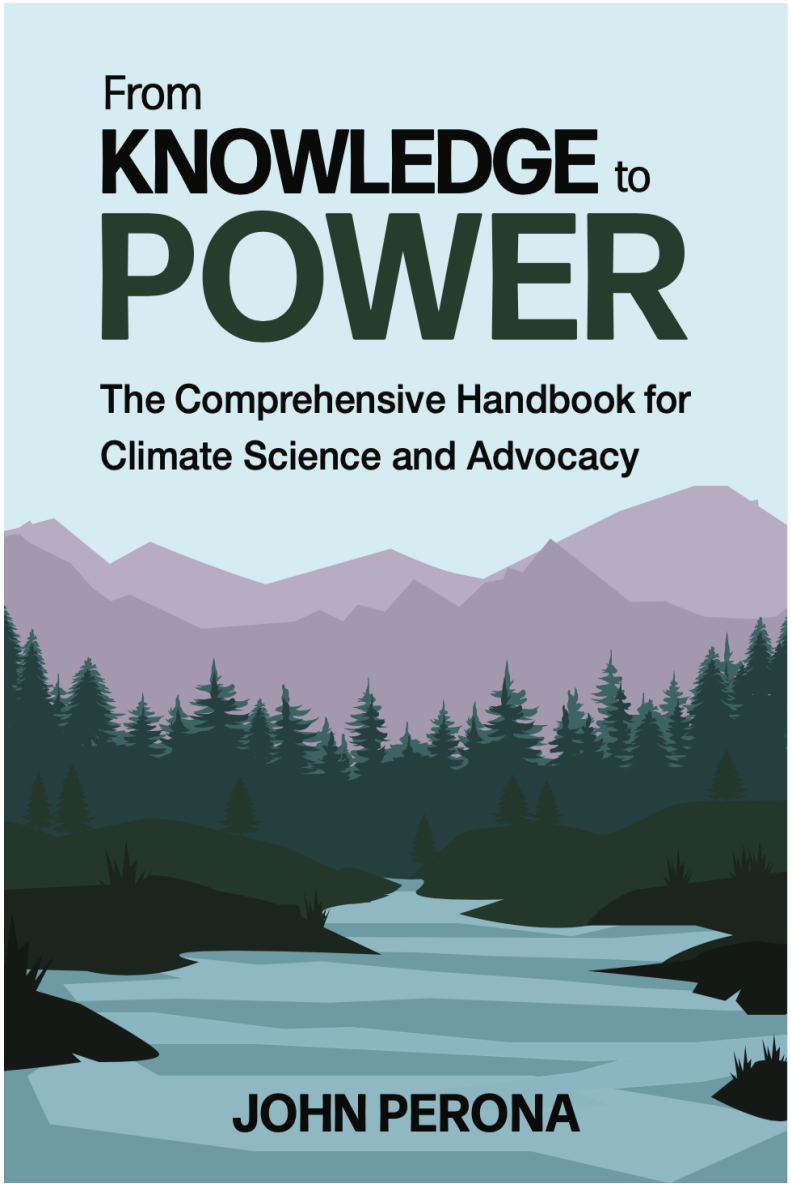
Ooligan PRESS

FROM KNOWLEDGE TO POWER: *The Comprehensive Handbook for Climate Science and Advocacy*

By John Perona



Publisher
Ooligan Press

Publication Date
Nov. 30, 2021

ISBN
9781947845299

Price
$28.95 trade paperback

Pages
320

Trim
10" x 7"

Format
Trade Paperback & Ebook

Distributor
Ingram Entertainment Inc.

Contact
Devyn Yan Radke
Project Manager
devyn.radke@ooliganpress.edu

Comp. Titles
- "Losing Earth: The Decade We Almost Stopped Climate Change" by Nathaniel Rich
- "Renewable Energy: A Primer for the Twenty-First Century" by Bruce Usher

FOR IMMEDIATE RELEASE

Contact: Devyn Yan Radke, Ooligan Press
Phone: 503-413-0170
Email: devyn.radke@ooliganpress.com

REALIZE YOUR OWN POWER IN THE CLIMATE CHANGE ARENA

Ooligan Press to publish "From Knowledge to Power: Your Comprehensive Handbook for Climate Science and Advocacy" in November 2021

[PORTLAND, Ore., September 16, 2021] — Dr. John Perona's nonfiction book, "From Knowledge to Power: A Comprehensive Handbook for Climate Science and Advocacy," offers an insightful, reliable, and thoroughly-researched guide to the science and politics of climate change, including possible solutions and actionable measures that you can take as a climate advocate.

The Earth is slowly heating up, and only we, as a global community, can stop it. With the knowledge behind what is happening, we can effect change. The information presented in Dr. Perona's book is timely, important, and accessible. By engaging with the basic science of climate change, the rise of green technologies, and the political implications of climate science, Dr. Perona uses fundamentals-based knowledge to present a concise guide to the critical facts of climate change. He projects a hopeful outlook, offering actionable tips on how to engage in advocacy and, ultimately, change. To achieve this goal, Dr. Perona calls for action at every level — from engaging with scientific leaders, government officials, community leaders, and individuals like you.

"In a single volume, John Perona provides a clear, accurate, and well-written survey of climate science, climate solutions, and the current climate advocacy landscape in the US. This book is written for anyone who wants to find their place in contributing to a clean energy transition and a livable world."
–Dr. Carla Wise, author of Awake on Earth: Facing Climate Change with Sanity and Grace and *Executive Director and Founder, Power Up for Climate Solutions*

The threat of climate change escalates and impacts each of us daily. In the Pacific Northwest, hotter and drier conditions continue to worsen wildfires that have already burned roughly 1.2 million acres and destroyed nearly 4,000 homes. "From Knowledge to Power" informs as much as it inspires. Dr. Perona offers manageable tips and digestible insights into the climate situation that even readers who are new to the climate change discussion will find illuminating.

Dr. John Perona holds a doctoral degree in Molecular Biophysics and Biochemistry from Yale University, along with a master of laws in Environmental and Natural Resources Law from Northwestern College of Law at Lewis & Clark University. He is currently a professor of environmental biochemistry at Portland State University (PSU) in Portland, Ore., and works with advocacy groups including the Citizens' Climate Lobby, the Climate Reality Project, and Our Children's Trust.

Ooligan Press is an award-winning not-for-profit general trade press that publishes books honoring the cultural and natural diversity of the Pacific Northwest. Ooligan Press is a teaching press staffed by students pursuing master's degrees in the Department of English at PSU. Graduate students pursuing master's degrees in publishing while working at the press receive mentorship and guidance from accomplished publishing professionals.

###

For more information, to receive a review copy or to arrange an interview with Dr. John Perona, please contact Devyn Radke, Ooligan Press, at devyn.radke@ooliganpress.pdx.edu.

Ooligan PRESS

ABOUT THE BOOK

Life on Earth as we know it will change dramatically if the global temperature exceeds 2.0 degrees Celsius, but together we have the power to stop it. Politics and science collide as we learn what it really means to be an advocate for the environment.

The Earth is slowly heating up, and only we, as a global community, can stop it. With the knowledge behind what is happening, we can effect change. Using his doctoral and master of laws degrees, Dr. John Perona takes us on a journey into the science and politics of the climate crisis.

Dr. Perona unites the basic science of climate change, the rise of green technologies, and the political implications of climate science to present a concise guide to the critical facts of climate change. He offers actionable tips on how to engage with scientific leaders, government officials, community leaders, and individuals like you and me. Dr. Perona offers a grounded, optimistic outlook for humanity, but only if we engage with science and act with knowledge.

Book Highlights:

"From Knowledge to Power" offers comprehensive explanations for a wide range of climate science topics. Dr. Perona's discussion of each topic is accessible to everyone without sacrificing the complexity of the subject. The book illustrates several entry points into climate activism, empowering readers to take manageable steps to prevent climate disasters and protect their ecosystems. Dr. Perona conveys a message of hope for the future without downplaying the severity of the climate crisis. It is inspirational and empowering while also staying true to the difficult task ahead of us. "From Knowledge to Power" meticulously features beautiful graphics and tables illustrating various in-depth topics that provide readers with foundational information to help make a difference in the world.

Ooligan PRESS

ABOUT THE AUTHOR

Dr. John Perona earned his bachelor's degree in Chemical Engineering from Rutgers University in 1983 and his doctoral degree in Molecular Biophysics and Biochemistry from Yale in 1989. He went on to earn his Juris Doctor degree from Santa Barbara College of Law in 2008 and his master of laws in Environmental and Natural Resources Law from Lewis & Clark University in 2016. After earning his doctorate, Dr. Perona conducted postdoctoral studies in enzyme chemistry at the University of California, San Francisco, prior to joining the faculty of the Chemistry Department at UC Santa Barbara in 1994. In 2011 he moved into his current position on the faculties of Portland State and Oregon Health & Science Universities.

Dr. Perona has published over 100 peer-reviewed articles and reviews in biochemistry and related fields and critically published analyses of the law and policy of groundwater management, genetic engineering of agricultural crops, and biodiesel development. He has taught classes in environmental chemistry and the application of synthetic biology to solve environmentally challenging problems.

Since 2013, Dr. Perona has been active in several climate advocacy groups, especially the Citizens' Climate Lobby, which petitions Congress to enact an aggressive economy-wide price on carbon, and the Metro Climate Action Team in Portland, Ore., which focuses on ensuring compliance with Governor Kate Brown's 2020 executive order directing state agencies to reduce and regulate greenhouse gas emissions. He has worked with several nonprofit environmental law firms and legal clinics advocating against the expansion of fossil fuel infrastructure.

Ooligan PRESS

PRAISE

Everything needed by those of us who are concerned about climate change is finally collected in one place. The problem, the consequences, and the solutions are all contained in this book. Dr. John Perona has done a great service to climate activism.

— Mark Reynolds, Executive Director, Citizens' Climate Lobby

Science, public policy, and politics all come together in this book and show us how to survive and eventually thrive while ending the climate crisis.

— Bill Bradbury, Oregon Secretary of State

Scientists and activists seeking the best ways to help reverse the threats of climate change can often become paralyzed with indecision in the face of a dizzying number of policy options, all seemingly inadequate. Environmental biochemist Dr. John Perona offers an ambitious, articulate, and surprisingly optimistic road map in his new book, "From Knowledge to Power." At once a basic tutorial on climate science, a catalog of energy policies, a polemic against the oil industry, and a hopeful collection of short- and long-range solutions to the climate crisis, this unique book couldn't be more timely. It inspires readers to think boldly about how they can become more engaged, drawing on Dr. Perona's unusual personal journey as a biochemist, chemical engineer, legal scholar, and political activist.

— Dr. Jonathan Fink, Professor of Geology* and *Director of the Digital City Testbed Center, Portland State University

If you could read just one book to help you become an effective advocate for stopping global warming, this should be it. Dr. John Perona's "From Knowledge to Power" equips climate advocates with an understanding of both the science of climate change and the many technological and policy solutions that are necessary to stop it. After laying a foundation of climate science fundamentals, Dr. Perona goes on to explain many of the various terms associated with climate solutions and describes how climate activists can effectively advocate for these solutions.

— Dr. Steven Ghan, Editor in Chief, Journal of Geophysical Research — Atmospheres, 2012 — 2016

Ooligan PRESS

DISCUSSION QUESTIONS

1. What do you want your readers to take away from "From Knowledge to Power"? What actions can they take? What inspired you to write this book?
2. At one point in the book, it's pointed out that "there are strong social and geographic dimensions to these increased risks in the U.S. today, which fall disproportionately on children, older adults, low-income communities, communities of color, and those living in the Southern and Southeastern coastal regions and Caribbean U.S. territories." How would you say climate advocacy relates to the pursuit of social justice?
3. There is an emphasis that people should resist falling into "climate despair" while also staying informed. What do you see as the silver lining to that feeling of despair? How important do you think this is for activism?
4. Much of the book is focused on explaining the science behind climate change. How does understanding the more technical aspects help both activists and everyday people?
5. Activism can feel like a big-time commitment, and therefore unattainable for some people. What makes someone a climate activist? What are little things that people can do?
6. The book points out that there are variations in the possible futures for both the U.S. and the world as a whole. Some might find your less-than-catastrophic outlook in that section surprising; the worst-case scenario seems to be de-emphasized due to its decreased likelihood of actually happening. On the other hand, many often see the state of the planet and its future depicted in terms like "disaster." Do you find any utility in this extreme?
7. This book offers an overview of climate science and activism across a wide variety of areas. We get insight into both international movements and grassroots activism. Should people who want to engage in climate activism stay rooted in more local issues or engage more broadly?
8. Do you think the solutions to climate change depend more on technological advancements or social justice and policy movements?
9. There are some people, particularly those who work in areas like coal and oil, who are threatened by climate activism and the transition away from their industries and livelihoods. How can we reassure and bring these people on board with climate solutions that work for everyone?

Ooligan PRESS

LIST OF AUTHOR APPEARANCES

Stay updated with Ooligan's social media for information on our book launch event on November 30, 2021.

More information to come, so stay tuned at ooligan.pdx.edu and on social media: @ooliganpress on Instagram and Twitter, and Ooligan Press on Facebook.

Please also check out Dr. Perona's website, which is dedicated to the book, https://fromknowledgetopower.com/.

Q&A / INTERVIEW

Q: What inspired your interest in the environment and climate change?

A: At root, it probably comes from my good fortune to spend childhood summers hiking and touring with family in our homeland Italian Alps, which impressed me with a great love of the outdoors and a desire to preserve it. After I earned academic tenure as a biochemist, I became intensely interested in extending my expertise on the chemistry of living cells to the larger role that microorganisms play in mediating the Earth's carbon and sulfur cycles. That naturally led to the issue of anthropogenic climate change, which is happening because fossil fuel extraction and burning are disrupting those cycles. Then the combination of my scientific interest and environmental values really motivated me to learn all I could about the law and politics of climate change. Direct advocacy work, as well as this book, naturally followed.

Q: What is one thing anyone can do to start advocating meaningfully?

A: The best way to start is to join a local group that is working on a solution or challenge that is relevant to your community and appeals to you. Many advocates are drawn to land and water conservation efforts, for example, while others may have a background or disposition to think about home solar power, electric vehicle infrastructure, urban renewal, or other areas. Also, a very broad scope of advocacy groups exists, with often diverging views about policy and varying political orientations from progressive to conservative. It is a good idea to take some time to look into the options and get to know folks from several groups to see whether you are a good fit for what they actually do. There is a home for everyone in the climate advocacy world!

Q: If your readers could take away only one meaning, or even one fact, about the climate situation from this book, what do you hope that it would be? (Outside of the fact that the climate change situation is urgent.) Is there anything in particular that you think will help someone understand our world?

A: I think the most important takeaway is that climate change influences the entire scope of human activities. That may seem like a dramatic statement, but only because we did not fully recognize the all-encompassing value of a healthy, stable climate and biosphere until it became threatened by our own actions. This fundamental dependence of humans on their fragile environment is very challenging for many people to grasp — and this difficulty, unfortunately, helps create the false belief that our actions could not possibly be as damaging as the climate science community has been warning about. The bright side, though, is that appreciating the comprehensive scope of the problem leads to recognizing that folks from all walks of life and

any level of expertise can contribute to the solution. Climate change is already impacting your life, right where you are. As more people see that, there will be a growing upswell in citizen demands for action by community, business, and government leaders.

Q: What motivated you to write the book, and what do you think sets it apart from other climate change titles?

A: At first, my motivation was to produce a useful guide to climate science and policy that would support the efforts of citizen advocates who are already engaged across the U.S. As I began to write the book, though, another motivation developed — to make it an entry point for *new* advocates. These folks would need a guide not just to the science and policy, but also to the political landscape of advocacy and the nature of and relationships among the many groups. I realized that I could also make the chapters on technology solutions and policy approaches more interesting and readable by interweaving descriptions of advocacy opportunities in each specific area and by relating a few success stories to offer inspiration. The combination of science, policy, politics, and advocacy, in one volume, certainly sets the book apart from other titles. I'm not aware of any other book for the layperson that covers anywhere near this amount of territory.

In the 2017—2018 academic year, before my sabbatical, I offered a series of monthly seminars on climate change to the local climate advocacy community in Portland, Oregon. When I reached out to make this happen, I had little idea of what would be wanted and needed since most of my own efforts had been on federal legislation. The seminars turned out to be very popular — we held them in a local pub with a good-sized community room, which certainly helped inspire attendance. What I took from this experience that greatly influenced the book was how hungry so many folks are for reliable and detailed information. Based on this, I decided that the style of the book would be like a deep dive, including illustrations and tables with primary data and a narrative explanation of climate science beginning from the first principles. This is quite distinct from other climate titles for laypersons, which offer much more topical and sometimes superficial information. But that approach does not catalyze real understanding — and without that, how would an advocate have the confidence to engage business and government leaders on specific policy?

The deep dive approach should also make the book useful as a primary or supplementary text for classes in the environmental humanities, green business, law, society, and related fields. The capacity to reach and be useful to two highly distinct audiences is another way in which the book stands apart. Finally, there are implicit and sometimes explicit attempts in the book to reach beyond the typical audience of progressives, including political moderates, centrists, and conservatives who are genuinely concerned and want to be engaged in finding solutions. This

follows the thinking that solutions are more likely to be robust over time if they get the broadest possible buy-in. In contrast, most other climate titles are either apolitical, concentrating only on science or some specific policy area, or explicitly target narrow segments of popular demand — climate change denialists, alarmists, and anti-capitalists (far-left progressives) being prominent among these target audiences. Some other less populated themes are reflected in books that are purely inspirational or that (presumptuously) offer personal takes on how the problem should be solved. "From Knowledge to Power" fits into none of these categories.

Q: Was it difficult to decide on a way to present all of the information contained in this book, and how did you go about that?

A: Yes, it was very difficult! Organizing all of the information was the most challenging aspect of the project. I knew that I wanted the book to be comprehensive, but I began with only a bare outline of what its final shape might be. I started with the basic science in the first two chapters, which was easiest for me, and approached publishers when I had just this portion of the book in a solid draft form. I then assembled an outline for the later chapters while writing the remaining science chapters in detail. The hardest parts were figuring out how to handle the transition between the science and the policy chapters and how to incorporate the material on advocacy. In fact, my completed first draft was still muddled in the key middle chapters, and I was fortunate to get sound critical input from the student editing team at Ooligan Press, who offered suggestions for reorganization that turned out to work beautifully. The placement of the climate roadmaps in the Interlude and the partitioning of the more general material on advocacy into its own dedicated chapter were among the crucial outcomes of the editing process that gave the book its final shape.

One of my major concerns when writing the book is that the climate change field moves so fast that the print book would quickly become dated. I resolved this by creating a dedicated website for the book that serves as a platform for updates, blogs, and other materials. When complete, the site will also feature a curriculum guide to aid instructors who wish to use the book in their classes. The website is published at https://www.fromknowledgetopower.com.

Q: What do you predict will happen regarding climate change policy in the U.S. over the next ten years or so? How optimistic are you?

A: I am optimistic that the U.S. has turned a critical corner in the last few years, and we will not go back to the circumstances of 2010—2018 when climate change was low on the national radar and lawmakers were able to avoid addressing it without paying a political cost. There has been an irreversible shift in public awareness about the urgent nature of the problem, driven by the

growing costly impacts on human and physical infrastructures. At least as important is the fact that a large fraction of the business community is now coming on board for policies that will spur the renewable energy transition, while investment banks, insurers, and other financial players are moving away from enabling further expansion of fossil fuels. The automobile and electric power industries, both historically huge sources of emissions, are among the leaders of this historic shift.

These developments drive my optimism about reaching net-zero emissions by mid-century, which would likely limit warming to below 2.0 degrees Celsius. Of course, that goal is still very challenging and demands concentrated attention. In terms of specific policy, the most beneficial single action would be for the federal government to implement a quantitative emissions reduction mandate, at least in the electric power sector — if not economy-wide. As I write this, comprehensive carbon tax and clean electricity bills are both receiving attention in Congress, and, separately, comprehensive changes to the tax code to incentivize clean technology and energy efficiency are likely to pass this year. I think we will also see greatly accelerated investment in new technologies such as carbon capture, green hydrogen, and energy storage, all of which still need to improve and become less costly for us to meet our goals. But the good news is that the most important immediate technologies — solar and wind power — are already mature (or nearly so), and here the bottleneck is already shifting away from technology development to the challenges of large-scale deployment. I'm very optimistic that the 2020s will see solid progress toward decarbonizing the electricity grid and that the trend to the electrification of end uses (powered by increasingly carbon-free electricity) will accelerate.

Q: What was the most interesting or surprising thing you encountered in your research?

A: There were many, and it is hard to single out just one. But certainly way up on the list was getting a much deeper understanding of how important carbon sequestration is to reaching climate stability. The "carbon negative" approaches like afforestation and direct air capture are embedded in climate model projections and carbon budgets and not always in very transparent ways — one sometimes has to read the fine print to recognize that they are included. When I looked at even the most optimistic roadmaps for action and viewed them in light of the scientific data on past atmospheric carbon dioxide concentrations and sea levels, what stood out for me is that it will be very risky to reach net-zero emissions and then quit — allowing natural processes alone to slowly decrease atmospheric CO_2. Instead, I think we're going to need to actively vacuum the atmosphere at an enormous scale to remove the carbon, and then we will need to safely bury it so that it is returned to the deep underground where we extracted it in the first place.

Ooligan PRESS

ABOUT THE PRESS

Founded in 2001, Ooligan Press is an award-winning independent general trade press. As a teaching press, Ooligan is run by Portland State University graduate students and overseen by a core faculty of publishing professionals, all of whom are dedicated to the art and craft of book publishing.

We publish works of fiction and nonfiction, including young adult titles, which we love to publish because of their range in appeal to readers of all ages. We strive to produce engaging character-driven stories revolving around themes that people of all ages can relate to. Great literature reflects life, and we expect our titles to live up to that. To date, all of our titles have a strong connection to the Pacific Northwest region of the U.S. — a region widely recognized for its rich literary roots and great diversity, comprising metropolitan cities, suburbs, rural communities, and wilderness. However, we are aiming to be more inclusive to writers and people outside of the PNW in the future. Stay tuned for our new mission statement.