

The environment is everyone's home. As a leading manufacturer, Andersen has a unique responsibility to monitor and adjust its environmental impact. Over the years, we have set and reached many goals, and we continue to create new and better standards to improve our performance. The process is ongoing — as is our commitment to it.



These pages show how we approach manufacturing with an eye on preserving and protecting our resources, and how we plan to build upon our successes. Our overriding goal is to help make the homes we live in beautiful and enduring, especially the one we all share.



The concept of sustainability is the cornerstone of all Andersen environmental initiatives. Today's resources must be responsibly managed, so tomorrow's environment can be preserved.

## Meeting the needs of the present, without compromising the needs of the future.

We use a product life cycle approach in examining our supply chain, manufacturing operations, product performance and reclaiming efforts. The product life cycle encompasses a number of interrelated aspects of modern manufacturing, and it all revolves around **embodied energy**. This term is used to refer to the amount of energy required to convert raw material into a finished product. The less energy required to extract raw material and then manufacture a product — the less impact that process has on the environment.

Embodied energy is a great tool for accurately estimating part of the environmental impact of specific materials. Andersen uses quality materials that lend themselves to sustainability, reuse and recycling. These materials are efficiently made into long-lasting, energy-efficient products that reduce replacement demands, maintenance and heating/cooling costs. In this model, every part of the cycle contributes to lowering embodied energy and lessening the overall environmental impact.



From the supply chain to the manufacturing line to the products themselves, Andersen strives to improve the return on our energy investment by making windows and doors that perform and last.

## E m b o d i e d E n e r g y

### Reductions in Embodied Energy

#### Source [Raw Materials]

Wood  
Vinyl  
Glass

#### Transportation

#### Manufacturing

Energy  
Distribution  
Emissions

#### Reclaimability of Raw Materials

Fibrex® Material

## B a l a n c e S h e e t

### Return on Embodied Energy

#### Energy Efficiency

Solid Wood  
Low-E Insulating Glass  
Weatherstripping

#### Longevity

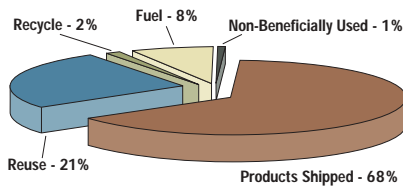
The Perma-Shield® System



# Revitalizing the Process.

Andersen has been a durable goods manufacturer for over one hundred years. Like most large manufacturing companies, our environmental efforts were revitalized during the eighties and nineties. The results have been very encouraging: Landfilled solid waste at Andersen's Bayport, Minnesota facilities has been reduced by 83% since 1990.

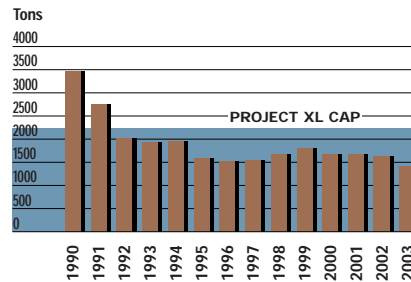
Today, 99% of all manufacturing materials are beneficially used at Andersen.



Toxic release inventory (TRI) reportable emissions have been reduced by 96% since 1990. Conversion of wood treating systems from solvent-based to waterborne helped reduce our total Volatile Organic Compounds (VOC) emissions by over 60% since 1990.

A series of projects to reduce emissions from Andersen coating operations also contributed to the VOC reductions.

Reducing Volatile Organic Compounds



In the past few years, Andersen as a company has grown dramatically and resources have been focused on ensuring that Andersen and its subsidiaries abide by the Andersen Environmental Management System (EMS). It covers all environmental aspects of our operations including material use, waste management, emissions, recycling and material reuse.

Regular environmental audits of Andersen manufacturing facilities verify that operating units comply with the company's environmental procedures and government regulations. These audits show consistently high environmental performance and continuous improvement of operations.

## Fibrex® Material



This highly sustainable composite was patented in the nineties by Andersen Corporation and its now wholly-owned subsidiary, Aspen Research Corporation. Fibrex® material is a revolutionary blend of reclaimed wood fiber and synthetic material. All of the wood fibers used in this compound are reclaimed directly from our manufacturing processes. Increased use of Fibrex material in Andersen products contributes to additional utilization of wood, and provides an efficient use of embodied energy in the reclaimed wood fiber. It also helps reduce VOC emissions, since no wood preservative treatment or painting is required.

## P A R T N E R S H I P S

Andersen is a supporter of  Metafore, formerly the Certified Forest Products Council, a non-profit organization that collaborates with business and society to create market-based approaches to support forests and communities.

Project XL is a national pilot program of the U.S. Environmental Protection Agency. It tests innovative ways of achieving the best performance and flexibility for manufacturers, and increased involvement for local communities. In gaining approval

of its XL project, Andersen proposed a unique environmental performance ratio measurement that, if successful in application, may also be useful to other companies. Andersen was the first company in Minnesota to have an XL project approved, and only the thirteenth nationally.



Reclaiming and recycling by-product materials has become an institution at Andersen manufacturing facilities. Virtually all materials remaining after the manufacturing processes are put to productive use.



# Valuable Resources. Valuable Performance.

By now, most people understand that energy efficient products help conserve our natural resources and protect the environment. But what makes Andersen® products so energy efficient? It starts with the materials. Andersen laboratories are always researching and testing to make sure that suppliers provide the most energy efficient raw materials. A wide variety of wood species, composites, engineered materials, specialized coatings and many other components are undergoing testing at any given time.

Wood is literally at the core of Andersen windows and patio doors. It's durable, stable and an excellent insulator. Because we rely on wood as an important renewable material, we established a program of supporting and evaluating forestry management to help protect the long-term viability of wood supplies.

We have informed suppliers that our company gives preference to wood supplies certified by the Forest Stewardship Council (FSC) or other equivalent systems. Nearly two-thirds of our purchased wood is now certified. As available, Andersen uses these certified supplies while pursuing the best wood in terms of quality, price, volume


and consistency. Third-party certification assures the forest is being managed in an environmentally appropriate, economically viable and socially beneficial manner.

The Perma-Shield® System  
The Perma-Shield® exterior cladding system helps ensure the superb performance of Andersen products over many years. Excellent water resistance, structural integrity and low air infiltration are all factors that enhance the energy and environmental benefits of our windows and patio doors. The Perma-Shield system adds to the longevity of our products and, in the long run, saves resources by eliminating the need to paint.



## P A R T N E R S H I P S

The National Fenestration Rating Council (NFRC) is a voluntary third party certification program designed to ensure accurate window performance rating and labeling. The NFRC rating provides understandable product-to-product comparisons. Selecting products with favorable ratings improves heating, ventilation and air conditioning calculations and daylighting assessments. Andersen® products rate extremely well under the NFRC system.

	
Casement Window <small>16x24 Double Glaze                  DualPane Low-E Glazing with Argon</small>	
<b>ENERGY PERFORMANCE RATINGS</b>	
U-Factor (U, U-FI)	Solar Heat Gain Coefficient
<b>0.33</b>	<b>0.33</b>
<b>ADDITIONAL PERFORMANCE RATINGS</b>	
Visible Transmittance	
<b>0.53</b>	

Andersen is a member of the Alliance to Save Energy, an organization promoting energy efficiency. The alliance is made up of members of congress and corporate executives committed to promoting energy efficiency.



Andersen has been recognized by the EPA as a charter member of the National Environmental Performance Track Initiative, due to our commitments to sound environmental management, continuous improvement, public outreach and community involvement.

ENERGY STAR® is a voluntary labeling partnership of the U.S. Environmental Protection Agency (EPA) and the Department of Energy.



ENERGY STAR® identifies and promotes energy efficient products in order to reduce carbon dioxide emissions. Most Andersen products with Low-E glass meet the ENERGY STAR® criteria throughout the United States.

Using Andersen products helps commercial and high density residential buildings meet the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) program certification in three areas: energy efficiency, materials and resource conservation and indoor environmental quality (ventilation and daylighting).



Andersen is the first and only window and patio door manufacturer to receive Green Seal certification. The independent Green Seal program has scientifically certified the Andersen® 400 Series

and Renewal by Andersen® product lines. To earn certification, we had to demonstrate that our products meet energy efficiency requirements and are manufactured and packaged in an environmentally benign manner. The Green Seal certification noted: "If all windows and patio doors in the U.S. were as energy efficient as those made by Andersen Windows, we would save up to 2.5% of the annual U.S. energy consumption."

# ANDERSEN CORPORATION ENVIRONMENTAL POLICY

*As an environmentally responsible citizen of the global community, it is our responsibility to assure that our facilities, processes and products meet or exceed all applicable government standards and regulations relating to the environment. We recognize our perpetual duty to:*

Support the environmental goal to eliminate pollution at the source.

Conserve natural resources through reduction, reuse and recycling of materials.

Develop long-lasting products that have a minimal effect on the environment.

Strive for continuous improvement with our environmental performance.



For more information on  
our products, log on to:  
[www.andersenwindows.com](http://www.andersenwindows.com)



"Andersen" is a registered trademark of Andersen Corporation. All other marks where denoted are marks of Andersen Corporation. "ENERGY STAR" is a registered trademark of the U.S. Environmental Protection Agency. © 2004 Andersen Corporation. All rights reserved.