Michigan Interfaith Power and Light (MiIPL)

…Faith in Action….

In this issue…

Rev. Charles Morris
Executive Director

Mark H. Clevey
Senior Editor

In 1997 Rev. Sally Bingham, San Francisco Grace Cathedral, formed the Episcopal Power and Light ministry to educate members about energy efficiency, green power and deregulated energy.

In 2002, Father Charles Morris, St. Elizabeth Catholic Church, Wyandotte, MI, teamed with the Small Business Association of Michigan (SBAM), ENERGY STAR Program to launch an IPL in Michigan. The purpose of Michigan Interfaith Power & Light (MiIPL) is to ***involve communities of faith as stewards of God's creation by promoting and implementing energy conservation, energy efficiency, renewable energy and related sustainable practices***.

MiIPL Newsletter

Vol I, No. 2
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Message from the Director

Welcome to the fall edition of our Michigan Interfaith Power & Light [MiIPL] newsletter. Much has happened since we began over the summer. MiIPL recently received its tax exempt status from the IRS. So now any contribution to MiIPL is tax deductible. We also have several congregational members who have experienced our congregational audits – from Grosse Pointe to Cadillac, from Detroit to Mount Pleasant. As we are grow and form relationships with jour partner congregations we are finding ways in which we can learn from one another.

One parish, St. Mary Magdalen in Brighton, as we have found, has done some exciting things when they renovated a few years ago. So now they are a prototype energy efficient facility. A couple of our Detroit members, St. Peter Episcopal and St. Augustine/St. Monica Catholic, both have asked how MiIPL might be able to assist them in the installation of photovoltaics on their roof. We state that if we got a few more members in Detroit who express a similar interest we believe we can help make that shared vision a reality for sustainability in Detroit.

We are now actively in the midst of planning our fall conference at Marygrove. In addition to the Rev. Sally Bingham we now have several other major figures in the world of energy and energy policy who will be speaking at the Conference.

First, Bishop Frank Reiss, whose parish of St. Francis Cabrini was the first congregation to ask for a congregational audit, will give the invocation. We are also honored to have as our luncheon speaker the Hon. J. Peter Lark, the new chairperson of the Michigan Public Service Commission. Mr. Lark will address how the faith community can work in harmony with the sustainable business community and the energy regulators in helping to forge a new vision for energy policy in the State of Michigan. And also speaking at lunch will be Mr. Jerry Lawson from the U.S. EPA. Mr. Lawson is the National Director of the ENERGY STAR® for Congregations and for Small Business.

This Conference is historic in that it is the first time that members of the faith community, the green builders and government policy makers have gathered in one room to share and pray together, and learn from one another.

I want to add that we are very blessed to have Rev. Bingham with us not just at the Conference. She is to speak Saturday, November 8 at 7:00 p.m. at St. John Parish in East Lansing. So if Detroit might appear to be a little far for some folk in the west and northern parts of the State to drive they will be able to hear and meet Rev. Bingham there.

What is so special about this ministry is the impact MiIPL makes on so many different levels. I believe there are at least seven fruits of congregational involvement in MiIPL.

1. ***Stewardship*** -- Energy is one area in every congregation where one can cut expense without having to cut personnel or programs, or asking congregants for more money. By being more energy efficient one models for the congregation sound stewardship.
2. ***Justice*** -- Every dollar saved on energy is a dollar that can feed a hungry person, share the message of your faith, pay a just salary, etc.
3. ***Equity*** -- Congregations in urban areas tend to inhabit the old, energy inefficient buildings compared to congregations inhabiting newer buildings in the suburbs. Urban congregations tend to carry greater human needs. At the same time they are often the most resource strapped. Consequently assistance in making these houses of worship more energy efficient will be of special help to urban congregations.
4. ***Health*** -- As we provide congregations with material such as paint or lawn care less dependent on chemicals they provide healthier environments for their congregants. They also contribute to a healthier planet. For example, bolstering the market for flooring from cork or bamboo or other renewable resources carry less of a negative ecological impact that getting floors from hardwood.
5. ***National Security*** -- If we are going to reduce our dependence on foreign oil and increase our level of national security then it behooves us people of faith to both reduce our need for energy produced from fossil fuels and look for alternative ways to produce energy from clean, renewable resources such as wind or biomass.
6. ***Prophetic*** --We as the faith community proclaim in our statements an alternative future where we are going to reduce our emissions of greenhouse gasses and proclaim the merits of a sustainable society powered by renewable sources of power, if we are to proclaim our care for creation, for the common good, for the poor, for non-human life and for future generations. However, if we are going to do that we have to match our words with deeds. We have to "walk the talk". If we are going to ask for change in our governmental policies and in the way we do business we, the community of faith, need to model our words with action. We preach best when we lead by example. MiIPL offer the way that we can effectively make powerful witness against global warming.

There is another reason we need to be concerned. In early October of this year scientists from Sweden's University of Uppsala announced an estimation that we will begin to run out of oil and natural gas in about ten years. At that time demand will far outstrip supply. Whether their calculations are true or not [2030 is the most optimistic date of any of the studies I have seen.

In our next issue we will not only go into detail as to how MiIPL helps congregations practically through the audits, through the opportunity for aggregated buying, through the evening of energy education for congregants, through saving on electricity by participating in an aggregated electric choice program. We will also begin to explore what our various traditions have stated about global warming.

In this issue we have begun a new column on meeting our Board. This issue features Ed Kohl's story. I think you will find it both interesting and motivating.

Rev. Charles Morris

MiIPL Milestones:

❖ ***First Annual MiIPL Conference – November 7, 2003*** - The first Annual MiIPL Conference, focusing on sustainability will focus on green building practices, green energy technologies (renewable energy) and green products (biobased materials and ENERGY STAR rated products).

The conference will be held Friday, November 7 at Marygrove College. Rev. Sally Bingham, the founder of the Interfaith Power & Light movement (now in over a dozen states) will be our keynote speaker.

The next evening, Saturday, November 8, at 7:00 p.m. at St. John Student Parish in East Lansing (a MiIPL member). Rev. Bingham will also be addressing "A Religious Response to Global Warming". ***This will be an important weekend that you and your congregation will won't want to miss!!***

❖ **MiIPL Wins Low Income Energy Efficiency Grant -** MiIPL, in collaboration with our partners (Urban Options, SBAM, the Michigan ENERGY STAR Promotion Project, WARM Training Center, Shepherd Advisors and Credit Union ONE) recently received a 2004 Low Income Energy Efficiency Grant in the amount of $240,000. In the grant application, MiIPL outlined the problem associated with Low Income energy as follows: *"**Give a man a fish and he will eat for a day. Teach a man how to fish and he can feed his family for a year."***

The project will educate the low income energy users with engaging information, guide them with proper energy management techniques, and provide consultation that will help them become more cognizant, energy efficient residents. Furthermore, we propose to assist low income residents by guiding them to the appropriate weatherization service agencies that they are not currently utilizing. Additionally, we intend to make substantial product improvements available for low income residents that are the most energy efficient available in the marketplace. ENERGY STAR endorsed products will be at the core of our energy efficiency message to low income residents.

❖ ***Worth reading…***Edward O. Wilson. The Future of Life. (New York: Alfred A. Knopf) 2002. In this work Wilson describes the natural world treasures we are about to lose forever and what we can do to save them. He explores the ethical and religious bases of the conservation movement and the myth that environmental policy is antithetical to economic growth.

Meet the MiIPL Board

MiIPL has a wonderfully diverse Board. Every issue we will profile one of the Board members. This month we meet Ed Kohl. The following is a little of Ed's own story.

I am a member of Adat Shalom Synagogue in Farmington Hills. I'm a retired engineer and have spent time in the rocket engine, jet engine and automotive engine R&D business. My career has taken me through the Gemini two man in space program, cruise missile, fighter plane and transport aircraft development and finally, into automotive and large diesel engine development. Shelley and I have six children and nine grandchildren. I grew up in Boston and Brookline Massachusetts (the home of Fenway park and the Boston Red Sox).

I really don't know how I became an environmentalist. Possibly it's because I was taught both at home and in my Hebrew religious school not to waste anything as a child, and that good things and beauty are precious.

My environmental activism began in my workplace several years ago when I was instrumental in a company wide paper-recycling program. Since then my synagogue began a complete recycling program encompassing paper, plastic, metal and cardboard which hopefully will be a model for other institutions. My synagogue has also had energy audits, reduced lighting loads, is looking at alternative energy source and investigating a standby generator as an alternative energy source, as well.

I was fortunate to learn about MiIPL thru our MI-COEJL Program Director, Sara Bernstein, who put me in touch with Father Charles Morris. I'm privileged to be founding Board member and Chair of the Marketing Committee. Working with Father Charles, the other members of the Board and tam has been exhilarating and very rewarding. I'm proud to say that my synagogue recently joined MiIPL.

Ed, I can speak for the rest of the Board to say that we are blessed to have you both as a colleague and as a faith-filled voice on behalf of sustainability.

October is Energy Awareness Month

October is energy awareness month and ENERGY STAR has made it easy for congregations to raise awareness about efficient energy use and your organization's energy program! Visit http://www.energystar.gov/energymonth to learn about ways to promote your energy program's achievements and increase employee awareness about energy use at work or home, as well as easy steps to save money, useful facts and figures on energy use and free fact sheets, handouts, and other downloadable resources.

Coalition on the Environment and Jewish Life (COEJL) Celebrates 10 Year Anniversary!

The Coalition on the Environment and Jewish Life (COEJL) recently celebrated their ten-year anniversary. From a modest beginning in 1994, COEJL has established itself as a national organization with a strong reputation among members of Congress, national environmental leaders, and the press as an effective environmental advocate. In the most recent issue of the COEJL newsletter, founding director Mark X. Jacobs reflects on COEJL's past and its future. Here is a link to the newsletter for more information:

http://www.coejl.org/news/nl_su03/Summer_2003.pdf

Benchmarking California Interfaith Power and Light (CIPL)

In 1997 Rev. Sally Bingham, San Francisco Grace Cathedral, formed the Episcopal Power and Light ministry to educate members about energy efficiency, green power and deregulated energy. This effort has spawned an Interfaith Power and Light movement across the U.S. – including Michigan (MiIPL).

MiIPL's mentor - California Interfaith Power and Light's 225 member congregations - collectively have prevented over 19,000 tons of greenhouse gases from being released into the atmosphere over the past year. The reduction in carbon dioxide emissions is equal to taking 3,882 cars off the road or planting 5,467 trees. The congregations achieved this remarkable result by conserving energy and using renewable energy alternatives. Some congregations made major investments by installing solar arrays alongside the steeples on their rooftops, while others took steps as simple as changing a light bulb - an incandescent one to an energy saving compact fluorescent. Read the 2002 - 2003 CIPL Annual Report for details.
http://www.interfaithpower.org/

Congregations join ENERGY STAR

The EPA ENERGY STAR Congregations program recently welcomed 127 new ENERGY STAR for Congregations members. In July, ENERGY STAR for Congregations gave a presentation to the Association of Missionary Baptist Churches of the DC Metro Area. After the presentation, the association adopted a resolution that effectively signed up all 75 of its congregations and pledged to work with the ENERGY STAR for Congregations program. Also in July, 52 churches signed up for the program at a "Church Alive" Ministerial Training event in Maryland. Two of those congregations are among the Washington, DC area's largest houses of worship- Bethesda Baptist Church of DC and Mount Jerrel Baptist Church in Silver Springs, MD.

MiIPL members interested in joining the ENREGY STAR Congregations Program can go to: http://www.energystar.gov/congregations

Profile: KTMIndustries - Green Gazelles Make Profit from Environmental Restoration…

Environmental problems result from how we use technology. Technology that generates waste generally also produces lower productivity and high costs. Small business entrepreneurs also play a particularly key role in environmental markets. As noted by author Paul Hawken, small business is the ***"under story of commerce, where new ideas and diversity arise and are processed into growth."*** For the purposes of the environment and economy Green Small Businesses – Green Gazelles - are particularly important.

"Green Gazelles" are simply businesses that are mining the business opportunity inherent in an economy that products waste: they make and sell products with higher performance and lower costs. ***This makes them green gazelles and, cumulatively, the creative power of these firms an effective market-based solution to environmental issues.***

Located in East Lansing, MI, KTM Industries is a Green Gazelle on the forefront of a rapidly developing new industry in Michigan – BioTerials.

BioTerials combines biology and materials science. KTM is developing has developed an environmentally friendly and cost competitive process – marketed under the Green Cell™ trade name - to manufacture biobased, biodegradable, foam sheets and blocks for packaging. Green Cell products have the performance characteristics of today's petroleum-based foam. However, unlike these products, Green Cell can be completely disposed of in soil or compost operations where it becomes a nutrient (food) for the soil.

Today's petroleum-based foam plastic protective packaging is a $3 billion market in the United States and growing 12% annually. This market is experiencing growing pressure from existing and proposed environmental and disposal regulations, and market based sustainability initiatives. Within this context, issues such as sustainability, industrial ecology, biodegradability, and recyclability are becoming major considerations in a company's product packaging design; especially with single use disposable packaging. Foam packaging is a major environmental problem that directly relates to ISO 14000 series standards. It is mostly air and does not lend itself to a viable economic and environmentally responsible recycling. It is also not biodegradable and does not degrade in soil or composting operations.

KTM has introduced the starch foam material to the packaging market place under the Green Cell™ trade name. Four different grades of Green Cell™ have been developed and are available for various packaging applications. Over the past ten months, the company has sold approximately $100,000 in sample quantities of Green Cell packaging foam for evaluation to Toyota, Nortel, Algonquin Automotive and General Dynamics. Based on successful trials, Toyota Parts Division has specified Green Cell™ foam for packaging their video entertainment systems, automotive headliners, bumpers, windshields, and running board for Toyota, and Hyundai.

KTM has received 1 of 4 "Excellence in Plastics Impact on the Environment" awards from the Society of Plastics Engineers for Green Cell in February 2002. The other 3 award winners were General Motors, Coca Cola and Sony Electronics. KTM also received the "Success Award" from the Michigan Economic Development Corporation (MEDC) in December 2002 for successfully commercializing Michigan university-based technology. Finally, KTM has received the prestigious "Green Gazelle" designation from the Center for Small Businesses and the Environment (CSBE). KTM is also a member of the Small Business Association of Michigan (SBAM) and Chairs a Subcommittee on Bio-Based Business Development.

For further information please contact:

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***Green Power Primer*... By, Mark H. Clevey**

This article is a second in a series on Renewable Energy designed to make it easier for MiIPL members to purchase **both** Grid Connected and/or Stand-alone renewable energy (on site and/or off site). Renewable energy – or Green Power - offers MiIPL members the opportunity to reduce our dependency on imported oil, stimulate new business and related economic development and reduce pollution. In this issue we will begin a discussion of Fuel Cells.

Let's recap. The National Association of Attorneys General defines a "renewable" energy source as, *"any energy source that is naturally replenishable and replenished on some reasonable time scale. Renewable energy*

sources include, but are not limited to, wind, sun, heat from the earth's interior, oceans and rivers, and eligible biomass." Under current legislation, the State of Michigan also includes "waste-to-energy" in the definition of renewables (PA 142).

Fuel Cells are a rapidly emerging technology and industry with the potential to unshackle us from expensive, supply limited and highly polluting fossil fuels, providing a ready supply of clean, versatile and abundant energy. Fuel Cells are driving a major industrial evolution from the fossil fuel age to the Hydrogen Age. In doing so, Fuel Cells are creating many opportunities for the creation, retention, expansion and attraction of entrepreneurial and innovative small businesses. Because of durable-goods expertise, Michigan should be the world leader in the manufacture and use of fuel cells power by hydrogen generated from renewable energy

Fuel Cell technology benefits from a number of factors. Materials technology has allowed Fuel Cells to generate higher efficiencies at lower costs. Furthermore, as environmental costs associated with fossil fuels rise, Fuel Cells become more and more attractive.

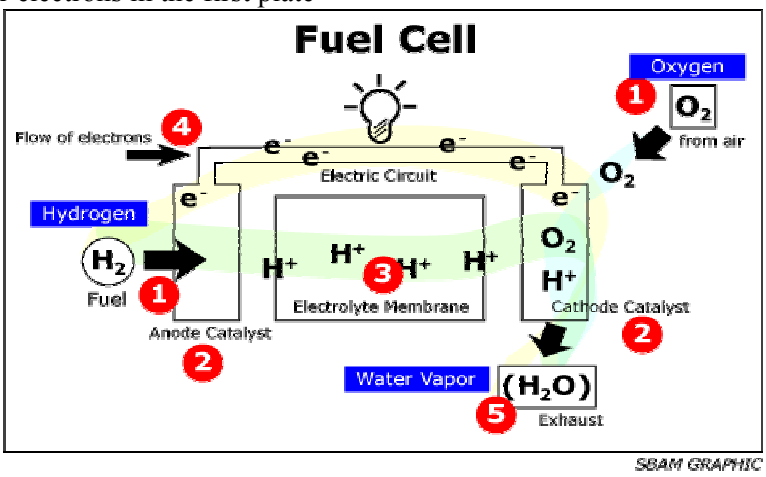
The universe is made up of two things: matter (stuff) and energy (makes the stuff do things). All matter and energy are made of basic building blocks called "elementary particles." An "electron" is an elementary particle consisting of energy in the form of a single electrical charge. Electrons can be combined into a static discharge (spark, lightening, etc.) or a controlled flow of electrons. When a flow of electrons are channeled through wires they become electrical current (power). When electrical current (power) is run through a device (e.g., light bulb) work is generated (i.e. light).

In practical terms, electrons and electricity are typically generated by burning energy (fossil fuels - oil, gas, etc.) to create heat. In a power plant, the heat is used to boil a liquid and generate high pressure steam. The high pressure steam is used to turn a generator that creates electrons (power). The electrons are channeled into wires to create electrical current (a flow of electrons). In a car engine, fuel is burned to create heat and pressure inside the engine cylinders. The pressure is used to make pistons move up and down inside of the engine cylinders and to turn a crank shaft. The crankshaft movement (power) is channeled to the wheels to create motion (work).

A major downside of burning fuels to create energy is that waste (in the form of exhaust) is generated along with power. Exhaust that can not be used by living things as food is, by definition, pollution. Unlike traditional power generators, Fuel Cells do not burn their source of fuel to generate heat. A Fuel Cell is simply a device that generates a flow of electrons through a chemical reaction instead of by burning a fuel. Because it does not burn a fuel, it causes virtually no air pollution (the exhaust from a Fuel Cell is primarily water vapor). In principle, a fuel cell operates like a battery. Unlike a battery, a fuel cell does not run down or require recharging. It will produce energy in the form of electricity and heat as long as fuel is supplied. Fuel Cells are clean, mechanically simple as a battery, but as easy to refuel as an internal combustion engine.

The first fuel cell was built in 1839 by Sir William Grove, a Welsh judge and gentleman scientist. Serious interest in the fuel cell as a practical generator did not begin until the 1960's, when the U.S. space program chose fuel cells over riskier nuclear power and more expensive solar energy. Fuel cells furnished power for the Gemini and Apollo spacecraft, and still provide electricity and water for the space shuttle. Fuel cells have the potential to power almost everything that operates on electricity (e.g, buildings, cell phones, palm pilots and portable computer) as well as cars, trucks, busses and trains.

Figure 1 illustrates just how a Fuel Cell works. As can been seen, a Fuel Cell consists of two catalyst electrodes (anode and cathode) sandwiched around a membrane (electrolyte). Hydrogen Fuel (1) enters one side of a Fuel Cell and Oxygen (1), from the air, enters the other. As Hydrogen (2) passes over the Anode Catalyst and Oxygen (2) over the Cathode Catalyst, the Fuel cell electrochemically wrings energy out of hydrogen in the form of electricity, water and heat. The hydrogen then pushes through the Membrane (electrolyte) (3) to get at the oxygen. Along the way, the catalyst causes the hydrogen atoms to give up their electrons in the first plate while the hydrogen ions migrate through to the other plate. (4) Hooking up wire between the two plates results in an electric current (flow of electrons), as the electrons stream through the wire to link back up with the hydrogen ions (where the hydrogen atoms combine with oxygen atoms to create water). The current will continue as long as fresh hydrogen is ushered into the first plate. To achieve high power outputs, sets of plates can be stacked together. The Fuel Cell exhaust (5) is given out as water vapor.



(1) "Fuel" is a material used to produce heat or power. Hydrogen -- the simplest, lightest and most abundant of the Periodic Chart of elements on Earth -- can be used directly in Fuel Fells as the source of fuel. Fuel cells can also utilize fuel containing hydrogen, including methanol, ethanol, natural gas, gas from landfills and wastewater treatment plants and even gasoline or diesel fuel. Energy also could be supplied by biomass, wind, solar power or other renewable sources.

(2) A "Catalyst" is something that allows a chemical reaction to take place at a faster rate, or under different conditions, than otherwise possible. In a Fuel Cell, the catalyst is what changes the chemical energy in Hydrogen into electricity.

a. Anode Catalyst –The Anode Catalyst is the electron collecting part of a fuel cell.

b. Cathode Catalyst – The Cathode Catalyst is the electron emitting part of a fuel cell.

(3) A "Membrane" is a material separating two other materials. In a Fuel Cell, the membrane separates the electron and proton that are split off from the Hydrogen atom by the catalyst.

(4) "Electricity" is the flow of electrons through a wire.

(5) Fuel Cell "Exhaust" results from combining Hydrogen and Oxygen to create or water vapor (H2O).

Currently there are several types of Fuel Cells in use or being developed: Phosphoric Acid (PAFC); Proton Exchange Membrane (PEM).; Molten Carbonate (MCFC); Solid Oxide (SOFC); Alkaline; Direct Methanol Fuel Cells (DMFC); Regenerative Fuel Cells; and, Zinc-Air Fuel Cells (ZAFC).

Poets Corner

GAIA, by Mark H. Clevey

I am a stifled witness,
In search of a jury of peers.
To hear my truth and testimony,
To judge the object of my fears.

Because you damn me to hell,
With your pollution and your greed.
Of all my many creatures,
It's only you who makes me bleed.

And for all that has gone before,
And all that is still to come.
Lay waste of my bounty enough,
'Tis the healing left undone.

MiIPL 2003 Membership Form

Contact: ___Mr. ___Ms. __Mrs. __Dr ___Rev. ___ Rabbi ___ Imam ___ Sr. ___ Other: (_____)
Name: _____
Mailing Address: _____
_____
P.O. Box _____City:_____ State:_____ Zip+4_____ _____
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MiIPL is organized exclusively for the purposes of receiving and administering funds for charitable, [religious,] educational and scientific purposes as described in Section 501(c)(3) of the Internal Revenue Code of 1986 (or the corresponding provision of any future United States Internal Revenue Law.

Annual Dues are **$100.00/Congregation, $75.00/Partner, $50.00/Individual)**. Please check payment method:

- Please make ENCLOSED Checks Payable To: "MiIPL"
- __ Master Card __Visa __Discover __American Express __ Other: _____
  Card #_____ Expiration Date (mm/yy) _____

Signature: _____

Please mail completed Membership Form AND Payment to: Rev. Charles Morris, Executive Director, MiIPL, P.O. Box 4606, East Lansing, MI 48826.

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