

A KELLER WILLIAMS REALTY GUIDE

GREEN YOUR HOME



HEALTHY, MONEY-SMART, AND SUSTAINABLE
LIVING BEGINS AT HOME

Foreword by GARY KELLER

GREEN YOUR HOME

**Healthy, Money-Smart, and Sustainable Living
Begins at Home**

A KELLER WILLIAMS® REALTY GUIDE

P r o d u c e d b y K e l l e r I n k

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OUR MISSION

At Keller Williams Realty, we care about the place you call home. We understand that it's more than a collection of concrete, wood, and steel. It's more than an asset to be bought and sold. It's where you feel safe, where you can take a deep breath, where you gather with your family and friends, and where you build your strength.

Since our founding, it has been our company's stated mission to build careers worth having, businesses worth owning, and lives worth living. We realize now, more than ever, that a life worth living is one that is healthy, money smart, and sustainable—priorities that are essential to the “Green Your Home” model. Greening your home not only builds lasting value in what is yours, but it cements a life worth living for future generations.

OUR BELIEF

We believe that greening your home is a quality-of-life choice for here and now, as well as a necessary step to protect our planet and its resources for future generations. We trust in the power of individuals and their ability to learn, change, and make sustainable choices. We believe that now is the time to start—and that change begins at home.

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FOREWORD

*Today's population uses in one day what it took the world
10,000 days to create.*

PAUL HAWKEN, *THE ECOLOGY OF COMMERCE*

WHY ISN'T EVERYONE ALREADY GREEN?

We can't watch TV, go shopping, or dine at a restaurant without “seeing green”—*locally grown, organic, biodegradable, sustainable*. We now know that most every decision we make these days has an environmental consequence and a green alternative—*recycled, energy efficient, chemical free, eco-friendly*.

What troubles me is that all of this exposure may be clouding our view and creating a sort of “green fatigue” in the world—a collective desensitization that’s beginning to feel more like a fad or a fashion statement instead of an urgent call to arms. It’s starting to feel a little squishy instead of dire. If we want to get to a place where everyone is thinking and living green, then, in truth, we have a long way to go.

SO WHY AREN'T WE “SEEING GREEN” IN EVERYTHING WE DO?

I think the answer comes down to three fundamental reasons: our mindset, our habits, and our lifestyle. In other words: what we think, how we behave, and how we’re accustomed to living. Because they each require change, together these three

challenges prevent us from easily going green. It is difficult to swim against the current, so we continue to live in a way that is out of balance with our available resources. It's simply unsustainable.

We know that we have our work cut out for us. I'm confident that together we can green our mindsets, change our habits, and adjust our lifestyles for the better. Not just for the here and now, but for the future too. When I look at my professional world—the housing and building industry—I can see that this may be the best place to begin. Since the housing and building industry accounts for nearly 40 percent of the world's energy and raw material consumption,* our ability to green our home lives truly has the ability to change the world. Will you join us on this journey?

A handwritten signature in black ink, appearing to read 'Gary Keller', with a long horizontal flourish extending to the right.

Onward!
Gary Keller
Cofounder and Chairman of the Board
Keller Williams Realty, Inc.

* Johnston, David, and Master, Kim. "Green Remodeling: Changing the World One Room at a Time." Canada: New Society Publishers, 2004.

ACKNOWLEDGMENTS

As you embark on your Green Your Home journey, you'll soon discover that it's an adventure you rarely take alone. From green consultants to skilled tradespeople, there are a host of experts out there who can help you each step along the way. It's an adventure not unlike the one we took as we set out to write this book. We'd now like to thank the many people who contributed their time and expertise during this book's creation.

First and foremost, thanks to the homeowners who shared stories of their green renovations and lessons learned: Sara Alvarado, Marilyn Barber, Daniela Bell, Ed and Ellen Bond, Dale and Pat Bulla, Greg and Susan Corman, Eric Foster, Steve and Beth Griffith, Diana Guidry, Jason and Jennifer La Fleur, Pat Lando, Michael McFadden, Jeff Miner, Martin and Melissa Scanlan, Jason and Lisa Spangler, Ron and Shelly Suzuki, Anna Weier, and Wanda Zinski.

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We're grateful to the following organizations and entities for their robust data and research on green living issues: the Asthma Society of Canada, Beyond Pesticides, California Energy Commission, Circle of Blue, EcoBroker, Health Canada, National Aeronautics and Space Administration, National Association of Home Builders, National Association of Realtors and their NAR Green Designation, National Audubon Society, National Center for Environmental Health, National Fenestration Rating Council, National Gardening Association, National Pesticide Information Center, Natural Resources Canada, U.S. Department of Energy, U.S. Energy Information Administration, and the U.S. Environmental Protection Agency.

Conceiving, researching, writing, and producing this book was a three-year journey, and many talented individuals played key roles. Writer Rachel Proctor May took our original outline, researched it extensively through books and interviews, and produced an excellent early draft. Her fingerprints are throughout. She worked closely with our editors—first Mark McFarlane and later, Jonas Koffler. Jonas, in particular, dedicated many months to this project and helped execute a number of important revisions. Without Jonas' dedication, this book might never have happened. Artist Dave Bregande contributed some terrific art, which you'll find in our case studies. Lastly, we called on writer and

editor Katie Ford to lend her fresh perspective to the work and to perform a final round of editing and revision which resulted in the book you now hold in your hands.

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Jay Papasan
Vice President of Publishing and Executive Editor
Austin, Texas
July 25, 2011

INTRODUCTION

American journalist Elizabeth Kolbert once wrote in an article for *National Geographic* that man’s impact on Earth “may look as sudden and profound as that of an asteroid” to future geologists.

Seems a bit sensationalist, doesn’t it?

That’s what we thought too—until we began our research for this book. Our research team made countless inquiries into how our daily choices impact the environment and what we can do in our homes to better conserve natural resources. It turns out that Kolbert’s words merely echo what scientists* worldwide are declaring: Human consumption in the past two centuries has released enough carbon dioxide to cause measurable, irreversible changes in the atmosphere. If we continue at this rate, we could see *in this century* climate change that would cause entire species of plants and animals to die off and our oceans to acidify to levels not recorded since an asteroid struck our planet 65 million years ago, marking the demise of the dinosaurs and the end of the Cretaceous Period.

Can you imagine that this might be our legacy? Certainly it’s not what any of us want. But all signs suggest that we are marching full steam ahead in that direction. When people debate whether or not human activity is contributing

* Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.) “Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.” Cambridge University Press, 2007.

to the problem, it makes us scratch our heads. If we were at sea in a boat that was taking on water, we wouldn't be arguing about whether it was a mechanical defect or human error. We would just grab a bucket and start bailing water! Instead of debating the cause of the problem, it seems wiser to be part of the solution. After all, this is the only boat we get. If it sinks, we're all sunk.

While the rise of global industrialization has magnified our impact on the environment dramatically, it also has brought about scientific discoveries and governmental policies that have catalyzed green thinking and measurable conservation efforts. In the marketplace, green-friendly products, practices, services, and materials are becoming more mainstream. However, it will be the decisions that we make in our daily lives that will have the greatest impact on what life on Earth will be like for the next generation. Indeed, it is at the grassroots level where we can make the *greenest* impact.

That's what this book is about.

GOING GREEN BEGINS AT HOME

When it comes to our environment, no matter how much we know or think we're doing to conserve and preserve, there's always room for new understanding and smarter choices. A logical place to begin your green journey is at home, the place where most of us spend the majority of our time.

Across North America, homeowners are putting increased awareness about green practices to good use. Jason and Jennifer La Fleur epitomize this trend.

A young couple, they purchased a vintage house in a wonderful neighborhood in Chicago, Illinois. From the beginning, they shared a vision of turning their old home into something even more special: a greener home. With a faith in their abilities and the helpful support of friends and family, they slowly and methodically began a step-by-step process of green retrofitting.

The limitations of their budget worked to their advantage, since Jason and Jennifer preferred doing most of the work themselves. They devoured green remodeling books, one after the next, and let careful research and smart advice from other remodelers guide them. In every aspect of the home, from the inside and internal systems to the outside, they sought opportunities—like putting in reclaimed interior doors that scream, “I’m old and beautiful!” or installing a tankless water heater. As avid gardeners, they especially loved assembling their rainwater collection system.

The La Fleurs recognized that each change they made added lasting value to the home they loved, so it was a worthwhile pursuit and a source of great pride. Each phase of their renovation felt right for them, and demonstrated to their friends and neighbors how even the smallest changes have a positive impact on the environment and on one’s budget. People like Jason and Jennifer prove that a green home is attainable for anyone, even those who don’t have a limitless supply of money to spend.

Echoing the money-smart approach used by the La Fleurs is the Griffith family, who live in Northern California. This party of five consists of Steve and Beth, their two kids, and Beth’s mother.

Steve and Beth sought out a local company to expertly assess every inch of their home for potential green improvements— especially upgrades that would help conserve money and energy. It turns out that no matter how much they thought they were already doing to live green (such as using compact fluorescent lightbulbs and monitoring energy consumption), there was a great opportunity to do a whole lot more. The team of experts provided a road map of change to make the Griffith home healthier, more comfortable, and more efficient. Some recommended changes were no-brainers—like when their team made a startling discovery: asbestos, a dangerous carcinogen, lined the ductwork and heating system. So, before making any other changes, Steve and Beth made sure their indoor environment was safe for the family. A healthy home now became their top priority.

To address the asbestos and stay within their budget, other improvements had to be moved to their wish list. Features like a new Energy Star washing machine and roof-mounted solar panels would have to come later. Because the Griffiths planned to stay in their home for many years, they knew they'd have the opportunity to fulfill their wishes for a truly green home in time.

For many, making upgrades means making greener choices—choices that are healthier, money smart, and sustainable. There are countless ways to make your home better, from the way you furnish, clean, and maintain it to improving the way you use energy and water. In the end, remember that the home where you live, love, and create lasting memories is part of the great planetary balancing act we call “green.”

CHAPTER 1: LAYING THE GROUNDWORK

*Do your little bit of good where you are; it's those little bits of good
put together that overwhelm the world.*

ARCHBISHOP DESMOND TUTU

A GREEN ADVENTURE AWAITS

Imagine you're preparing for a special trip. Call it the adventure of a lifetime: a safari in Africa, a trek in the Himalayas, a weeklong rafting excursion through Grand Canyon National Park with your friends and family. Maybe you'd prefer a visit to historic sites in an old-world city like Rome, Italy. Or perhaps your ideal adventure is just a relaxing week spent on a beach someplace.

No matter your preference, you would likely make your choice based on some personal priorities—the things that are most important to you. Priorities might include ensuring that your adventure enhances your sense of well-being, that you have the financial means to enjoy yourself while you're on your trip and that you have experiences rich enough to create lasting memories—stories that you can share with others.

We'd like you to think of greening your home as a similar type of adventure. Like travel, you get to shape your own experience. Greening involves planning and is often a multistep process—it takes time. Rome wasn't built in a day and

you don't green a home overnight. Your green home improvement journey will be full of options. Some are more important than others, and some are more demanding. Not everyone wants to green every aspect of a home, just as not everyone wants to encounter lions in the wild while on vacation. Some prefer ease and comfort and will work with a team, some might favor a challenge and are willing to get their hands a little dirty, and others might go all out with a *I'm game for whatever it takes* mentality. You get to decide what's best for you.

FEARS AND FACTS ABOUT GOING GREEN

So, what does “green” mean to you? Does the thought of a greener home and a greener lifestyle make you excited, apprehensive, or maybe a little of both? Let's start by taking a look at some of the common fears and facts about what it means to go green. Like us, you may be surprised.

Five Fears about Going Green

1. Green is just a bunch of hype.
2. Green is too expensive a lifestyle change.
3. Green is too difficult a lifestyle change.
4. Green will not benefit me personally.
5. Green will not really make a difference.

Fear #1: Green is just a bunch of hype.

Fact #1: True “green” is anything but hype.

Sure, there are plenty of confusing messages out there. There are those who bash green and spread mistruths and those whose washed-out claims of being green are anything but the truth. So let’s quickly cut through the misinformation about what green is and what it’s not. At its heart, green is real, green is common sense, and green is likely already a part of your life, whether you know it or not. Your decision to go green is about a commitment to having better choices, now and in the future. Greener choices can help you save money and enable you to lead a healthier life, while conserving energy and natural resources. Is there something wrong with the idea of living more in tune with the natural world? Not at all. In fact, it’s the best possible way to live.

Fear #2: Green is too expensive a lifestyle change.

Fact #2: Green can save you money over time.

Some view green homes and green lifestyles as the exclusive domain of the wealthy. Actually, this is the realm of the financially smart and the healthy. Why? Because most of the simple green actions you can take cost nothing, whether you do them at home or in your day-to-day behaviors. Think of reducing, reusing, and recycling—the basic language of going green. Instead of shrinking your bank account, going green can actually help you save money.

And if you choose not to spend a dime on new materials like solar panels or new windows, it will only cost you a little thought and effort to reuse materials and reduce your energy and water consumption habits.

For example, take a shorter daily shower and keep your thermostat set a few degrees higher in the summer and lower in the winter. Small changes like these can actually save you hundreds of dollars each year. Try them out and then compare your energy bills after a year. Should you choose to spend money on home-efficiency systems upgrades, then there's often a local, state, provincial, or federal tax incentive or rebate program available from your utility provider. In some locales, you can even take advantage of dual rebates. These add up to immediate savings and meaningful money over the long haul as energy prices rise. Being money smart is also about being healthy. Think about it: If the changes you make to your home make it less toxic, logic tells us that over time, you'll be making fewer sick visits to the doctor. That's saving more than just money.

Fear #3: Green is too difficult a lifestyle change.

Fact #3: Green is about ease and simplicity.

Green is not a complex undertaking. Green begins in our minds, and it requires us to slow down and focus our awareness a bit differently. It starts with our habits and extends throughout our homes. For many, leading a greener life might be a matter of recycling more regularly, using less water and energy at home, walking

more and driving less. Are these dramatic, impossible lifestyle changes? Not at all. Keep in mind that green as a process is only as difficult as you decide to make it. You don't have to give up your car, your clothes, or your lattes and go live in the forest to be green. You can do it in more practical ways. There are different shades of green, from those who are a deeply committed dark green to the more moderately minded light green. You define your level of commitment and your vision. This book will help you identify the few green changes that can help you achieve whatever shade of green you aspire to become.

Fear #4: Green will not benefit me personally.

Fact #4: Green benefits you directly (and your neighbors too).

First and foremost, going green will make you feel good as you contribute to the well-being of the whole world. That's not just perception, that's reality. Do good, do right, and live well; enjoy the positive effect you have on others. If you're still not convinced, then let's consider what you stand to gain personally. If you can save money by consuming fewer resources and using less energy and water, is that not a material gain? If you can improve the air quality that you, your family, and your guests breathe inside your home, is that not a health gain? If you're acting as a steward of the planet for yourself and your family, imagine the millions of people in the future applauding you for your forward-thinking approach. And beyond the stewardship argument, going green is an educational and inspirational experience. Green can be a creative endeavor that's rewarding and most certainly worth doing.

Fear #5: Green will not really make a difference.

Fact #5: You alone can make all the difference in the world.

What you may perceive as impossible is actually very doable. You just need to consider where and how to begin. As an individual, every contribution you make can change the world for the better. As part of a family of billions of people, your example and influence can make a huge difference. Just by reading this book, you're already taking the first step. The point is, you can do as Mohandas Gandhi did and "be the change you wish to see in the world." Just think and act wisely. You can make a difference in your life, for your children, and for theirs.

THE GREEN YOUR HOME MODEL

When we set out to write this book, it occurred to us that green is really about understanding our priorities for a life well-lived. These are often abstract priorities, like living healthily, being money smart, or acting more sustainably. But how do we make these ideas more concrete? We can best do this through applying a three-stage model (see figure 1), which will help you understand your priorities, focus on the tangible elements and take key actions in areas of your home that matter most. We call these areas our "three green home zones," and we've organized this book around taking on specific green improvement projects in each. You'll experience this exciting process in the pages to come.

It's important to note that our model is based on extensive research of what works—the tried-and-true practices of many green-minded homeowners,

including our personal green experiences. We've also taken recommendations from green-building experts and green real estate professionals from throughout the industry.

Stage One: Three Green Priorities

People choose to go green for different reasons. And it helps to recognize that every green decision we make is based upon three shared priorities in our lives: improving our health, saving money and reducing our impact on the environment. So if you're asking, "How do we know these are *the* top priorities?", you should know—you told us so!

We looked at data from the National Association of Home Builders and McGraw-Hill Construction.* Sure enough, health concerns consistently top the list along with saving money on utilities and making sustainable choices to conserve resources and protect the planet.

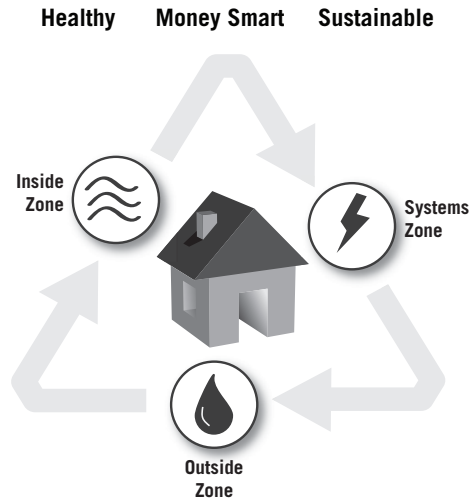


Figure 1 – Healthy, money-smart, and sustainable living are the three priorities in the Green Your Home model.

* "The Green Homeowner: Attitudes and Preferences for Remodeling and Buying Green Homes," SmartMarket Report. McGraw-Hill Construction, 2007.

The simplest way to address our green priorities is to ask: “Is it healthy?”, “Is it money smart?”, and “Is it sustainable?” Let these questions guide you when it comes to making green home improvement decisions. Are they the only considerations? No. But most homeowners agree they are what matter most.

Stage Two: Three Green Elements

In stage two, we take a look at what we’ve identified as the three elements of a green home: air, energy, and water. Simply put, these are the resources that we need and use every day. They’re the ones that actually make life possible—and they’re resources that we sometimes take for granted.

While our three priorities help us understand *why* we go green, the three elements that support these priorities are essential to our understanding of *what* green is about, from a very basic resource perspective. What’s useful about these elements is that each one relates to our three priorities. How? The most important element of a healthy home is the air inside because it’s what we breathe into our bodies and bloodstream. The most important element of a money-smart home is the energy that flows through it

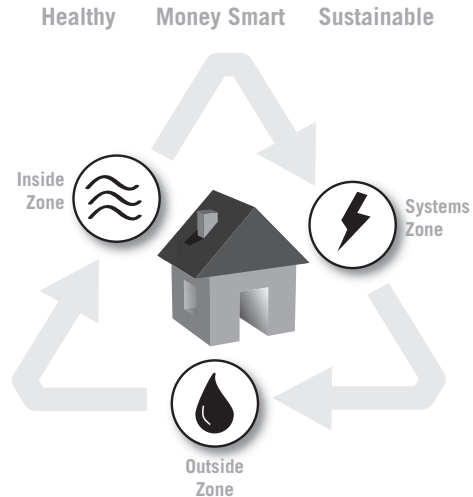


Figure 2 – The three elements of the Green Your Home model are air, energy, and water.

because we have to pay for it. And the most important element of a sustainable home is its water because it's a precious, dwindling resource. Thinking about the three elements—air, energy, and water—should help you to look at your home as a dynamic place that supports the life you live.

Stage Three: Three Green Home Zones

We're clear on our three priorities, and we understand how to think about our three supportive elements. Now comes the fun part. In stage three, we put this knowledge to use. This is the application stage, where the rubber meets the road. To be successful, we'll need to focus on the three “green home zones” listed below:

1. The Inside Zone
2. The Systems Zone
3. The Outside Zone

In each home zone, you will establish your green priorities and identify actions that will positively impact your home's air quality, energy usage, water consumption—or all three! We have done our best to map out

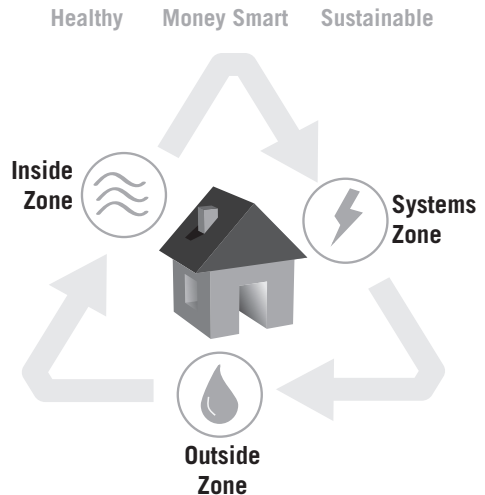


Figure 3 – The Green Your Home model includes three home zones: inside, systems, and outside.

some sure-fire Green Your Home opportunities in each home zone. Though the paths to greener living are endless in scope, this book is intended to serve as a practical guide to help you gain significant ground in becoming a green-thinking, health-conscious, money-saving machine!

1. The Inside Zone

Our inside zone refers to our home's interior living spaces, such as the rooms and nonpermanent fixtures that we can see, touch, interact with, or experience. Lighting, decorations like furniture and finishes, and flooring and appliances all fall under this zone. And so does most of our time in an average day. According to data from the U.S. Bureau of Labor and Statistics, we typically spend more than 80 percent of nonworking or commuting hours *inside* our homes. We sleep, eat, do household chores, care for others, and take on various leisure activities.

Because we spend so much of our time inside our homes, it's important we address the inside zone first and foremost. It's also important to keep in mind that while we only have twenty-four hours in a day, these days add up to a lifetime. To live long lives, our health becomes our priority. Because we spend so much of our lives inside, it only makes sense that we make a healthy inside zone our first priority. Of the three zones, the inside one is where we go to recharge and relax with our family and friends. It's our refuge.

2. The Systems Zone

The systems zone refers to the hard-working mechanical, electrical, and plumbing components that we generally can't see inside our walls, like the ducts, wiring, and pipes that make our home life easier and more comfortable, as well as the items that are bolted in place—like our central heating, ventilation, and air conditioning (HVAC) units. The systems zone is about operations and efficiency. You may compare it to the cockpit of an airplane: When you get on a plane, you know it's there, but you don't mess with it. You also rely on the captain and flight crew to know what they're doing to meet your expectations for the flight. They control the temperature levels, ventilation, and can make adjustments as needed to ensure a favorable overall experience. The same is true of the systems zone in your home, where you're in the captain's chair. When your systems zone isn't running optimally, your in-home experience isn't as good as it could be and your dollars are not being well spent. You want comfort and reliability and low maintenance at a low cost. That's being money smart, which is the top priority in the systems zone. So, it's important to look at this home zone next, as it impacts your utility bills and your pocketbook the most. And not only that, the systems zone also bridges the inside and outside zones. So it makes sense to think of it as the middle zone in the Green Your Home sequence, the zone that powers and ensures performance in your home.

3. The Outside Zone

Finally, the outside zone refers to the exterior areas of the home—features like our lawns, shade trees, flower beds, and gardens—and items attached to exterior

surfaces, like gutters or awnings, or even a patio on the ground. It is the final zone when it comes to greening a home. This zone is the last one we discuss because not every homeowner has or wants an outside zone. But it's still hugely important for this Green Your Home adventure. If you have a yard or a garden or even just a balcony, it's likely you spend time there. And what you do there, like watering and planting, matters from a standpoint of sustainability.

Three priorities and three supportive elements shape your green path. Yet the bulk of your green home-improvement journey resides within each of the three home zones: your inside zone, your systems zone, and your outside zone. It's where you can select specific improvements that make sense to you and make a difference in our world—one project at a time.

Apply the 80/20 Principle when greening your home zones.

To help you put the three priorities, three elements and three zones from our model into action, here's a final point to keep in mind. You may have heard of Pareto's Principle, which is also known as the 80/20 Principle. It states that 20 percent of your efforts determine 80 percent of your results. The 20 percent is your priority. It's what you focus on most to produce a successful outcome. This concept can be applied to every aspect of our lives, from our jobs to our relationships and even our home-improvement projects.

So, what does it mean when it comes to greening our homes? It means that 20 percent of our green improvements—those practical projects we focus on most in this book—will lead to the most successful green results. We can't take

on every project at the same time. Instead, we're best served by picking one project and sticking to it until it's done. It's like drawing up a list of five goals you'd like to accomplish and then picking the one that is most important. This is what you do to decide on your 20 percent.

Put another way, for the greatest results we should focus most of our efforts on the top priority in each zone (i.e., air in the inside zone or energy in the systems zone). This focus becomes the 20 percent that drives success in each of our home zones. The remainder of our efforts can be divided among the other two priorities in each zone. This is the most effective way to deliver meaningful green results.

In the inside zone of your home, the priority of being healthy is your 20 percent. It's the anchor of your everyday environment, where good air quality and abundant natural light can help ensure well-being. Focusing on projects that help you achieve this healthy outcome is what you want to do.

When given the choice, who wouldn't want the most energy-efficient, high-performance home that they can have? Comfort at a reasonable cost is the most desirable way to achieve a lower monthly utility bill. For the systems zone, the priority of being money smart is your 20 percent. Projects that deliver a cost-savings outcome are what you want to focus on in this zone.

And finally, in the outside zone, the priority of being sustainable is your 20 percent and saving water is your focus. In caring for your yard in a water-wise

way, you also care for the planet and do your part to ensure water for future generations. It's a great gift and you'll never get a single word of thanks for it. But that's okay. Projects that help you while they conserve resources for the future are the best way to improve and enjoy the living landscape you call your outside zone.

Concentrating on the top priority translates to the most success in each zone. In the inside zone, it's being healthy. The systems zone is all about being money smart. And the outside zone is mostly a matter of sustainable practices.

SIX THINGS TO CONSIDER BEFORE YOU BEGIN


The first step in the Green Your Home adventure is to examine the bigger picture to determine the “big why” behind all your green improvements. There are six things to think about before you embark, and they will influence your decision making on the finer details.

Six Things to Consider Before You Begin

1. Focus on resale value.
2. Keep your climate in mind.
3. Get more for less.
4. Embrace the payback principle.
5. Take advantage of potential rebates and incentives.
6. Weigh now vs. later.

1. Focus on resale value

When Michael McFadden and his pregnant wife were planning to remodel the 1970s ranch house they bought in Kirkland, Washington, they knew they would want nontoxic finishes and sustainable features. They sealed the leaks, insulated the floor, and upgraded the appliances to efficient models. They created a nontoxic, cozy environment for their new baby. However, they also recognized that the house would probably not be their home by the time their son had his driver's license. So they also emphasized upgrades that would draw buyers when the time came to sell the home in the future.



Installing low-flow plumbing fixtures like aerated sink faucets, efficient showerheads, and dual-flush toilets is a smart, cost-effective way to green your bathroom.

“Statistically, it’s the kitchen and bathroom where you get the most out of what you put into your remodel, the most return on your value,” Michael says. The McFaddens developed a plan to open the awkward, cramped kitchen into a flowing great room with more natural light. It was a smart green choice that fit their lifestyle, but it also looked to the future, when the home would be competing for buyers on the open market.

The fact that you’re *greenovating* is a smart preparation for the day you shift from homeowner to home seller. While some projects may not seem like a big deal, making improvements like adding low-flow fixtures in the bathrooms

will be appreciated by potential buyers. There are many ways to add value to a home. The best way to ensure your improvements provide payoff potential is to ask your real estate agent for advice. Markets vary, so ask which types of green features are in demand in your market.

2. Keep your climate in mind

North Carolina builder Marcus Renner has a story he likes to tell about the super-green clients who approached him about building an Earthship home in Asheville. An Earthship home is half-submerged and built of rammed earth and recycled tires. It's designed to function in harmony with the environment—a *desert* environment, that is. In arid climates, like New Mexico, their south-facing windows can absorb the heat of the sun during the day, and the dense, heavy walls radiate the heat during the cool desert nights—passive heating in action. It's a brilliant, high-efficiency design for an intended habitat. However, in damp, forested North Carolina, as Renner quickly ascertained, it's less-than-optimal. But his clients insisted on it, so he moved forward.

As Renner predicted, the trouble began almost immediately. The submerged dwelling hit all sorts of groundwater problems. So did the flat roof, which wasn't designed to withstand heavy rain or snow. Unglazed windows leaked much of the heat. Consequently, with the systems in need of frequent overhauls, it was not a good financial value.

We recommend thinking hard about what features will get the most use in your climate. A radiant floor heating system doesn't make much sense in Mobile,

Alabama, where it will only run a couple months a year. Homeowners in the North may want to skip the super, high-efficiency air conditioner and invest instead in sealing and insulation. No matter where you live, there are few green upgrades for which the payback period, also called a cost-benefit analysis, is the same. So do your homework: Ask experts for help in determining which projects are most appropriate for your climate zone.

3. Get more for less

Rest assured, not every green investment needs to be the newest green product on the market. In fact, creatively recycled features are some of the most sustainable options. Did you know that you can purchase decking made out of plastic grocery bags and carpet derived from old soda bottles?

Reusing materials is another green choice worth exploring. Portland remodeler Pat Lando is one shining example of someone who knows how to get more out of less in a home. He carefully re-used virtually all the original components of the 1961 ranch home he remodeled.

“All the doors, all the casework are going back in,” he says. “The masonry chimney was ground up for subbase. There’s a small amount of hardwood floors that we couldn’t use, but that went to someone else’s home. So basically, only two dumpsters of material left the site, and one of those was wood being ground up for mulch.”

In a world of “*less is more*”, Lando clearly shows that the greenest thing may not be the greenest *new* thing. It might just be the thing you already own.

4. Embrace the payback principle

One of the best things about green improvements is that many of them will pay back through increased energy efficiency. Compact fluorescent lightbulbs are a great example: a \$3.50 bulb lasts ten times longer and uses 75 percent less energy than an incandescent bulb. The net result: The compact fluorescent “pays” you about \$30 over the life of the bulb. This principle can help you prioritize potential investments.

$$\frac{\text{Total cost of an improvement}}{\text{Estimated cost savings per year}} = \text{Payback Period}$$

Figure 4 – The payback period is the total cost of an improvement divided by the estimated cost savings per year.

According to the U.S. Department of Energy, about 14 percent of an average home’s energy costs go to heating water. That said, an efficient hot water heater, such as an Energy Star model, would start paying you back sooner than, say, a more energy-efficient dishwashing machine, which typically accounts for about

2.5 percent of energy, according to the Boston-based Consortium for Energy Efficiency. If you absolutely have to choose between them, upgrade your water heater. In the kitchen, your refrigerator is a much higher priority than a new stove. The U.S. Department of Energy cites the fridge as one of the biggest energy consumer in the home, second only to the HVAC unit.

The payback principle is a smart consideration when you're considering high-dollar investments, such as solar panels or wind turbines. However, there are many great options that can reduce your utility costs and/or lower your carbon footprint. We know that the payback principle can be hard to calculate, because different improvements have different payback lengths, based on factors such as cost of the feature, price of the utilities, how and when you run the feature, and so on. Plus, many of your upgrades—sustainably harvested wood floors, for example—won't pay you any dollars until you sell your home for a premium to a buyer who can appreciate the value. Here's another way to think about it: If a green project is really important to you for nonmonetary reasons, then the payback principle may be less important to you. The true payback might be a cleaner conscience and a better home environment for you to enjoy.

5. Take advantage of potential rebates and incentives

Many states, provinces, and cities are willing to reward your environmental responsibility by offering rebates and incentives for replacing inefficient appliances and fixtures with high-performing new ones.

Depending on where you live, you could get an incentive to do the following:

- Purchase water-conserving appliances and low-flow plumbing fixtures.
- Add solar CPV panels, insulation, or efficient windows and doors.
- Replace grass with drought-tolerant landscaping.

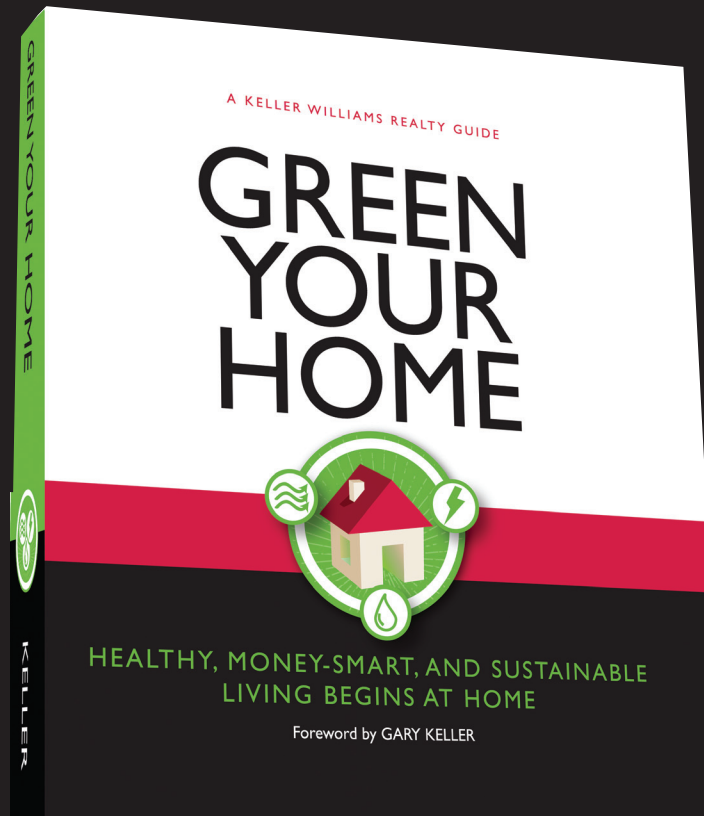
Do your homework early in the planning process so you don't lose your chance for a great rebate check. Ask your real estate agent for advice. If you live in the United States, visit www.dsireusa.org, the Database of State Incentives for Renewables and Efficiency. In Canada, visit www.oee.nrcan.gc.ca/corporate/incentives.cfm or www.ec.gc.ca for information about energy and efficiency rebates.

6. Weigh now vs. later

Part of the planning process involves considering your long-term plans for your home. You don't have to make every improvement today. Even if you're stripping a home down to the studs, there may still be features that don't make sense—or cents—to add right now. Your professional team can help develop your game plan.

Architect Ron Wickman asks, “Maybe you don't want to add all the bells and whistles today, but can you do things that will make it easier to add bells and whistles four or five years down the road?” When he added a second story to his home, he designed the room with wiring for the solar panels he hopes to one day affix to his roof. Again, this not only saves money, it gets back to one of the fundamental principles of green living, which is designing adaptable spaces that will serve you for a lifetime.

Much of your green thinking will depend on your priorities, which we cover in the next chapter. So let's get moving. Let's go green your home!



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