commencement of decline in overall world petroleum production.

Welcome to life beyond fossil fuels.

AFTERBURN Video Series

In conjunction with the release of Afterburn we're putting out a four-part video series. You can see Parts 1 and 2 here. Please share them.



AFTERBURN: Interview

[Listen to my recent interview](#) on Radio Ecoshock.

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