



# PREVENTION

## quarterly



### SUMMER 2000



### “More than a Theory”

*The Adam Joseph Lewis Center at Oberlin College is a physical model of sustainability*



Sustainability can be a pretty nebulous concept for some; at Oberlin College that concept has become solid as stone. The Adam Joseph Lewis Center, home to the Environmental Studies program is the product of hundreds of hours of sustainable thought incorporated into an actual physical structure. The center, which is a national model of sustainable building techniques utilizes both renewable energy and renewable materials. The building was designed by William McDonough and Partners of Charlottesville, Va.

The specifications for the building were developed in part by the students in the environmental studies program which is headed by Dr. David Orr. Dr. Orr is a nationally recognized educator and speaker on sustainability and

ecology. A major goal of the building, which is very much an ongoing experiment in the application of sustainable techniques, is to teach and inspire others to incorporate these principles in areas far removed from the Oberlin campus.

Features of the building include:

- ❶ On-site wastewater treatment utilizing a “Living Machine” which mimics the natural processes of ponds and marshes.
- ❷ Geothermal heating and cooling provided by closed loop vertical wells and heat exchangers.
- ❸ Passive solar design including extensive use of natural lighting.
- ❹ Automated ventilation system that continually monitors CO<sub>2</sub> and supplies 100% fresh air to all occupied spaces
- ❺ Building materials include recycled steel and aluminum, low-VOC paints and adhesives, and wood throughout the facility is from certified sustainable forests.
- ❻ Utilization of solar energy utilizing a roof-top photovoltaic array and energy efficient lighting throughout the facility.

Techniques utilized in the building represent commercially available “off the shelf” technologies that could be utilized throughout the construction industry today. Flexibility was also incorporated into the design of the building which allows for the changing and upgrading of technologies as they become available. For example, the photovoltaic array currently being installed on the roof of the center (BP Solarex “Saturn” single crystal technology), which achieves about 14% efficiency, will be replaced when more efficient panels become commercially available.

Plans for the future include expanding the solar power generation of the building to exceed its energy use and incorporating regenerative fuel cell technology for providing continuous energy generation. Every detail of the building has been carefully considered and accounted for. Even the fabric which covers the seats in the centers auditorium is biodegradable. Designed by William McDonough for Design Tex Inc., the fabric which is considered non-toxic can be used for mulch when it

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has reached the end of its useful life. The carpets that cover the floors are “products of service” that are intended to be reclaimed by the manufacturer and re-used or recycled into future products.

A visit to this building is highly recommended for persons unconvinced that one project can make difference. In the case of the A. J. Lewis Center, creating a building which inspires sustainable thought and subsequent actions has become reality. The Environmental studies program and it's students are a first wave of individuals who have the practical experience and commitment to implement sustainable design in the real world.

For information on sustainable development techniques and opportunities visit [www.epa.state.oh.us/opp/sustainable/p2sustainability.html](http://www.epa.state.oh.us/opp/sustainable/p2sustainability.html) or contact Ron Smith at (614) 644-2813 or [ron.smith@epa.state.oh.us](mailto:ron.smith@epa.state.oh.us). For information about Oberlin Colleges Environmental Studies program and the Adam Joseph Lewis Center visit their web site at [www.oberlin.edu/newserv/esc/Default.html](http://www.oberlin.edu/newserv/esc/Default.html) or by contacting Cheryl Wolfe at (216) 321-3355 or [cheryl.wolfe@oberlin.edu](mailto:cheryl.wolfe@oberlin.edu)

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## Greenbuilding is growing in Cleveland

Greenbuilding vs. conventional building, is a more sustainable approach that incorporates human health and ecological impact into the design and construction.

“The key to greenbuilding catching on, is being able to demonstrate it can be done profitably” says Jim LaRue, one of four partners in Green Built Homes, Ltd. “All the good feelings in the world will not make a difference if builders can't make a living doing it”.

GreenBuilt Homes has a new home under construction that demonstrates many greenbuilding principles. The house located at 4301 East 71st Street in Cleveland (near the Grant Road exit off I-77) is an attractive two story home that blends in well with the other existing houses in the neighborhood. However, many of the significant features of this house, like the \$300 per year anticipated heating bill, are not visible. Along with the house's energy efficiency it is also engineered to use an estimated 1/3 less lumber by the use of 24" O.C. framing. Waste materials like shingle scraps, lumber and drywall pieces are all being recycled. Jim has not yet been able to find a recycler of the styrofoam waste. The house is heated by the same hot water tank that provides water for bathing.

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## OMEx Update

Ohio has completed the second year of its statewide materials exchange service. The increase in exchanges sponsored by the Ohio Materials Exchange Service (OMEx) has been outstanding. During 1998, more than 2,600 tons were exchanged. In 1999, a total of 40,861 tons (81,811,101 pounds) was reported exchanged through OMEx services - an increase of 1,570 percent! These exchanged items saved businesses over \$1,636,200.00 in disposal costs.

Most exchanged items were:

- Construction & Demolition - 52,000,000 pounds
- Sand - 10,400,000 pounds
- Metals - 5,780,800 pounds
- Alkalis - 4,160,000 pounds
- Rubber - 3,310,539 pounds
- Chemicals - 2,471,267 pounds
- Computers & Electronics - 2,162,006 pounds

The purpose of OMEx is to encourage businesses to recycle and reuse leftover industrial resources. The exchange service maintains and distributes listings of materials available and materials wanted from industry participants. Through the exchange, one company's waste becomes another's raw material. Any material that is available from one business and wanted by another can become an exchange item.

To receive the bi-monthly catalogue, call (614) 644-2928. All non-confidential listings and contact information (listing company name and phone) can be accessed at [www.epa.state.oh.us/opp/recyc/omex.html](http://www.epa.state.oh.us/opp/recyc/omex.html).

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The project is part of the U.S. Department of Energy (DOE) "Building America" program and will meet the standards of the USDOE Energy Star and American Lung Association Health House programs. The house was designed by Building Science Corporation in Boston which is leading one of four consortiums of builders seeking to raise the quality of what they produce. Lessons learned by members of these consortiums will be shared, refined and expanded to include more greenbuilding components in each new house to be constructed.

As part of the Jim's mission to spread the word on the effectiveness and profitability of greenbuilding, he has undertaken the task of creating greenbuilding standards that can be inserted into the 1996 OBOA building code which will be guiding residential construction in the City of Cleveland. It is hoped that it will help make the process repeatable and practical for other builders. The project, funded by the Gund Foundation, was originally to create a greenbuilding standard for the Cleveland

Ecovillage Project. The information inserted as greenbuilding pages into the code will create a performance standard. It builds on the existing OBOA building code which is a prescriptive standard. Its performance specifications will guide the creation of more energy efficient, less toxic and more environmentally friendly dwellings. The end product is a home that is healthier and more cost effective for the homeowners as well as the environment.



**"greenbuilding project house"**  
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For more information about the project contact Carlton Rush, President of GreenBuilt Homes at [thml@ix.netcom.com](mailto:thml@ix.netcom.com) or (216) 272-7083. More information about sustainable development and greenbuilding is also available by contacting Ron Smith at [ron.smith@epa.state.oh.us](mailto:ron.smith@epa.state.oh.us) or (614) 644-2813 on our web site at [www.epa.state.oh.us/opp/](http://www.epa.state.oh.us/opp/).

## Northeastern Ohio takes steps toward a sustainable future

*Sustainable Communities Symposium 2000*



Over 200 people participated in a multi-disciplinary symposium at Cleveland State University May 11-13. The goal of the symposium was to form a coalition of strategic partners to advance the practice of Sustainable Development in northeastern Ohio. Sustainable Development is the practice of planning and implementing growth in ways that increase quality of life and economic stability while protecting and preserving the natural environment. The Sustainable Communities Symposium 2000 (SCS 2000) was the culmination of nine months of planning and strategy development by work groups focusing on Business & Economics; Infrastructure; Architecture & Urban Design; Political & Legal Aspects. Additional work groups concerning Health and Neighborhood Action were convened at the time of the symposium. The conference was well attended, with over 200 participants for

the Thursday and Friday sessions. Representatives from business, citizens groups, as well as federal, state and local governments took active roles and made presentations during the sessions. Challenges and opportunities for sustainable growth in the region were discussed and specific actions identified.

Highlights of the conference included a keynote address about the importance of direct community involvement by Greg Watson and facilitation presentations by Gary Lawrence. Mr. Watson is Director of the Massachusetts Renewable Energy Trust and former director of the Dudley Street Neighborhood initiative. Mr. Lawrence is an international consultant, President of Sustainable Strategies and Solutions Inc, and former planning director for the city of Seattle.

Following the symposium, action items and recommendations are being evaluated by the planning committee. The planning committee is chaired by Phil Hart, past President of the Cleveland Chapter of the

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American Institute of Architects. The planning committee intends to sustain the momentum from the conference, including maintaining and promoting a network of the symposium participants and stakeholders. Additionally each of the work groups associated with the symposium are to meet on a continuing basis and refine and pursue initiatives for promoting sustainable development in Northeastern Ohio.

For information on sustainable development techniques and opportunities visit [www.epa.state.oh.us/opp/sustainable/p2sustainability.html](http://www.epa.state.oh.us/opp/sustainable/p2sustainability.html). For information about SCS 2000 visit their web site at [www.scs2000.org](http://www.scs2000.org) or by contacting Phil Hart at (216) 321-3355 or David Beech at [dbeech@ecocleveland.org](mailto:dbeech@ecocleveland.org) or (216) 932-3007. Detailed coverage of the SCS 2000 will soon appear in a special edition of the EcoCity Cleveland Journal at [www.ecocleveland.org/](http://www.ecocleveland.org/).

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