


**Understand climate change
and what you can do to make a positive difference!**

Global Warming

FOR

DUMMIES®



Elizabeth May
Zoë Caron

A Reference for the Rest of Us!®

Global Warming For Dummies®

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**by Elizabeth May and
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About the Authors

Elizabeth E. May has been recognized by the United Nations for her work in the environmental movement, both in June 1990 with the Global 500 Role of Honor for Environmental Achievement and on International Women's Day, March 8, 2006 by the United Nations Environment Program as one of the leading women in environment globally. Since 1997, she has served as a Commissioner in the Earth Charter Commission, co-chaired by Mikhail Gorbachev and Maurice Strong. Dr. May assisted in organizing the first international, comprehensive scientific conference into the climate

change threat, in June 1988, hosted by Canada. She was engaged in the negotiation of the Montreal Protocol as Senior Policy Advisor to Canada's Minister of the Environment. She was a member of the International Policy Advisory Committee, World Women's Congress for a Healthy Planet, Miami, November 1991, served as an advisor in many capacities in the preparation for the United Nations Conference on Environment and Development (the Earth Summit), and was a board member for nine years for the International Institute for Sustainable Development.

Dr. May was Executive Director of Sierra Club of Canada for seventeen years, before leaving that position in 2006 to enter politics. She is currently the Leader of the Green Party of Canada. Dr. May is a lawyer, an author of six published books on Canadian environmental issues, and, most importantly, a mother and grandmother. Among many prestigious Canadian awards and honors, Dr. May has received the highest citizen honor in Canada, the Order of Canada, at the Officer level.

Zoë Caron has worked on initiatives to green university campuses through the Sierra Youth Coalition's Sustainable Campuses and the Energy Action Coalition's Campus Climate Challenge. Zoë is a founding member of the Canadian Youth Climate Coalition and past youth delegate to United Nations Climate Change Conferences in Canada and Kenya.

Identified as an emerging leader on climate change, she was profiled among colleagues as "The Next Generation" in Vanity Fair's 2007 Green Issue. She works with Students on Ice Expeditions, bringing students from around the world to the Arctic and Antarctic to learn about the importance of these regions to the rest of the

planet. She currently writes for the Green Content Creation Group and serves on the Board of Directors of the Sierra Club of Canada.

Dedication

Elizabeth dedicates this book to her children and grandchildren, in hopes that by the time the youngest of you is old enough to read this book, the prognosis will be very different and far more hopeful.

Zoë dedicates this book to every individual who has dedicated her or him self to advocate climate change issues since the 1980s to bring the global community to the level of awareness we are at today.

And it goes without saying that they both dedicate this book to you, the reader, for making the choice to read about climate change.

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We're proud of this book; please send us your comments through our online registration form located at <http://dummies.custhelp.com>. For other comments, please contact our Customer Care Department within the U.S. at 877-762-2974, outside the U.S. at 317-572-3993, or fax 317-572-4002.

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Introduction

On Monday, the newspapers tell you the ice caps are melting, and people everywhere are about to be swept off in a giant flood. On Tuesday, you hear a radio interview with a scientist who says global warming is all a hoax. Wednesday finds you standing in the grocery line, listening to people muttering about how strangely warm the weather has been outside recently. By Thursday, you just don't know what to think anymore.

Think of today as Friday — the day all these stray pieces come together right here in your hands, thanks to *Global Warming For Dummies*.

Global warming is already changing the environment, the economy, and people's ways of living. The changes aren't over, either, and the more that changes around the world, the more you have to understand what global warming is. But you know what? It's really quite exciting. Although global warming is connected to scary scenarios featuring soaring temperatures and worsening hurricanes and monsoons, it's also a link to a better future. Global warming is opening doors for the development of new types of fuels, leading the shift to reliable energy sources, and creating a vision of a greener tomorrow. And the best part? You're right in the middle of it all, helping to make those changes.

About This Book

Global Warming For Dummies is your guide to climate change. We use *climate change* and *global warming*

interchangeably in this book, though they are slightly different things, as we discuss in Chapter 1. This book gives you the basics so that you can understand the problem, relate it to your daily life, and be inspired to start working on solutions to this complex and important issue.

In this book, we explain the concepts behind global warming clearly and simply by using the latest, most credible science, mainly from the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). The IPCC is a team of more than 2,000 scientists who assess peer-reviewed climate change science and compile the assessments into a number of reports. These reports are mainly to inform the politicians and bureaucrats at the United Nations' decision-making table, but anyone looking for detailed scientific information on climate change can read them. The IPCC is the most credible source of climate change information in the world today. (We discuss the IPCC in greater detail in Chapter 11.)

Although this book covers what global warming is and its impact on the world, *Global Warming For Dummies* isn't just about the science. The book also looks at a wide range of solutions to tackle climate change. We explore everything from the big-picture solutions that governments can implement to a slew of practical, can-do-it-today solutions for you at work, at home, and on the road.

Foolish Assumptions

We wrote this book assuming that you know zero, nil, zilch about global warming. You don't have to look up the definitions of big, ridiculous words or drag out your high school science textbook to read this book.

We also assume, however, that you know global warming exists, that you recognize humans contribute to this problem, and that you want to understand why global warming is happening.

How This Book Is Organized

This book is divided into six parts, covering everything you need to know about the causes and effects of global warming — and the solutions.

Part I: Understanding Global Warming

This part sorts out what global warming actually is. If you want to understand the science behind why the world's climate is changing, check out these chapters. We take a look at the infamous greenhouse gases and explore how they're changing the way the climate works. We also consider some of the other factors that are shaping the planet's climate and explain why scientists are almost entirely certain that humanity's production of greenhouse gases is heating up the atmosphere.

Part II: Tracking Down the Causes

Part II explains where all the greenhouse gases we talk about in Part I are coming from. Two major offenders exist: fossil fuels ($\frac{3}{4}$ of the problem) and deforestation ($\frac{1}{4}$ of the problem). In this part, we investigate where fossil fuels come from and why they have such a huge influence on the atmosphere. We also look at where and why deforestation is happening, and why it's a major cause of climate change. Finally, we investigate how businesses and individuals have unwittingly set climate change into motion through emitting greenhouse gases.

Part III: Examining the Effects of Global Warming

In this part, we look at how global warming is creating changes around the world. We review what has already happened because of climate change and consider what the future might hold. From natural disasters such as floods and storms, to mass extinctions in the animal world, to the heavy toll global warming could take on humanity, the picture's pretty grim if civilization keeps doing what it's doing. Fortunately, people can change direction — so keep reading!

Part IV: Political Progress: Fighting Global Warming Nationally and Internationally

Not everyone loves politicians, but in this part, we look at how their work can go a long way to help fight global warming. First of all, we consider how governments at every level — from presidents to mayors — can help cut back on greenhouse gas emissions. Then, we look at how countries can work together to tackle this truly global challenge. The economic challenge of global warming is particularly daunting for developing nations. In the last chapter of this part, we investigate developing nations' situations and see what steps they're taking to be part of the solution to global warming.

Part V: Solving the Problem

Solving global warming is requiring a lot of changes on a lot of different fronts, which is why this part is the longest in the book. Some of these changes are quite modest; most are quite major. First, civilization needs to shake its addiction to fossil fuels and find new, cleaner renewable energy sources. Happily, those energy sources are out there (and in this part).

Businesses and industries play a major role, too; we look at how they can cut back on their greenhouse gas emissions and make money, to boot. Another part of solving the problem is raising awareness. Non-government organizations have a big role to play in getting people's attention. So, too, does the media. Some of Hollywood's biggest stars are getting involved, as well, lending their stellar wattage to the cause and adapting conscientiously eco-green lifestyles. And most importantly, it's down to you, the reader, and the countless ways that you can contribute to the fight against global warming.

Part VI: The Part of Tens

No *For Dummies* book is complete without the Part of Tens. Think of these lists as quick little hits of global warming wisdom. We cover ten things you can do right now to fight global warming, profile ten inspiring people who are leading the charge against climate change, debunk ten myths about global warming, and offer ten great online resources. Flip to these chapters whenever you need a fast bit of information or a quick jolt of inspiration.

Icons Used in This Book

Throughout this book, you see little icons sprinkled in the left margin. These handy symbols flag content that's of particular interest.



When you see this icon, it means disagreement exists over the topic being discussed.



This icon marks feel-good stories and major advances in the fight against climate change.



This icon marks a piece of information that's important to know in order to understand global warming and the issues that surround it.