

Green Facilities Industrial and Commercial LEED Certification

Greg Winkler

绿色设施 工业和商业建筑的 LEED 认证





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Green Facilities Industrial and Commercial LEED Certification

Greg Winkler

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GREEN FACILITIES

*INDUSTRIAL AND
COMMERCIAL
LEED CERTIFICATION*

GREG WINKLER

绿色设施

工业和商业建筑的 LEED 认证



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Greg Winkler

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GREEN FACILITIES

INDUSTRIAL AND COMMERCIAL LEED CERTIFICATION

GREG WINKLER, AIA



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*To my son, Tristan.
Sometimes happiness slips in through a door
you didn't know you had left open.*

About GreenSource

A mainstay in the green building market since 2006, *GreenSource* magazine and GreenSourceMag.com are produced by the editors of McGraw-Hill Construction, in partnership with editors at BuildingGreen, Inc., with support from the United States Green Building Council. *GreenSource* has received numerous awards, including American Business Media's 2008 Neal Award for Best Website and 2007 Neal Award for Best Start-up Publication, and FOLIO magazine's 2007 Ozzie Awards for "Best Design, New Magazine" and "Best Overall Design." Recognized for responding to the needs and demands of the profession, *GreenSource* is a leader in covering noteworthy trends in sustainable design and best practice case studies. Its award-winning content will continue to benefit key specifiers and buyers in the green design and construction industry through the books in the *GreenSource* Series.

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The International Code Council (ICC), a membership association dedicated to building safety, fire prevention, and energy efficiency, develops the codes and standards used to construct residential and commercial buildings, including homes and schools. The mission of ICC is to provide the highest quality codes, standards, products, and services for all concerned with the safety and performance of the built environment. Most United States cities, counties, and states choose the International Codes, building safety codes developed by the International Code Council. The International Codes also serve as the basis for construction of federal properties around the world, and as a reference for many nations outside the United States. The Code Council is also dedicated to innovation and sustainability, and a Code Council subsidiary, ICC Evaluation Service, issues Evaluation Reports for innovative products and reports of Sustainable Attributes Verification and Evaluation (SAVE).

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PREFACE

Green sells. More than any other factor, the business community has embraced sustainability because it is marketable. Consumers have long accepted the idea of recycling their household waste, and have even shown an increased willingness to purchase products with recycled content—as long as they are competitive in cost with products made from virgin material. What is new is that customers are now interested in supporting businesses that not only use recycled content in their products, but also utilize sustainable principles in the manufacture of those products and the overall operation of their businesses.

In the rush to market themselves or their products as green, some corporations have adopted the unfortunate practice of “greenwashing,” or making sustainability claims that either cannot be documented or have no basis in fact. That even some multinational corporations with strong reputations would make such claims is unfortunate, and devalues the true and honest commitment to sustainability practiced by so many other businesses, both large and small. Greenwashing exists, of course, because even the false claim of green yields profit. The shame is that true greenness, the honest practice of sustainability, can yield even greater profits and productivity.

That is where the simplicity of sustainability ends, because sustainability is anything but simple. Energy-efficient operations vary dramatically with the type and nature of the business. The potential savings available among manufacturing, professional, or retail businesses is quite different, and must be weighed against comfort, safety, and productivity. Sustainability is also a moving target, and like so many other aspects of running a business, requires constant assessment and adjustment. Energy-efficiency standards are always increasing, and growth in many locales will tax the water, clean air, and wastewater capacities of those communities. No aspect of sustainability stays constant for very long. But then, what aspect of the operation of a business is ever constant?

For all its vexing aspects, running green is little different from running lean. Once implemented, it is a way of life, a way of operating smarter and with less waste. The businesses that embrace this simple fact will be more profitable and more competitive. They will have embraced the heart of sustainability.

Greg Winkler, AIA

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GREEN FACILITIES

CONTENTS

Preface	xiii
Acknowledgments	xv
Chapter 1 Green Facilities	1
What Is Sustainability? 2	
The Benefits of Sustainability 2	
The ICC and Sustainability 4	
LEED Certification 6	
Other Sustainability Programs 11	
Payback and Return on Investment 12	
Energy Calculators and Software 14	
Endnotes 17	
Chapter 2 Indoor Health and Thermal Comfort	19
Heating 20	
Cooling 25	
Ventilation and Air Movement 26	
Indoor Air Quality 28	
Air Intake Economizers 34	
Systems Control and Monitoring 35	
Special Systems and Strategies 36	
Waste Heat Recovery Systems 42	
Tobacco Smoke Control 42	
PCB Removal 43	
Endnotes 45	
Chapter 3 Utilities	47
Electric Usage 47	
Natural Gas Usage 50	
Water Usage 55	
Renewable Energy 62	
On-Site Energy Generation 66	
Wastewater 69	
Energy Management Systems 71	
Endnotes 77	
Chapter 4 Operations	79
Indoor Vehicles 79	
Indoor Chemicals 81	
Water Management and Recycling 84	

Equipment Efficiency	89
Lighting	90
Operations and Maintenance	96
Commissioning	96
Cleaning	97
Shifts and Scheduling	99
Carpooling and Transportation	100
Continuous Improvement	105
Construction Activities	107
Endnotes	108

Chapter 5 Building Features

111

Automatic Entry Doors	111
Vestibules and Airlocks	112
Overhead Doors	113
Loading Docks	115
Lighting	116
Daylighting	119
Windows and Glazing	120
Building Insulation	122
Air Infiltration	123
Toilets	126
Coolers and Freezers	126
Space and Capacity Utilization	128
Optimize Energy Performance	129
Endnotes	132

Chapter 6 Equipment

133

Boilers and Pressure Vessels	133
Chillers	133
Motor-Driven Equipment	136
Spray Booths	137
Ovens	139
Conveying Equipment	141
Vacuum Equipment	143
Welding Equipment	144
Grinding Equipment	144
Drying Equipment	145
Computers and Office Equipment	147
Compressed Air	149
Endnotes	151

Chapter 7 Exterior

153

Landscaping	153
Paving and Surfacing	158
Stormwater	160
Shading	163
Cladding and Siding Materials	167
Roofing Materials and Green Roofs	170

Site Lighting	177
Site Design	178
Heat Island Reduction	181
Site Disturbance	183
Endnotes	184

Chapter 8 Resources **187**

Manufacturers	187
Incentives and Resources	188
Software and Calculators	188
Government and Nonprofit Programs	194
Utility Programs	201

Glossary **217**

Index **227**

GREEN FACILITIES

Green facilities are smart facilities. They are businesses that control their costs through focused attention on reduced energy consumption, enhanced equipment efficiency, consistent maintenance, and more flexible building and human resource management. In the sense that business environmental sustainability is largely measured in resource efficiency, businesses have been practicing sustainability for a long time under the name of *cost reduction*. A business that did not routinely look for ways to produce their products or services less expensively was destined to be overtaken by producers who operated more efficiently and sold their wares for less. This aspect of green practices is not new, though the tools available to today's managers for assessing and implementing cost reduction measures are vastly greater than those of even a decade ago. What is new, and what this book addresses, is the beginning of a new era of looking at a wider range of sustainability factors—including facilities, human resources, equipment, and operations—in a comprehensive manner as part of an overall sustainability program. The new reality of sustainable management means assessing the effects of facility and equipment changes on employee productivity, production efficiency, energy consumption, and a host of other interrelated factors:

- How does implementing an employee ride-share program affect employee working hours, productivity, and building operation costs?
- Can the use of compressed air be reduced without losing productivity, and is it worth the cost?
- Does a redesign of the steam supply system for greater efficiency allow for cost-effective expansion when orders increase?
- How does allowing employees to open windows during temperate periods affect absenteeism and liability associated with asthma sufferers?

Managing in the green era requires broader vision, more thoughtful analysis, and a healthy dose of prognostication. Sustainable management is part analytical and part intuitive, a blend of business benefits and greater good. Most of all, sustainability is now an established movement with public and employee support. Creating greener

facilities is a necessity for managers, and they would do well to follow the advice of Francis Bacon: “Things alter for the worse spontaneously, if they be not altered for the better designedly.”

What Is Sustainability?

The most common definition of sustainability is that adopted by the Brundtland Commission of the United Nations in March 1987: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” This very broad definition is helpful to governments and the public, but provides little guidance to business or facility managers. The Council of Smaller Enterprises (COSE) offers a crisper definition in their mission statement: “Sustaining and supporting the small business community through improved economic, environmental, and community design strategies leading to increased implementation of energy conservation, recycling, and employee wellness programs.”¹

The Benefits of Sustainability

The greening of global business has, in some ways, occurred with surprising speed. Long-time backers of environmental movements would certainly disagree, citing the origins of their movement in the 1960s and the long, difficult road to persuading American consumers and businesses that recycled products have high quality and marketability. What has occurred in the last decade, however, has been a widespread embracing of sustainability benefits by global consumers. While the American public is the newcomer to this party (European consumers having embraced green concepts long ago), they have done so with gusto. A 2008 Gallup Poll revealed that 72 percent of Americans avoided using products that harm the environment, with 86 percent of Americans stating that they are currently recycling household waste such as newsprint and glass.² Sustainability may no longer represent a marketing advantage so much as a consumer expectation.

Companies that have embarked on sustainability audits, either limited or comprehensive, report improvements both in public perception and in their bottom line. While the need to at least appear green has prompted a fair amount of “greenwashing” (false or unproven sustainability claims), responsible corporations have embraced sustainability as a way to improve their overall operations and facility competitiveness. Among them:

- Gunderson Lutheran Hospital of La Crosse, Wisconsin, conducted an audit of their facilities to look for improvements that could be implemented quickly, said Jerry Arndt, Senior Vice President of Business Services. “The most responsible thing you can do is reduce the amount of energy you need,” Arndt said. “So we looked in-house for improvements before we looked at renewables.” Among other items, Gunderson found their facility included 300 exhaust fans that were running full time