

**TESTIMONY AND PUBLIC COMMENT ON PUGET SOUND ENERGY'S 2017 RATE CASE**  
Washington Utilities and Transportation Commission Dockets UE-170033 & UG-170034

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My name is Diane Emerson. My husband and I are PSE ratepayers, and I first want to thank the Utilities and Transportation Commission for its oversight work on behalf of all the ratepayers. It means a lot to know you are there for us.

We plan on being PSE ratepayers for a long time to come. I would like to know that our power will be coming from renewable resources in the future, for the good of the planet, and the financial stability of PSE. Renewables will win, and win faster than most people realize

- 100 percent clean energy – wind, solar and energy efficiency – is not only abundant and affordable; it is also the only long-term solution for fighting climate change.
- With this in mind, it is vital that PSE start planning NOW for getting out of Colstrip by 2025 to enable an orderly and just transition for the community of Colstrip.
- PSE may say they can't do it, because renewables can't supply power during peak demand. But this problem has been solved by others.
- I will share briefly From the Drawdown website (<http://www.drawdown.org/>):  
"How does a utility store large amounts of electricity? One option is pumping water from lower reservoirs into higher ones, ideally 1,500 feet higher. The water is released back down into the lower reservoir as needed and runs through power-generating turbines. There are more than 200 pumped-storage systems in the world at present, accounting for 97 percent of global storage capacity.

Concentrated solar power plants are also at the forefront of energy storage, where molten salt is used to hold heat until it is needed to generate electricity. Then, there are batteries at scale. Dozens of start-ups and established companies are racing to create low-cost, low-toxicity, and safe batteries that will revolutionize energy storage, while some utilities are already installing banks of lithium-ion batteries to help meet peak demand."

Drawdown is not only a book. Researchers around the world are continually updating the models as more information comes in. For example, for utility energy storage, full models and technical reports will be published later this year.

I have purchased a copy of Drawdown for the Commission and its support staff. We can't have too many of these floating around.

# **DRAWDOWN**

**THE MOST COMPREHENSIVE  
PLAN EVER PROPOSED TO  
REVERSE GLOBAL WARMING  
EDITED BY PAUL HAWKEN**



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New York, New York 10014  
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Credits for images appear on page 240.

Library of Congress Cataloging-in-Publication Data

Names: Hawken, Paul, editor.

Title: Drawdown : the most comprehensive plan ever proposed to reverse global warming / edited by Paul Hawken.

Other titles: Draw down

Description: New York, New York : Penguin Books, [2017] | Includes index.

Identifiers: LCCN 2017007034 (print) | LCCN 2017007803 (ebook) | ISBN 9780143130444 (pbk.) | ISBN 9781524704650 (ebook)

Subjects: LCSH: Climate change mitigation. | Global warming—Prevention.

Classification: LCC TD171.75 .D73 2017 (print) | LCC TD171.75 (ebook) | DDC 363.738/746—dc23

LC record available at <https://lccn.loc.gov/2017007034>

Printed in the United States of America

10 9 8 7 6 5 4 3 2

Designed by Janet Mumford and Paul Hawken

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TO REVERSE GLOBAL WARMING

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# THE 100 MOST SUBSTANTIVE SOLUTIONS TO REVERSE GLOBAL WARMING, BASED ON METICULOUS RESEARCH BY LEADING SCIENTISTS AND POLICYMAKERS AROUND THE WORLD

In the face of widespread fear and apathy, an international coalition of researchers, professionals, and scientists has come together to offer a set of realistic and bold solutions to climate change. One hundred techniques and practices are described here—some are well known; some you may have never heard of. They range from clean energy to educating girls in lower-income countries to land use practices that pull carbon out of the air. The solutions exist, are economically viable, and communities throughout the world are currently enacting them with skill and determination. If deployed collectively on a global scale over the next thirty years, they represent a credible path forward, not just to slow the earth's warming but to reach drawdown, that point in time when greenhouse gases in the atmosphere peak and begin to decline. These measures promise cascading benefits to human health, security, prosperity, and well-being—giving us every reason to see this planetary crisis as an opportunity to create a just and livable world.

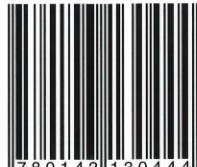
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A Penguin Original  
Environmental Science

U.S. \$22.00  
CAN. \$29.00

ISBN 978-0-14-313044-4



EAN 9 780143 130444

5 2 2 0 0



Cover design: Nayon Cho | Cover art: Zaza Studio / Shutterstock