

Introduction

IF SOMEONE TOLD YOU there was one single way you could:

- Save energy and money at the same time
- Heat and cool your house more efficiently and effectively
- Improve the beauty, utility and value of your property
- Get a big benefit from a small investment, and a solid return on investments you've already made
- While also incidentally contributing to a cleaner, healthier environment...

Would you be interested?

Have you been noticing your utility costs rising? Do you wish you could use less gas or electricity without changing your lifestyle or

spending a lot of money? Do you want to stop feeling that little twinge of guilt each time you switch on a light or turn up the heat? Well, you've come to the right place.

This book shows how we can all save energy, simply by making small changes in the way we design and build our landscapes. The solutions presented here will work in every sort of landscape, whether large or small, hilly or flat, rural or urban. Many of them cost little to do, and some cost nothing at all. But every idea, action, design tip and suggestion in this book will help reduce the amount of energy — your own and the Earth's — that's spent on constructing and caring for our landscapes.

Lots of other books, magazines and websites explain how to improve the energy-efficiency of *buildings*. This is undoubtedly a good idea,

but replacing windows, installing a new heating system or renovating a house may simply not be an option for many homeowners. *Energy-wise Landscape Design* presents hundreds of ways you can save energy, without touching your home or investing in new technologies (although the book does discuss some of those too).

This book explains two basic methods for saving energy. First we can arrange our gardens and grounds so they help *keep our homes cool in summer and warm in winter*. This is not to suggest that landscaping should entirely replace improving our houses. Rather, landscapes can be intentionally designed to help lessen extremes in outdoor temperature, thereby reducing our indoor heating or cooling needs. When we use plants and the landscape in this way, we also reap additional benefits: we don't need to make complex decisions or gamble on new mechanical systems that may or may not work as planned, we make no big investment, and we avoid disturbing our living areas. Plus, any plants we use for this purpose generally get better with age rather than breaking down or becoming obsolete, as can happen with equipment.

The second way to save energy takes place *in the landscapes themselves*. This is the inevitable result of creating landscapes so they're hardy, resilient, low-maintenance, self-sustaining, long-lasting and undemanding of outside resources. Imagine how much gas you'd save by mowing a smaller lawn or using your own fallen leaves for mulch instead of buying bagged and imported materials. Think about a landscape that's designed to fit the land well and satisfy

multiple needs, so that building it is easy and living in it is even easier. Consider the benefits of using materials efficiently and creating landscapes that endure for decades.

Taking any one of these actions will produce at least modest savings. But imagine the cumulative effect of taking many of these steps. As individuals we'd save serious money and use far less carbon-based fuel. And if a lot of us make just a few of the landscape choices suggested in this book, the energy savings across the country will be vast.

ORGANIZATION OF THE BOOK

This book is divided into seven sections:

- Sections I through IV present ideas for *designing* landscapes with energy in mind. Sections I and II focus on arranging the landscape to make houses more comfortable in summer and winter, while Sections III and IV provide design ideas for saving energy out in the landscape itself.
- Section V explains how to *build and care for* landscapes in the most energy-efficient ways.
- Section VI discusses methods for *generating energy* at the small scale of a home landscape.
- Section VII ends the book with a discussion of energy-efficient *lighting*.

Each chapter addresses a particular energy-saving goal and includes Actions that explain how to accomplish that goal. Numerous design and construction tips then provide tangible advice for implementing those actions in real-life situations.

THE BOOK'S CONTENT

This book presents ideas for conserving two kinds of energy. First it shows how to reduce *operating energy* — the energy used in our regular day-to-day functioning — that includes fuel for mowers and machinery, electricity for outdoor lights and watering systems and even the gasoline for our cars. Second, implementing the advice in this book will also reduce *embedded energy* — the energy used to manufacture and transport equipment and materials — that we consume in our landscapes without even realizing it.

Throughout the book, complex concepts and technical information are distilled down to their essence and explained in everyday language, so they can be easily understood. Specific numbers and formulas are rare. You don't need to be a professional of any sort to follow the suggestions presented here. All the ideas are described in enough detail so they can be adapted to and applied in a variety of situations.

There are no exact recipes for success in this book. No numbered diagrams to copy and transfer into your own garden. No pretty pictures to imitate. No absolute best or perfect solutions. This is because all home landscapes are unique, no matter how similar they may appear at first glance. Even if two houses are nearly identical and sitting on adjoining twin lots, their landscapes will be different, simply because the larger world will affect them differently.

Shadows, breezes, soils and water patterns; the history and quality of construction; and most important, the lifestyle, family size and per-

sonal preferences of the people who live there: these and countless other factors determine how a landscape looks and functions. All situations call for their own unique solution, and all homeowners have their own dreams and notions of home. Any single landscape can be designed in dozens or even hundreds of different ways. This book is merely a guide to achieve any landscape design goal in a way that saves energy.

While the suggestions in this book can work in many different kinds of landscapes, some may be more well-suited to a particular landscape or region than others, or more appealing to some homeowners than others. Certain ideas may even appear to be mutually exclusive or contradictory. The point here is not to suggest you should implement every recommendation in this book. Rather, it's to remind all of us to be thoughtful about the choices we make, to be aware of their costs and, whenever evaluating a possible action in our landscapes, to consider energy efficiency as an essential part of the equation.

Finally, in addition to helping any individual homeowner consume less energy, the suggestions in this book will also lighten this country's need to import resources. And many of them will also help improve the health of the natural environment. The most important thing to keep in mind, though, is that these ideas will work for you *whether or not* you care about politics, the world economy, the environment or going green. This book assumes that saving energy, in itself, is a worthwhile goal.