Making Everything Easier!™

Green Home Computing

FOR DUMMIES®

Learn to:

- **Use your computer to green your lifestyle**
- **Recycle technology responsibly**
- **Reduce your impact on the planet with eco-friendly computers and peripherals**
- **Manage your power usage with software**

Woody Leonhard
Bestselling author of all editions of
Windows® All-in-One For Dummies

Katherine Murray
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by Woody Leonhard
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About the Authors

Woody Leonhard's tree-hugging tendencies date back to his years in the Boy Scouts, where he specialized in whittling divining rods, analyzing pterodactyl droppings, and stammering at Girl Scouts. He's written a whole lotta books, starting with *Windows 3.1 Programming For Mere Mortals,* back in 1992. Somewhat more recently, he's created many *For Dummies* books, in multiple editions, covering myriad aspects of Windows 7, Vista, Windows XP, and Office. Woody's a Contributing Editor for Windows Secrets Newsletter (`windowssecrets.com`), and he runs his own blog at AskWoody.com, which is tied into a giant all-volunteer computer Q&A site that currently boasts more than 600,000 entries. If you have a question, you know where to go.

A decade ago, Woody moved to Phuket, Thailand, where he now lives with his wife, Duangkhae (better known as "Add"), and his father, George. Together, Woody and Add run Khun Woody's Bakery and three Sandwich Shoppes. If you're ever in Phuket, drop a line — `Woody@AskWoody.com`.

Katherine Murray's big ambition in life was to be Dr. Doolittle when she grew up, and she's getting pretty close. She writes (mostly) in a home office surrounded by her many four-footed friends, her children (two-footed), and grandchildren. She's been writing about computers, digital lifestyle, home business, parenting, and more since the 1980s, back when IBM PC XTs were cool and nobody had heard anything (yet) about new-fangled software called Microsoft Windows. Since the mid-80s, when she wrote her first books on technology, Katherine has published more than 50 computer books on topics related to digital lifestyle, Microsoft Office, and social and blogging technologies. In addition to her technical book writing, Katherine is the managing editor for *The Educational Forum,* an international research journal in education published by Kappa Delta Pi (`www.kdp.org`). Katherine publishes a number of blogs, including BlogOffice, where she posts tips and Office miscellanea. A long-time lover of the earth, Katherine was thrilled to be able to work on this project and has grown decidedly greener with every finished chapter. :)

Dedications

Woody: To Add, who put up with all sorts of problems while the books finally took form. To Dad, for providing great inspiration. To Claudette Moore and Ann Jaroncyk, the best agents a guy ever had, and to the editorial and production staff for bringing it all together. Most of all, to Kathy Murray, for doing the (vast!) lion's share of the work to make this book a pioneering effort in an important and all-too-frequently neglected field.

Katherine: To my grandbabies, Ruby and Henry. May they — and all our grandchildren — have beautiful blue skies; fresh, clean air; crystal clean waters; and a healthy, peaceful planet flourishing with life to pass on to the ones they love.

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Katherine would like to thank Woody for the opportunity to work with him on a topic so near and dear to her heart, and for his friendly and encouraging partnership.

And we'd both like to thank you, the reader, for caring about the planet, for believing you can do something about it, and for purchasing this book to begin making that difference.

Publisher's Acknowledgments

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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Contents at a Glance

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Introduction

Welcome to *Green Home Computing For Dummies!*

It's the first step in making a great green change for the planet.

As you've no doubt noticed, green is all over the news. Green jobs, green products, green programs, green people. Well, maybe not green *people*. Yet.

But you don't have to look far to see that the U.S. is — finally, some would say — waking up to the realities that our planet needs our attention and care. For decades, we've been pumping unhealthy chemicals into the air, using valuable resources as though there were no tomorrow, mowing down trees, and sinking drums of toxic waste in the middle of the ocean, thinking that the consequences of these actions were not our problems.

Today, we know that kind of "not my problem" thinking *is* the problem. And by picking up this book and resolving to make a green difference by making earth-friendly choices about your computer use, you have become part of the solution. Congratulations!

About This Book

Green Home Computers For Dummies is all about making good choices that reduce the wear and tear that our computing practices have on the planet. This book helps you learn about the power your computer, peripherals, and other tech equipment — like your game systems, PDAs, and mobile devices — are consuming right now, and puts it all in context so you can clearly see why that matters.

After you have a sense of the impact you're making — called your *carbon footprint* — you learn a variety of ways to reduce your power consumption by changing your practices, upgrading your system, buying green, and much more. You'll also learn how to dispose of old computer equipment in a way that is kind to the planet and find out how changing the way you think about work (telecommuting, anyone?) may be one of the greenest home computing possibilities around.

Foolish Assumptions

As we wrote this book, we envisioned you, the reader, as a person we were sitting with, sipping organically grown, free-trade coffee in a funky sidewalk cafe (that of course went all green long ago). We chatted about ways we can green the planet by expanding our awareness and exercising our choices about the way we use our computers. We made some assumptions about you and the type of information that would be most helpful to you as you start greening your home computing:

Our first assumption is that you care about what you're hearing in the news about global warming, deforestation, water worries, species extinction, and more — and you're wondering what you personally can do, through your computing choices, to help turn the tide. That's a good place to begin!

We also assume that you know something about computers, but it's not necessary to know a whole lot. In this book, you'll find examples for a collection of operating systems, from Windows XP to Vista to Windows 7 and Mac OS X. You'll find lots of good green info, a huge range of resources, great practical eco-friendly ideas, and techniques, tips, and suggestions for greening your computing practices from the inside out.

We also assume you want to know how to modify the system you already have and perhaps either upgrade it or recycle it and buy a new greener system. You'll find that information in Part II.

We also assume that you want to understand how personal technology in all its forms — PCs, laptops, mobile devices, game systems, and more — contributes to our planetary challenges. You'll find ways to evaluate the impact you're already making, find practical ways to reduce that impact, and discover ways to reuse and recycle what you can.

How This Book Is Organized

Green Home Computing For Dummies is designed to give you the big, global picture (what is global warming and how are we contributing to it?) and then take you into the small stuff (how do I set up power management in my PC?); but you don't have to approach any of the topics in a particular order. Each chapter stands on its own right, and if it contains the information you're looking for most, just jump right in — the water's reasonably warm.

Here's a quick look at what you'll find in the various parts of the book:

Part I: Getting a Little Green Behind the Ears

Part I starts the book by exploring why greening your computer practice is important for the environment and helping you see how much of an impact you're already making. In this part, you calculate the size of your carbon footprint and see how your power consumption contributes to the gas bubble that is warming the planet.

Part II: Choosing Your Green PC Path

Part II helps you take an up-close-and-personal look at your own computers and peripherals and get a sense of how many resources you're using. Here you get practical information on how to upgrade your computer to make it greener, shop for a new green system, choose earth-friendly peripherals, and ultimately, recycle the computers you've got in a way that's good for all of us.

Part III: Greener Under the Hood

Part III takes a closer look inside the computer for ways to reduce power consumption and cut down on other resources like paper, water, and time. In this part, you learn to set up power management in your computer, green your mobile devices, reduce the resources you use in printing, and use home networking to share resources throughout your house.

Part IV: Telecommuting, Teleconferencing, and Teleporting

Part IV explores ways in which you can green your practices by, first and foremost, using technology to work from home, which reduces your travel time, gas costs, and CO_2 emissions right off the bat. This part also shows you how to set up a green home office and use cloud computing, teleconferencing, and other communication tools to be successful at work no matter where you're working.

Part V: The Part of Tens

Finally, Part V provides sets of quick items to make your computer greener, find reliable green tech sites, and shop for green electronics online.

Icons Used in This Book

The Tip icon marks tips (duh!) and shortcuts that you can use to make green computing easier.

Remember icons mark the information that's especially important to know. To siphon off the most important information in each chapter, just skim through these icons.

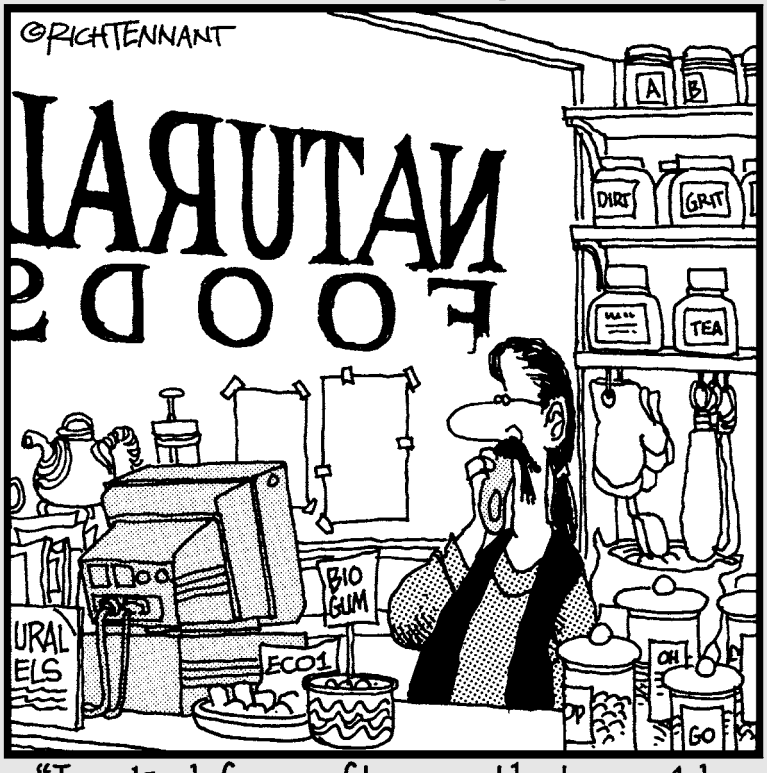
The Technical Stuff icon marks information of a highly technical nature that you can normally skip over.

The Warning icon tells you to watch out! It marks important information that may save you headaches or keep you from heading into waters that are more *greenwashing* than really green.

Part I

Getting a Little Green Behind the Ears

The 5th Wave By Rich Tennant



"I asked for software that would biodegrade after it was thrown out, not while it was running."

In this part . . .

Our computers are hungry. Like most of the people you know, some computers (and mobile devices, and peripherals) have bigger appetites than others. This part of the book introduces you to green computing and shows you how you can start to get a handle on the natural and energy resources that get gobbled up when you use your computer, when you open the fridge, when you drive to the store. For every action there is a reaction, as you'll see in this part of the book, and in some cases, those actions are turning up the temperature on global warming. The good news is that awareness is the first part of positive change, and you'll have lots of opportunity for that in this part of the book. Today is a good day to find out where all that energy is going and choose to manage it wisely (so it doesn't manage you!).

Chapter 1

What Is Green Computing?

In This Chapter

- Defining green computing
- Getting past our past
- Tugging at the roots of global warming
- Getting started with green computing
- Learning green lingo
- Greening computers — and mobile devices, too
- Starting with the easy stuff

Contrary to what Kermit the Frog says, today it's pretty easy to be green. Take a look at any media channel — TV, Web, or print — and you're sure to see an ad about the latest must-have green product for your home, car, kitchen, or office. Organic is *in* and consumers are spending more and more on items that manufacturers promise are earth friendly.

Computer manufacturers are right there in the mix. Dell is offering a laptop made of 95 percent recycled materials; Apple is touting its greenest MacBook yet; and most hardware vendors are busy producing four-color glossy marketing materials that tell you how environmentally conscious they are and how good you can feel when you write that check or sign the credit card slip.

This chapter gives you a quick look at what green home computing is — and isn't. (Hint: It doesn't mean going out and buying all new green-colored computer equipment.) Here, we also help you start thinking about simple ideas that you can put into action right away to begin making your computing — and your life — a little greener.

Knowing What Green Computing Means

You've probably noticed that people and corporations — *big* corporations — are suddenly all over the green. Perhaps that's happening because environmentalists' ideas about conserving energy and reducing waste are catching on and people want to begin making changes. Of course, it's also possible that businesses have discovered that green sells. And many people are discovering that real green technology is more efficient and can save them some real cash.

The result is that more and more people are becoming aware that they need to make good choices about the way they use the earth's resources — water, energy, land, and air. That's where green computing fits in.

The overall goal of green home computing is to use our systems efficiently and effectively, being smart about the energy we're consuming and responsible about the way we dispose of the components we no longer need.

Green home computing asks you to interrupt your day-to-day habits and consider these five simple ways you can reduce your consumption, make the most of what you have, and be more conscious of your earth-impacting computing choices:

1. Reuse what you can.
2. Rebuild or restore systems and peripheral devices.
3. Share resources.
4. Replace energy hogs with energy-efficient equipment.
5. Recycle safely.

Setting a green standard

A number of standards-setting organizations have been focused on greening technology for a while, and in this book, you find out how the resources each provides can guide you toward greener home computing.

- **Energy Star:** One organization you may already be familiar with is Energy Star. Created in 1992 by the U.S. Environmental Protection Agency (EPA), Energy Star offers consumers a way to know whether the manufactured item that they're purchasing meets energy-efficient standards. You see the Energy Star logo on any electrical appliance or computer that meets the EPA's standards. Other countries have adopted similar standards to encourage conscientious use of energy.

To find out more about the Energy Star rating, go to `www.energystar.gov`.

- **EPEAT:** EPEAT is a program sponsored by the Green Electronics Council, which focuses on issues of electronics and sustainability. EPEAT is a green electronics "certification" program that helps consumers learn more about the energy use of laptops, monitors, and desktop computers they are considering purchasing.
- **Greenpeace Guide to Green Electronics:** In the summer of 2006, the international environmental group Greenpeace began rating technology companies to gauge their progress in promises to reduce emissions, increase energy efficiency, and discontinue using toxic chemicals in their product manufacturing processes. In Figure 1-1, the Guide to Green Electronics chart from Version 11 shows the results of the March 2009 rating. As you can see, by this rating, Nokia and Samsung lead the earth-friendly tech companies, and Nintendo and HP pull up the rear.

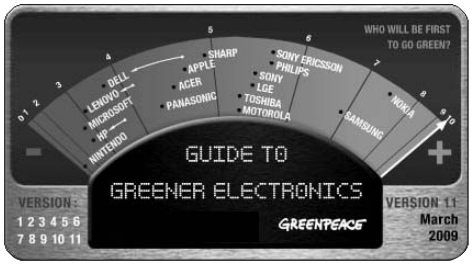


Figure 1-1: Greenpeace connects the dots in the November 2008 Guide to Greener Electronics.

To see more of Greenpeace's Guide to Greener Electronics, go to

```
www.greenpeace.org/international/campaigns/
        toxics/electronics/how-the-companies-line-up
```

Finding good green info

Searching online is always a good place to start when you want to find out more about any aspect of anything. But *green* is a popular topic, and it's growing by leaps and bounds. In fact, if you just enter the word *green* in a search engine and press Enter, you'll get more than one billion (yes, with a "b") results! How can you narrow your search and find good information on the topics you want to research? Here are a few ideas to get you started:

- **Keep an eye out for greenwashing.** *Greenwashing* is the phrase used to describe companies that are using earth-friendly language to describe products that really aren't. In other words, their environmental consciousness is more marketing ploy than green effort. Throughout this book, you'll learn ways you can determine that a company is truly offering a green product or service, but in short, green companies who deliver on their promises care about energy efficiency, use materials and manufacturing processes that minimize the use of resources and the production of waste, and make it easy for consumers to dispose of equipment or devices they no longer use.
- **Stick with objective sources.** Computer manufacturers and vendors may give you the straight scoop on the green capabilities of the items they're selling, but when you're doing your homework to see how systems compare and what really matters in terms of energy efficiency, look for media sources (like `www.treehugger.com/buygreen`), university sites, or third-party research organizations that can supply data based on research.
- **Use wikis wisely.** Wikiagreen, at `http://green.wikia.com`, has a great green wiki that brings together all kinds of resources in one handy-dandy reference. As always, remember that open posting and editing of wiki entries means that not everything there is vetted; look for other sources to back up the information you find before you write a big check or otherwise wager something important.
- **Whenever possible, go straight to the source.** When you hear about a new study on global warming (released, for instance, by the Intergovernmental Panel on Climate Change), go directly to that organization's official site and see what they have to say. No need to search through blogs or articles when you can get the original document and see the charts and data yourself.
- **Know the names in the business**. If you're interested in one area more than another — say computer recycling is a big hot button for you — know who the experts are in that area and subscribe to their blogs, read their books, and follow the publications that their comments appear in.

As you dig deeper into green computing topics later in this book, you find help for researching specific topics and products, too.

Getting Started with Green Computing

Throughout this book, you build on the simple ideas of green computing in a variety of ways. Here you find an overview of how home computing can be greener and also how technology can improve efficiency and help you consume fewer resources.

What we cover in this section is just the tip of the rapidly melting iceberg. For details about how to get started with any of these topics, flip to the chapter we cross reference.

Assessing your impact

So now that you know a bit more about what's behind the need to green, you're probably wondering what you can do about it. Awareness is a good place to start. Take a moment and look around. Wherever you're reading — in the living room or your home office — notice the energy that's being used around you. What kind of lights are shining, and how many are there? Is the room (if you're in one) hot or cool? What's fueling that? Notice devices, computers, fans, and MP3 players. Anything that gleams, notice it. As I write this, I can see eight different devices that are drawing electric current (plus the furnace, which I can hear and feel but not see).

In Chapter 2, you can explore in detail the impact you make on your environment every day. You find steps for using a carbon footprint calculator to find out where you can conserve energy and see how your habits and practices contribute to increased carbon in the atmosphere.

In Chapter 4, you find tips and steps for assessing your home and home computing setup, including all the points where you're consuming power. Make tuning in to the power use in your surroundings part of your normal coming-and-going routine. Noticing your surroundings when you first enter a room, and again as you're ready to leave, will help you stay awake to the energy you can conserve. For example, when you leave an average 150-watt computer running for a year, it uses an amount of energy equal to half a ton of coal (that's 1,000 pounds) or more than 100 gallons of oil.

According to the Consumer Electronics Association's April 2008 *Market Research Report: Trends in CE Use, Recycle and Removal*, the average U.S. household includes approximately 24 electronic products.

If you're in your own home, of course, you can control the lights, the systems drawing power, the temperature, and the number of peripherals you leave on all day.

Exercising your purchasing power

People are voting green with their dollars more than ever before. The public reaction to earth-friendly products may be occurring, in part, because *An Inconvenient Truth,* the popular movie about the problem of global warming,

struck a chord. Perhaps the public is tired and suspicious of potentially hazardous chemicals, or craves a simpler, more pure life. Whatever the reasons, green marketing is at an all-time high, and you can be sure that green initiatives are growing.

When you purchase a new computer or mobile device, do the legwork to find out the science behind the manufacturer's promises. Find information from objective sources to help you evaluate the best and most environmentally responsible choice for your home and family. Read user ratings and reviews; talk to other users if possible; and put time into weighing out the right choice. Your new computer or device will be part of your life for a while — maybe several years — using energy you'll be paying for. Some manufacturers offer trade-in programs when you purchase new computers; they'll dispose of your old computer safely for you.

In Chapter 6, you find tips for cutting through the greenwashing and finding a truly green new computer. In Chapter 10, you can check out a few green gadgets to go with your new computer and other devices.

Thinking efficiency

We don't think people set out to be deliberately wasteful. But in the world in which we live, efficiency takes a little work, at least up front. It doesn't help that technology changes so rapidly that keeping up can be a part-time job. That's why we show you ways technology can help you achieve efficiency and then forget about it, or least achieve efficiency with as little maintenance as possible.

Chapter 4 helps you take stock and begin thinking about the systems in your house, whether it's your computer system or your method for recharging devices or plugging in all your electronics. You find out how to

- Become aware of your own energy use.
- Take steps to increase energy efficiency at home.
- Begin to look for alternatives to energy use or spending.
- Discover how much power your computer needs.

You can also improve efficiency by doing the following:

- Rebuild, purchase, or streamline systems and peripherals to green them up. (See Chapters 5 and 6.)