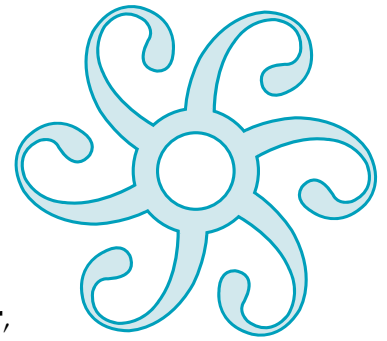


# ETHICAL ENERGY

Wisconsin Interfaith Climate & Energy Campaign

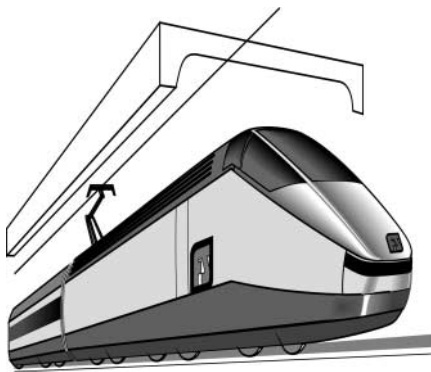
Spring, 2005 / Volume 3, Issue 3



## The Long Emergency

By James Howard Kunstler

I call this coming time The Long Emergency. Most immediately we face the end of the cheap-fossil-fuel era. It is no exaggeration to state that reliable supplies of cheap oil and natural gas underlie everything we identify as the necessities of modern life ... We are faced with the global oil-production peak. Our lives will become profoundly and intensely local. Daily life will be far less about mobility and much more about staying where you are. Anything organized on the large scale, whether it is government or a corporate business enterprise such as Wal-Mart, will wither as the cheap energy props that support bigness fall away. ...



...The automobile will be a diminished presence in our lives ... America today has a railroad system that the Bulgarians would be ashamed of. ...if we don't refurbish our rail system, then there may be no long-range travel or transport of goods at all a few decades from now.

The Long Emergency is going to be a tremendous trauma for the human race. We will not believe that this is happening to us, that 200 years of modernity can be brought to its knees by a world-wide power shortage. The survivors will have to cultivate a religion of hope -- that is, a deep and comprehensive belief that humanity is worth carrying on...and to be fully engaged in meaningful social enactments instead of being merely entertained to avoid boredom. Years from now, when we hear singing at all, we will hear ourselves, and we will sing with our whole hearts.

*Excerpted from The Long Emergency, 2005, by James Howard Kunstler, and reprinted with permission from the author.*

## The WICEC Interview:

**James Howard Kunstler,**  
Author of The Long Emergency

Sarah Streed, WICEC Executive Director, interviewed author James Howard Kunstler, when he recently spoke in Madison.

SMS: Why do you think most Americans have never heard the term "Global Oil Production Peak"?

JHK: There's a lot of cognitive dissonance right now in our collective national imagination. That tends to be a product of a society under stress. [Americans] are bombarded with a lot of useless and stimulating information constantly and we're having trouble sorting out what's meaningful from what is just drivel.

SMS: So what would be some of the meaningful things?

JHK: ...That our expectations for continuing to live in a driving utopia are unrealistic. That we face a discontinuity in the systems we depend on in daily life.

SMS: So what is the answer to the "global energy predicament" we now face?

JHK: ...We're going to have to downscale all our activities in America... along with that, we're going to have to live much more locally than we do... We'll have much different relationships with the people in our community—probably much more complicated and meaningful relationships.

SMS: You ended the article by saying, "We will have to cultivate a religion of hope." Do you think of this as a spiritual thing?

JHK: Yes. I think we live in a society that in some ways is depraved at the most ordinary level. ...I think that some people will find a pathway toward a different belief system. ...The more fortunate places will be where people can develop cohesive communal agreement and arrive at a new values system.

*To read the complete interview, along with the full book excerpt that appeared in Rolling Stone magazine, go to [www.wicec.org](http://www.wicec.org) and click on Events.*



# The Advantages Of Fuel Cells

By Wayne Stroessner,  
WICEC Board President; Random Lake

There are dozens of different types of fuel cells, but they can be narrowed down into six basic kinds that are distinguished from each other by their use of different electrolyte materials:

1. Alkaline Fuel Cell (AFC)
2. Molten Carbonate Fuel Cell (MCFC)
3. Phosphoric Acid Fuel Cell (PAFC)
4. Proton Exchange Membrane Fuel Cell (PEMFC)
5. Solid Oxide Fuel Cell (SOFC)
6. Direct Methanol Fuel Cell

All fuel cells are highly efficient and very reliable, but because they are not mass produced, their costs are still fairly high. Fuel cells are electrochemical power generators. As long as fuel—such as hydrogen or natural gas and air—is supplied—a fuel cell will continue to produce electricity and heat without combustion and thus, reduce the pollutants associated with burning fuel.

The PEM Fuel Cell is most commonly discussed because it is the type that is being used in automobiles and requires pure hydrogen to work effectively. It produces electricity, heat (approximately 180° F) and pure drinkable water as its only “waste” product. Instead of waiting for the automobile industry to fully develop affordable fuel cell vehicles, it is possible to develop the hydrogen economy by using the benefits of other types of fuel cells. Several types operate at much higher temperatures and use a wider variety of fuels. A Connecticut company, FuelCell Energy, Inc., has developed fuel cells called Direct FuelCells because unlike other fuel cell technologies, they can use hydrocarbon fuels without the need to first create hydrogen in an external fuel processor. (Go to: <http://www.fuelcellseminar.com/pdf/2004/465%20Ghezal-Ayagh.pdf>)

The centralized fossil fuel utility plants proposed for Oak Creek will burn pulverized coal, which releases a host of toxins, including: carcinogens, carbon dioxide, nitrogen oxide, sulfur oxide, particulates, and heavy metals (especially mercury.) Millions of gallons of water from Lake Michigan would be used to cool the turbines and most of that absorbed heat will be dumped back into the lake at a higher temperature. The electrical efficiency of such plants is 30%–35% at best. The rest is wasted energy—mostly heat. On the other hand, when fuel cells are distributed at sites of use, most of the energy is captured and used on site. Electrical efficiency is around 40% or more and the use of the resulting heat energy brings the total efficiency to 65% or more. (If a microturbine is used in combination with the fuel cell, a 75% efficiency can be attained.)

Direct FuelCell Energy products are used in the following places:

- *Pepperidge Farm Bakery*

- *Santa Barbara Wastewater Treatment Facility (The methane gas produced by the sewage plant produces electricity for the grid in addition to providing heat for the treatment plant.)*
- *Starwood Hotels (both electricity and heat)*
- *U.S. Postal Service's San Francisco Mail Processing Center*
- *Marubeni sites power plant at Tokyo “Super Eco Town”*
- *U.S. Army Engineer Research & Development Center*
- *Sierra Nevada Brewing Company*

Fuel cells are far more efficient than any present fossil fuel burning energy plant. So why can't we convince the utilities to get twice as much energy out of the same amount of fuel—especially when it's so much cleaner?

To receive a list of web sites concerning fuel cells and hydrogen economy development, send an email request to the author at [wstroessner@wi.rr.com](mailto:wstroessner@wi.rr.com)

## Energy Facts

By Roy McAlister,  
President of the American Hydrogen Association

How much fossil fuel have we used?

1. The total amount of fossil oil—including all that has been burned, plus all that can be produced—is about 1,750 giga-barrels (giga=billion)
2. All of the earth's oil accumulated over millions of years is the energy equivalent to one day of sun. Each day our earth receives 14.7 (10<sup>18</sup> BTU) of solar energy.
3. This means that if we had a one-time burning of all the 1,750 giga-barrels of oil that have ever existed, this would not equal the solar energy reaching earth each and every day.
4. If we applied tested and proven technologies to the area of desert between Phoenix, Yuma and Tucson, we could produce more electricity and/or hydrogen than all the energy currently required by the United States, Mexico and Canada.



### Wisconsin-India Connection

Forest Officer hands over carbon certificate and check at the start of the collaboration between Aliguda village and WICEC. For information on how to join this WICEC Carbon Offset project and offset your own CO<sub>2</sub> emissions, go to [www.wicec.org](http://www.wicec.org)

# The WICEC WATT A WINNER! Award

This issue's "Watt A Winner!" award goes to the **West Campus Cogeneration Facility** operated by Madison Gas & Electric. This brand-new power plant, which went online this spring, provides 150 megawatts of electricity to UW-Madison and other MGE customers. More importantly, the plant is one of the cleanest in the nation, using more efficient methods and stricter emissions controls. The facility will emit 1/10,000th of the sulfur dioxide, 1/90th of the nitrogen dioxide, and half the carbon dioxide of the University's dirty Charter Street coal plant. It will emit no mercury. This is clearly the type of power production Madison needs.

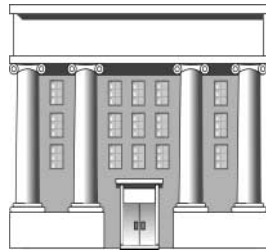


## In Brief...

### The Good And Bad Of UW Power

By Alec Luhn

Although UW-Madison has taken a big step towards more efficient energy production with the opening of the West Campus Cogeneration Facility, there's still a long way to go.



This facility operates as one of the cleanest fossil-fuel plants in the nation. But the Charter Street coal plant just across campus dumps 10,000 times more soot into the air, operating without modern environmental controls. (There are also environmental & health concerns about MG&E's Blount Station.)

The Charter Street plant provides the University with much-needed electricity, but it spews out sulfur dioxide, nitrogen oxide, carbon dioxide and mercury into the air of downtown Madison. These emissions contribute heavily to Madison's levels of mercury, soot and smog. Even more shocking, the plant is located next door to student housing.

To protest the Charter Street plant's abysmal environmental track record, the Madison Clean Energy Coalition sponsored a march on Friday, April 22 (Earth Day). UW-Madison Chancellor John Wiley has expressed concern at the use of non-renewable energy, but said the University must be provided with sufficient power.

### Clean Air Action Days: Dane County, Summer 2005

By Alec Luhn

The process of environmental change takes place one day at a time. To that effect, the Dane County Clean Air Coalition recently announced plans for Clean Air Action Days.

The Action Days will be called this summer whenever weather and air quality data predict large amounts of ground-level ozone. On these days, the ozone could reach unhealthy levels for children, older adults, asthmatics and any adult engaged in vigorous activities outdoors.

Businesses, government agencies and citizens are asked to do their part by:

- Reducing vehicle travel through carpooling, biking, or taking the bus
- Waiting until after 6 p.m. to fuel vehicles
- Waiting to mow the lawn or using push mower
- Rescheduling painting
- Conserving electricity

Dane County residents will be notified on Clean Air Action Days by local news media. Citizens also can call the Wisconsin Daily Air Hotline at 1-866-Daily Air.

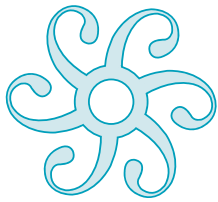
Residents can ride the bus for free on the first five Action Days, courtesy of Madison Metro.

### The WICEC Office is in Need of the Following:

1. FAX Machine, 2. Scanner with software for both text and graphics, 3. Tape recorder for transcription purposes,
4. A laptop for WICEC's new office worker, 5. Desktop computer

If you or your business can donate any of the above, please contact [sarahstreed@wicec.org](mailto:sarahstreed@wicec.org)

All gifts are tax-deductible.



**WICEC**

Wisconsin Interfaith Climate & Energy Campaign

525 Lincoln Avenue  
Stoughton, WI 53589

Sarah Streed,  
Executive Director  
Phone: 608.873.3273  
Email: sarahstreed@wicec.org  
**Web: www.wicec.org**

Editor: Sarah Streed  
Asst. Editor: Marcia Woodzick

**WICEC Membership  
JOIN NOW!**

WICEC Membership is a whole lot more than joining another club...It's a commitment to a way of living. Join efforts with others who feel as you do. Use the enclosed envelope for your convenience. If the envelope is absent, send to the WICEC office at:

**525 Lincoln Ave  
Stoughton, WI  
53589**

**Annual Membership**  
\$35.00

**Students, Low Income & Seniors**  
\$20.00

**Corporate Membership**  
\$100.00-500.00

**Congregational Membership**  
\$100.00

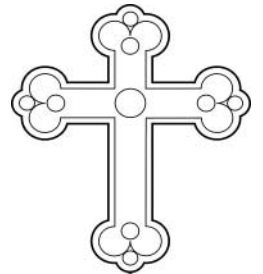
**Commercial Membership**  
\$100.00



**We Mourn The Passing Of An Environmentalist:  
Pope John Paul II**

By Brett Hulsey

People of faith who are deeply concerned about the environment have lost a leader with the death of Pope John Paul II. His 1990 annual message "Peace with All Creation" was a major force in promoting protection of the environment. He spoke of how ecological collapse is everyone's concern, saying, "It is manifestly unjust that a privileged few should continue to accumulate excess goods, squandering available resources, while masses of people are living in conditions of misery at the very lowest level of subsistence."



In "The Ecological Crisis: A Moral Problem" the Pope said, "[There is a] lack of respect for life evident in many of the patterns of environmental pollution."

He was consistent in his protection of all life, including the natural world. He addressed quality of life and how it interacts with land use issues: "Good urban planning is an important part of environmental protection, and respect for the natural contours of the land is an indispensable prerequisite of ecologically sound development."

Since then, the U.S. Conference of Bishops has worked on smart growth with many groups. The group Catholic Rural Life has worked with conservation groups to protect family farms and critical habitat.

*Pope John Paul II was also featured in a Sierra Club magazine article in 2001.*