



THE ALDO  
LEOPOLD  
FOUNDATION

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#### Overview

- Location: Baraboo, Wisconsin
- Type: Interpretive Center/Office
- Size: 12,000 sq. feet
- Scope: 3 one-story buildings
- Completed April 2007
- LEED-Platinum (61 points)
- Zero Energy Building

#### Prepared by:

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### ***The Land Ethic in Physical Form: “How can we ensure both people and the land will prosper in the long run?”***

The Aldo Leopold Legacy Center is a structural response to that difficult question, or in the words of Buddy Huffaker, executive director of the Aldo Leopold Foundation, “an attempt to place the Land Ethic in the 21<sup>st</sup> century”. The LEED platinum structure is located near Baraboo on the Wisconsin River, less than a mile away from Aldo Leopold’s famous “shack.” Leopold’s Land Ethic guided the design and application of the building with the goal of achieving a state of harmony between men and the land. The structure, completed in April 2007, not only meets the highest standards of the U.S. Green Building Council, but also sustains the health, wildness, and productivity of the land. *The Leopold Center uses 70% less energy than a typical building of its size*, demonstrating that building owners can meet tomorrow’s energy conservation goals with today’s techniques and technologies. Such measures make it possible for on-site renewable technologies to produce or capture more than enough energy to meet the Leopold Center’s requirements each year.

Energy savings were realized through a combination of savvy design, scrutiny of building components, and renewable energy sources. About half of the Leopold Center’s energy savings come from low-tech solutions like higher levels of insulation, overhangs that allow the sun in during the winter yet block it out during the summer, and plentiful windows allowing for cross ventilation as well as natural sunlight to eliminate the need for electric lighting. Most of the structural components are locally sourced, with nearly 100% of the building’s woodwork derived from pine trees planted by Leopold and his family. Other locally harvested material has been used for the exterior siding, flooring, furniture, and interior paneling. Ground-source heat pumps connected to a radiant floor slab provide natural heating and cooling, and an earth-tube system provides tempered fresh air.



### **Solar Electric Specifications**

- Panel Model: Kyocera KC 200W
- Number of Panels: 198
- Capacity: 39.6 kW
- Average output: 50,000 kWh/yr
- 9 Aurora 3.6 kW inverters
- Utility: Adams-Columbia Electric Cooperative
- Year of installation: 2008
- Installer: H&H Solar
- Incentives: Adams-Columbia Electric Cooperative grant

### **Further Information:**

#### **Aldo Leopold Foundation**

The Leopold Center Brochure

<http://www.aldoleopold.org/visit/LeopoldCenterbrochure.pdf>

Meeting Tomorrow's Energy Goals

<http://www.aldoleopold.org/Visit/energy.shtml>

#### **American Institute of Architects**

Top Ten Green Projects

<http://www.aiaopten.org/hpb/overview.cfm?ProjectID=946>

The 198 solar panels that cover two of the buildings' south-facing roofs make the Leopold Center home to the second largest photovoltaic (PV) array in Wisconsin. As part of its attempt to source material and labor locally, the Leopold Foundation hired Madison-based H&H Solar to install the PV system. In combination with the energy efficient design measures and geothermal system, the PV array provides the campus with a "net zero" energy budget, producing more energy than the buildings consume over the course of a year. The array produces a total of 60,000 kilowatt-hours of energy per year—enough to meet the needs of 5 typical homes in the region. The solar electric installation is projected to produce 10% more energy than is consumed by the Leopold Center annually. Despite this average surplus, the Leopold Center remains a customer of Adams-Columbia Electric Cooperative. This arrangement with Adams-Columbia enables the surplus energy produced in the summer to offset electricity use during the less productive winter months. A separate rooftop system captures sunlight and converts the energy into thermal energy used to preheat water used by the Leopold Center. Together, these renewable energy installations and efficiency measures produce a functional and educational resource that will carry Aldo Leopold's Land Ethic into the 21<sup>st</sup> century.

