

Energy Center of Wisconsin

Annual Report 2003



From the Board President and Executive Director

In the past year, we've been dramatically reminded of why our efforts to build a sustainable, reliable energy future are so important. While the largest blackout in U.S. history has many stressing the need for new generation capacity and expansion of the transmission system, we're more committed than ever to long-term solutions: education and tools to free capacity by reducing energy use.

Teaming with utility, technology and public sector partners, every initiative we



work on—from market research to educational programs—ultimately focuses on how to influence and change consumer behavior. Our capabilities allow us to examine the entire energy-use process and find a path for savings that creates value for our customers. For example, our research often uncovers unique insights into how consumers make decisions impacting their energy use. We may discover that comfort, air quality or low-maintenance are stronger calls to action than energy savings. We target technologies and programs to meet those specific customer needs, which ultimately inspires reductions in energy use.

Certainly, the bottom line is foremost in the minds of commercial and industrial customers. We expand their understanding of how energy efficient products and practices redefine the bottom line. It's much more than the ROI of a piece of equipment. It's how an energy project can create opportunities to reopen a closed factory, reduce the waste

stream, increase productivity, decrease labor costs, minimize maintenance, even increase the attention span of school children.

Defining those benefits, quantifying their impact and putting them into practice is what the Energy Center is all about. From researching new technologies, to uncovering market opportunities, through training everyone from regulators to consumers, we help transform the cutting edge into common practice.

Our success in 2003 demonstrated that our members and partners appreciated our expertise in combining those capabilities to form a comprehensive approach to saving energy. In 2004, we'll continue our mission to make our clients and their customers active partners in creating an energy future that is both economically and environmentally sustainable. Building generation and transmission facilities in response to an energy outage is only half of the solution; our vision is that we will all use energy more sustainably in ways that will both improve the economy and safeguard the environment.



A handwritten signature in black ink, appearing to read "John Wilson".

John Wilson, Michael, Best & Friedrich
President, Board of Directors

A handwritten signature in black ink, appearing to read "Susan E. Stratton".

Susan E. Stratton
Executive Director

The Year in Review

In 2003, we helped more customers and achieved more through partnerships.

Technology Research

■ We partnered with the paper industry to turn **landfill waste into useable paper stock** through a process that will reopen a paper mill and create over 20 new manufacturing jobs. Compared to conventional paper stock manufacturing, the technology reduces energy costs by approximately 14 million kWh per year (\$700,000) and waste fiber landfill by about 7,000 tons per year.

■ We assessed the technical merits of **electroionic disinfection**, a new low-energy technology to disinfect wastewater.

■ We identified a dozen **improvements to paper dryer systems**; each could save a paper plant \$250,000 a year in energy costs and significantly reduce waste and water usage. We also facilitated demonstrations for **new technologies for paper machines** that save energy and improve product quality.

■ We monitored energy usage at two **bioremediation** demonstration sites. One powers microturbines with gas produced by anaerobic digestion of sewage. The other uses bacteria to remove pollutants from a printing process.

■ We collaborated with the University of Wisconsin-Madison to study how **coupling energy storage systems to renewable electricity generation** affects carbon dioxide emissions and energy productivity.

■ *Energy Design Update* and *Home Energy* featured the results of our study on the **electric energy use of gas furnaces and the savings from variable speed gas furnaces**.

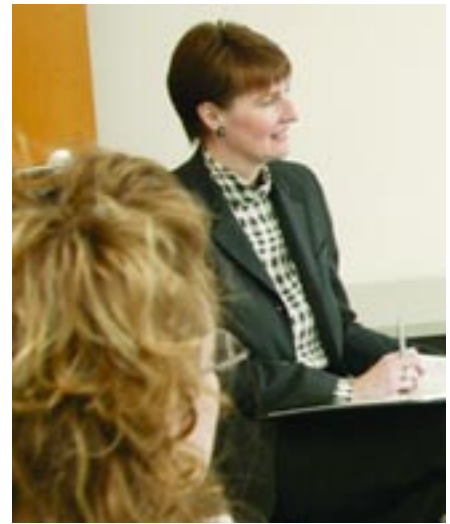


(above) **Brenda Jessen** leads the **Building Operator Certification** in Wisconsin.

(right) **Donna Manly** coordinated the **2003 Smarter Buildings, Smarter Business** conference.

Professional Education

■ Under our management, the nationally recognized **Building Operator Certification Program** had a higher participant certification rate in Wisconsin than in any other state.





(left) Jerry Aue from the Energy Center works with the Johnson Company to help Stora Enso North America save energy.

(below) Industrial decision makers learn about energy efficient technologies at the Industries of the Future symposium.

■ The 2003 **Smarter Buildings, Smarter Business Conference**—which promotes best practices in high performance home construction and marketing with support from Wisconsin’s public benefits program and the U.S. Department of Energy—attracted over 600 builders and contractors and presented 34 skills-based workshops and 30 exhibits.

■ The **American Institute of Architects** awarded the Energy Center its second Award of Excellence in Education.

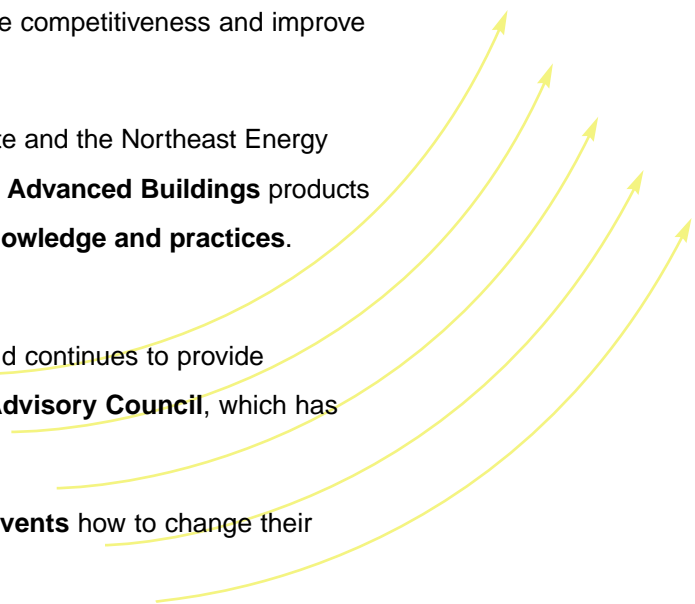
■ In partnership with the Wisconsin Energy Star Homes program, we developed **new curriculums for builders** on combustion safety, drainage planes and to certify building consultants as experts in energy efficiency.

■ Developed with the Center for Technology Transfer and the Wisconsin public benefits program, the **Industries of the Future symposium** showed 125 industrial decision makers how new energy efficient technologies and practices reduce costs, enhance competitiveness and improve their manufacturing processes.

■ In a joint venture with the New Buildings Institute and the Northeast Energy Efficiency Partnership, we’re developing a suite of **Advanced Buildings** products that will **increase high performance building knowledge and practices**. National rollout will begin in 2004.

■ The Energy Center was a founding sponsor and continues to provide leadership for the **Compressed Air Challenge Advisory Council**, which has trained more than 5,000 compressed air users.

■ In 2003, we trained **over 2,700 people at 76 events** how to change their energy-using behavior.



Program Evaluation and Market Research

- To better understand **rental housing energy efficiency opportunities**, we initiated a study that characterizes housing stock, analyzes billing data, and surveys landlords and tenants.
- We continued our on-going series of studies on the sales of **efficient residential gas furnaces and central air conditioners**. Our study shows that high efficiency furnaces continue high market penetration, and that there is increasing market penetration of high efficiency air conditioners.
- Our **Renewable Energy Market Assessment**, funded by Wisconsin public benefits, estimated renewable energy installations and explored the decision-making criteria of renewable energy system customers.
- In our series of **Supply Chain Research Studies** in the HVAC, food processing,

paper and other industries, we developed in-depth information on how energy efficiency influences the decision-making of equipment distributors, manufacturers and designers.

- The Energy Center released a **Commercial New Construction Market Assessment** that explored the awareness of and attitudes towards high-performance building practices among architects, engineers and building owners, and what training programs can best serve their needs.



(above) **Kevin Grabner and Ingo Bensch** discuss We Energies' renewable energy priorities with **Carl Siegrist**.

(right) **Andrea Minniear** leads the Energy Center's outreach efforts to schools and libraries.

Outreach & Marketing

- We sponsored tours and created a **virtual case study of Thrivent Financial Bank** in Appleton, Wisconsin, highlighting the impact of daylighting practices on its energy performance, comfort and employee productivity.
- The Energy Center's **redesigned web site** features new information packages on industrial lighting, steam, electric motors and motor systems.
- We redesigned the **Daylighting Collaborative Website** to streamline the content and improve the user interface.





■ The new Energy Center **Commissioning Troubleshooting Guide** for homes and multifamily buildings shows how energy-related systems can work together more safely and cost-effectively.

(left) **Abby Vogen** leads the Energy Center's high performance commercial buildings program.

(below) **Steve Brick** introduces **David Hawkins** of the Natural Resources Defense Council at the Energy Center's Energy and Environmental Forum.

■ We developed over a dozen **factsheets** for Wisconsin's residential public benefits program on topics like ice dams, energy efficient windows, energy tips for apartment and condo owners, and energy efficient clothes washers.

Program Planning, Design and Implementation

■ The Energy Center provided technical assistance in the design of **Organic Valley's sustainable corporate headquarters** in La Farge, Wisconsin.

■ The Energy Center provided 124 **scholarships to school teachers** to attend training for the K-12 Energy Education Program.

■ We worked with FFA, an agricultural organization, to **provide grants to high school students and teachers for agricultural energy efficiency projects** and to incorporate energy efficiency into the curriculum.

■ We completed our second year as the administrator of the **Environmental Research Program** for Wisconsin's public benefits program—and added ten additional research projects to study the environmental effects of electricity generation and transmission.

■ The Energy Center established a **partnership with the Midwest Organic and Sustainable Education Service**, an organic farming organization, and sponsored workshops on solar and wind energy at the Upper Midwest Organic Farming Conference.

■ We administered a **commercial grant program** that helped building owners incorporate daylighting and energy efficiency into churches, office buildings, nature centers and other commercial buildings.



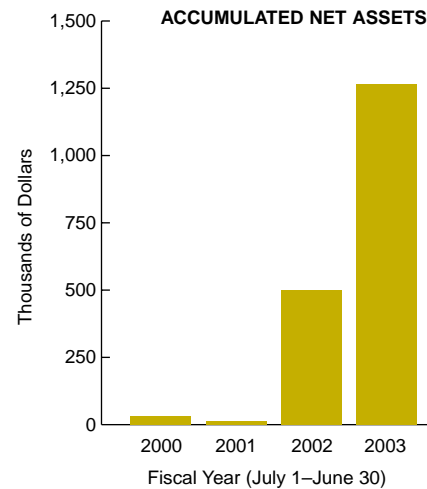
Energy Center Financial Performance

In 2003, the Energy Center's financial position continued to strengthen. Our total revenue grew to over \$5.7 million for 2003, almost \$ 1 million more than last year. Net Asset growth reflected the positive trend that began during the 2000 fiscal year with year-end Net Assets of over \$1.2 million.

We continue to be debt-free and have a strong cash position. At the end of the fiscal year, the Board of Directors voted to set aside \$825,000 of our Net Assets as a "rainy day" fund, which can only be utilized with Board approval.

Accumulated Net Assets

2000: \$31,000
2001: \$14,000
2002: \$498,000
2003: \$1,267,000

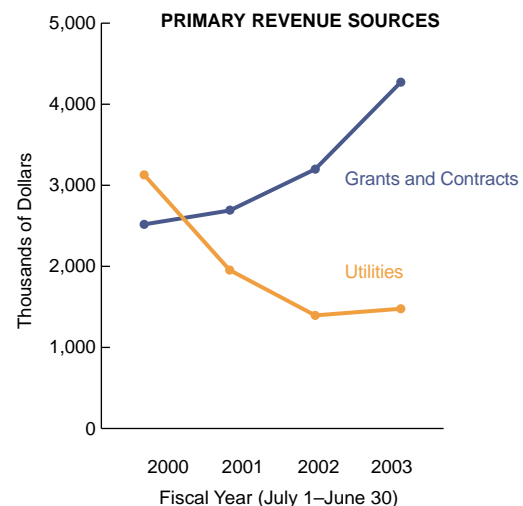


(above) **Bill Gienke and Graham Siegel** discuss **We Energies' membership.**

Over the past several years, the Energy Center has transitioned from being predominantly funded by utilities to serving a greater range of customers from a variety of sectors across the country. At the same time, we're meeting the changing needs of key energy stakeholders with a new membership program that gives members priority access to our expertise. Together, these customer-focused initiatives have stabilized our revenue, broadened our scope and capabilities, and positioned us for continued financial growth and success.

Revenue

2000: \$5,704,000
2001: \$4,819,000
2002: \$4,744,000
2003: \$5,750,000



Looking Ahead



(left) **Steve Bohlman of Alliant Energy discusses commercial programs with Susan Stratton.**

Developing sustainable energy practices means much more to our society than reducing utility costs or increasing alternative production.

Sustainable energy means safeguarding our environment and building an economy that's less dependent on finite resources and foreign supply. It means recreating an energy industry that can fuel a steady growth of business and jobs without sacrificing our quality of life.

The Energy Center looks forward to working with our partners and customers to achieve that goal.

(below) **State officials, utility executives and private sector leaders gather at the Energy Center's Energy and Environmental Forum.**

(bottom) **Jeff Johnson of New Buildings Institute meets with Energy Center staff and members at Alliant Energy's Worldwide Headquarters.**

Corporate Members

Platinum

Alliant Energy

We Energies

Wisconsin Public Service Corporation

Xcel Energy

Gold

Madison Gas & Electric Company

Bronze

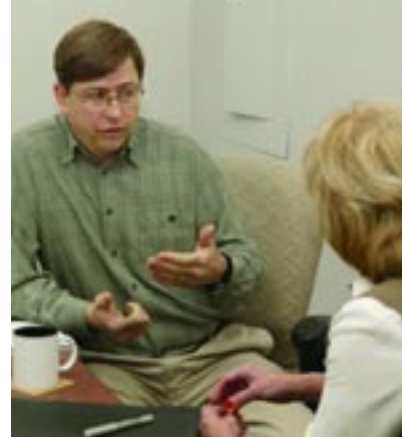
Wisconsin Public Power Incorporated



Our Staff

Management Team

Marge Anderson
Chris Berg-Thacker
Steve Brick
William Gienke
Susan E. Stratton



Program Coordination

Jaime Barbian
Sherry Benzmiller
Erin Freund
Brett Gullickson
Sharon Hanrahan
Peggy Heisch
Melisa Perez
Trisha Stibor



(top right) **Scott Pigg meets with Judy Mathewson of We Energies to discuss low income program evaluation.**

(above) **New board members gather for orientation at the Energy Center.**

(middle) **Kathryn Schiedermayer manages commercial and industrial projects.**

(bottom) **Phyllis Dubé and Joan Herriges from We Energies make use of the Energy Center library.**

Accounting

Sue Streveler
Mary Vander Velde

Education & Outreach

Kate Anderson
Brenda Jessen
Donna Manly
Andrea Minniear
Cherie Williams

Information Technology

Mary Hoerr

Technical

Jerry Aue
Ingo Bensch
Kevin Grabner
Ingrid Kelley
Melanie Lord
Scott Pigg
Kathryn Schiedermayer
Abby Vogen
Sean Weitner



Our Mission and Vision

Mission

To be the leading Wisconsin organization providing objective research, information and education on energy issues to businesses, professionals, policy makers and the public.

Vision

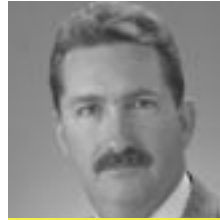
Consumers and businesses make informed decisions regarding energy use that result in the sustainable and efficient use of energy resources, a healthy environment and a strong economy.



(above and below) **Energy and policy professionals gather at the Energy Center's Energy and Environmental Forum.**



Board of Directors



John Wilson

President
Michael, Best
& Friedrich



Phyllis Dubé

Vice President
We Energies



Laura Williams

Secretary
Madison Gas &
Electric Company



Paul Liegeois

Treasurer
Wisconsin Public
Service Corporation



Kirby Anderson

Waukesha County
Technical College



David Benforado

Municipal Electric
Utilities of Wisconsin



Kate Bloomberg

Retired Mayor of
Brookfield, Wisconsin



Shannon Clark

Richland Electric
Cooperative



John Farrow

Milwaukee School
of Engineering



Rick Johnson

BadgerMeter, Inc.



Gerald Kulcinski

University of
Wisconsin–Madison



Eric Lawson

Potter Lawson, Inc.



Terry Nicolai

Alliant Energy



Brian Zelenak

Xcel Energy

Dan Ebert
(not pictured)

Public Service
Commission of
Wisconsin

Find out more about
our research,
education and
consulting capabilities
at www.ecw.org.



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OF WISCONSIN

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Thank you to departing Board members **Joe Loftus**, Terminal Andrae 01/02–09/03
and **Scott Smith**, Public Service Commission of Wisconsin, 09/00–09/03.

On the cover: **Solatube®** donated skylights for our corporate office that transfer sunlight to highly reflective tubing. The bright, natural light and near-perfect color rendition is as user-friendly as it is energy-efficient.