

Ohio Public Power Prepares To Harness The Sun



Asked to name a sunny spot in the United States, one would not quickly identify Ohio. Wedged between the Great Plains and the Eastern Seaboard, the Buckeye State is more likely to be associated with harsh winters and summers punctuated by fierce late afternoon thunderstorms. Yet, if solar panels covered only 0.5 percent of the entire state, solar power could supply enough electricity to serve Ohio's yearly residential load (43,280 million kWh), according to John Thornton of the National Renewable Energy Laboratory.

The solar power option has generated enthusiasm among a group of public power utility managers from Ohio who traveled to California last year to visit the nation's leading solar utility, the Sacramento Municipal Utility District. Public power utilities are leading efforts to bring grid-tied solar electricity to Ohio. Solar photovoltaic components are manufactured in Ohio but sold largely overseas. An expanding domestic solar market could add jobs and provide an environmentally friendly power option locally if sun power keeps rising in Ohio.

The public power managers who trav-

eled to Sacramento have organized a group, the Ohio Municipal Utility Leaders Workshop, to promote development of solar power in the state. Since their pilgrimage to California, they have taken several steps aimed at adopting solar power:

Bowling Green Municipal Utility is

evaluating construction of a 10-kW photovoltaic system and matching the utility's funding for the system with voluntary "green contributions" from customers. Last August, BGMU conducted a bill-stuffer survey of consumers to determine interest in a PV green power program. The utility has designed a "green" electric rate as part of a cost-of-service study.

"We were surprised to learn at SMUD that Bowling Green gets 80 percent of the available solar energy that Sacramento does," says BGMU Director Daryl Stockburger, "and our recent customer survey shows Bowling Green consumers say they will pay more for electricity from a new solar resource."

Last September, BGMU received a PV system design from the nearby Toledo-based Solar Cells Inc., a PV manufacturer of thin-film solar arrays. Solar Cells operates Ohio's only grid-tied PV system—a 30-kW unit (expandable to 100 kW) linked to the Toledo Edison Co.—which the municipal solar leadership group members and staff of the Bowling Green State University visited last September. The university is a potential customer for the BGMU community solar project.

Our recent customer survey shows Bowling Green consumers say they will pay more for electricity from a new solar resource.

Yellow Springs Municipal Utility has adopted a PV net metering ordinance to allow customers with solar or wind generation to offset their retail rates with electricity generated from photovoltaics. Applying to both residential and business customers, the ordinance states: "Net metering (an interactive interconnection between the village's utility system and the consumer's electric service panel using a standard kilowatt-hour meter capable of registering the flow of electricity in both directions) is allowed when on-site generating capacity does not exceed 25 kW and is derived from solar and/or wind power." Under the net metering ordinance, several large customers can use the village power system's "standby generation rate" to help the village's supplier, Dayton Power & Light, when emergency power transmission is needed under an interruptible contract clause.

Municipal electric utilities in Cleveland, Cuyahoga Falls, Jackson and Oberlin all say they would consider PV in the future. Public building applications for PVs and potential green market surveys of consumers are initial considerations. A new \$6 million environmental studies building at Oberlin College will feature a rooftop PV system tied to a hydrogen-driven fuel cell, which will provide more electricity on a yearly basis than it would use. The National Aeronautics and Space Administration at Cleveland's Lewis Research Center helped design the Oberlin solar array. Antioch College, located at Yellow Springs, also is deploying a PV system on a science building as part of a NASA science grant.

Sponsored by the Safe Energy Communication Council with a grant by Cleveland's George Gund Foundation, the municipal leaders explained their plans to implement new solar and energy-efficiency applications at the American Municipal Power-Ohio annual meeting in October 1998. This effort built on a 1995 SECC report of specific Ohio case studies showing \$13.8 million in an-

Ohio Solar Power Advocates

Participants in the group of municipal utility officials working to promote development of solar power in Ohio include:

- Dr. Ramona Cormier**, city of Bowling Green Board of Public Utilities
- Daryl Stockburger**, Bowling Green utilities director
- Bill Patmon**, Cleveland city councilman
- Mark Hogan**, Cleveland council systems coordinator
- Jim Majer**, commissioner, Cleveland Public Power
- Jackie Boesinger**, deputy commissioner of marketing, Cleveland Public Power
- Valerie Carr**, city of Cuyahoga Falls deputy service director
- Jay Myers**, assistant superintendent, Cuyahoga Falls Electricity Department
- Tom Evans**, mayor, city of Jackson;
- Ron Speakman**, director of public service/safety, city of Jackson
- Ken Sloan**, Oberlin city councilman
- Robert Morse**, utility director, city of Oberlin
- Don Hollister**, Yellow Springs village councilman
- David Heckler**, Yellow Springs village manager.

SECC Executive Director Scott Denman, another Ohio native, managed the project. In Sacramento, guest public power speakers included former SMUD Board Member Ed Smeloff and former Osage, Iowa, municipal power chief Wes Birdsall.

nual energy efficiency savings. "Power Boosters: Ohio's Energy Efficiency Success Stories" features 19 energy-efficiency studies and profiles 11 energy-efficient product manufacturers that employ 5,700 Ohioans. SECC followed up in 1996 with "Ohio's Home Power Boosters"—a report on residential energy-efficiency success stories. (For information on the reports, see SECC Web site at www.safeenergy.org.)

At SMUD in February 1998, workshop participants were introduced to solar applications in a series of presentations and on-site visits to PVs installed by SMUD on residences, churches, commercial buildings and lighting uses. SMUD PV Program Manager Don Osborn, an Ohio native, conducted the briefing. At SMUD's Hedge Substation, the Ohioans saw several vintages among the 0.5 MW of PVs,

including the PV shingles that look like standard asphalt roof shingles.

The SMUD "Greenery" program to sell solar and other renewable energy into the California retail electric market showed the Ohioans how public power can provide green power in a restructured electric industry. A leader since 1992 in the Utility Photovoltaic Group, SMUD is partnering with several public power utilities to accelerate PV commercialization. These partners include: in California, the city of Roseville, Alameda Bureau of Electricity, Los Angeles Department of Water and Power, and Northern California Power Agency; elsewhere: Western Area Power Administration, Citizens Utilities, Salt River Project and Tucson Solar Alliance in Arizona; the National Park Service; and MainPower in New Zealand.



Bowling Green Municipal Utility has designed a “green” electric rate as part of a cost-of-service study.

Ohio public power utilities, through AMP-Ohio, are opening a new renewable energy resource in 1999—the 42-MW “run-of-the-river” hydroelectric plant at the Belleville locks and dam on the Ohio River. Already, the municipal electric utility in Hamilton gets half of its energy from the 70-MW Greenup hydroelectric dam on the Ohio River. Jackson Municipal Electric Utility was the first public power utility to push for the Belleville hydro plant in 1986. Solar installations could enhance the hydro base of renewable resources for a “green pricing” offering to Ohio municipal customers. The Oberlin Municipal Electric Utility is also working through AMP-Ohio and other municipal utilities to develop a 35-MW biomass energy source from landfill gas.

Before attending the SMUD solar and energy-efficiency sessions, the Ohio municipal leaders conducted an energy audit of their communities with the assistance of the Center for Clean Air Policy’s Catherine Morris. The audit identified energy use and provided direction on where renewables and energy efficiency could provide value to public power customers.

Each of the Ohio communities sent a representative of the local government and the electric utility to Sacramento. A good faith effort to put what was learned at SMUD into effect in Ohio was agreed upon up front in a letter from each utility

to SECC, the workshop sponsor. Action plans for each municipal utility were initially outlined at the end of the SMUD training. Meetings to refine these efforts were held in Ohio in May, July and September 1998.

After the July gathering at AMP-Ohio, several members of the group attended a statewide meeting of persons seeking to reactivate an Ohio chapter of the American Solar Energy Society. The meeting of solar enthusiasts was held at the Vanner Power Group in Hilliard, a suburb of

Columbus. Vanner makes inverters for PV systems.

At the solar meeting, American Electric Power Co., the Foundation for Environmental Education and the Worthington Schools announced that a PV system would be installed at nearby Bluffview Elementary School as part of the federal Million Solar Roofs Initiative. The American Solar Energy Society solar home tours in Cincinnati, Cleveland and Toledo also provided a link to current and potential PV consumers.

Declining PV costs, the grid connection of solar units to utility systems, and green pricing and green marketing opportunities distinguish the current approach to renewables from the ’70s oil crisis approach, which was primarily driven by tax credits. Overcoming the conventional wisdom that there is not enough sunlight in Ohio for PVs, the municipal utilities’ solar actions should demonstrate whether Ohioans will buy “green power” from the sun, when given the opportunity. ■ Bill Spratley

A new \$6 million environmental studies building at Oberlin College will feature a rooftop PV system tied to a hydrogen-driven fuel cell.

The author served as Ohio’s first Consumers’ Counsel from 1977-1993 and was the founding president of the National Association of State Utility Consumer Advocates. He now consults for public interest clients on commercialization of solar energy and publishes the bimonthly LEAP Letter, reviewing state electric industry restructuring actions.