Solar Array Project - The McKay Visitor Center at the University of Wisconsin-Madison Arboretum

The UW-Madison Arboretum is a pioneer in land restoration and conservation. It serves as a research and teaching facility and provides a place for people to enjoy the beauty of our natural surroundings as they were before the land was cleared for development.

Restoration isn't just for the land. It's important for our air and water too. Energy use plays a big role in our impact on the environment. Burning fossil fuels to produce electricity affects air and water quality. As energy use grows, we need to find ways to reduce the impact.

Capturing energy produced by the sun is one option. Solar energy is clean; no emissions are released into the atmosphere. It also avoids the environmental effects of drilling for oil and gas and mining for coal.

The Solar Array Project at the Arboretum's McKay Visitor Center is a partnership between the University and Madison Gas and Electric. We are working together to

raise the visibility of solar energy and to provide data about its suitability for our area.

The electricity produced by the array is fed into the local power system. It offsets power that would have been produced by power plants. The Arboretum is paid a percentage of the value of the electricity generated.

For more information, call the MGE Home Energy Line at 252-7117 or visit mge.com/solar.

Project features

- Building-integrated array. The system produces energy and serves as the roofing material. The fiber-reinforced, cement roofing slates can be cut, punched and notched.
- Innovative retro-fit improves system performance. MGE discovered that as much as one-third of the generated power was lost to system components used to convert direct current to alternating current. To correct this problem, MGE now uses the center's lighting control system to shut off the energy-hungry components during nighttime hours, now only about 5% of the power is lost.

Technical description

- The entire system is called an array. The array is made up of 700 SUNSLATE modules.
- The array is rated at 8.54 kW. Each module at 12.2 watts.
- Annual energy production is 6,500 kilowatt-hours (kWh). An average MGE residential customer uses 7,000 kWh per year.
- The array is 90 feet long by 10 feet high.

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