Turning green into gold: Renewable energy and townships

Editor's Note: To help Michigan regain its prosperity and thrive in the 21st century, MTA joined with Michigan State University's Land Policy Institute and other organizations to launch the Pillars of Prosperity *initiative. The following article explores the third of the six* Pillars of Prosperity *tenets: natural resources.*

A renewable revolution is in the works, and townships can be key players in this economic and cultural shift. "25x'25" is a rallying cry for renewable energy and a goal for America: to get 25 percent of the nation's energy from renewable resources—such as wind, solar and biofuels—by the year 2025.

Michigan leaders are also leading the charge to embrace this new industry. In her 2009 "State of the State" address, Gov. Jennifer Granholm called for reducing Michigan's use of fossil fuels for generating electricity by 45 percent by 2020. This could be accomplished with both energy efficiency and renewables. Legislatively, Public Act 295 of 2008 established a renewable portfolio standard for Michigan, mandating that 10 percent of the state's electricity will come from renewables by 2015—and much of this is expected to come from wind power.

What is behind this renewable revolution? Michigan is not windy North Dakota or sunny Arizona, but the state does have significant wind, solar and biomass energy resources. Renewable energy can play a significant role in helping Michigan address climate change, mercury pollution, dependence on foreign and out-of-state energy sources, and a cost drain of $26 billion to pay for Michigan's energy imports.

Also critical during Michigan's current economic downtown is the fact that renewable energy can create jobs: jobs to build and operate wind farms and biofuel plants, to manufacture wind turbines and turbine components, and to make solar energy systems and materials.

From an environmental and economic standpoint, townships stand to benefit from the renewable energy revolution currently underway in Michigan. In fact, some townships are already seeing the benefits of this burgeoning industry.

WINDS OF CHANGE

Michigan is poised to be at the forefront of the wind energy trend storming through the United States. A "20 percent vision" envisioned by renewable and wind energy organizations—to have 20 percent of the U.S. electricity supply come from wind power by 2030—puts Michigan in the top tier of states providing over 10,000 megawatts of wind power and gaining over 30,000 manufacturing jobs.

But how are these winds of change becoming a reality in the Great Lakes State?

Capturing the economic and environmental benefits of wind energy and achieving PA 295's renewable portfolio standard goal of 10 percent by 2015 will depend on installing over 1,200 utility scale wind turbines (over 2,000 additional megawatts) of wind power.

There are only five active commercial wind farms in Michigan—though perhaps dozens of others are being planned. Currently, 129 megawatts of power are being produced on these farms. The largest farm—Harvest Wind Farm—in **Oliver** and **Chandler Townships** (Huron Co.) has 32 1.65-megawatt turbines that have produced 53 megawatts of power since the farm first became operational in 2008. In northern Michigan, the winds of change are also blowing, including a smaller wind farm in **Richland Township** (Missaukee Co.).

The 6,500-acre Stoney Corners Wind Farm operation has just two turbines—but these 2.5 megawatt turbines are powerful in presence, standing more than 300 feet high. The ultimate goal for the operation is to expand by erecting more turbines and to produce 100 megawatts of power.

Although the township does not have much involvement in the operation—neither Richland Township nor Missaukee County have zoning, and the operation abides by state guidelines—officials and residents are pleased that Stoney Corners calls their area home. "The board and residents view it favorably," said Supervisor **Karlene Paffhouse**. "We're happy it's here, and like the idea that it's doing something positive for the environment."

The township does not see the impact of the megawatts produced by the turbines. The operation is managed by Traverse City-based Heritage Sustainable Energy, LLC, which has a 10-year agreement with DTE Energy to provide wind energy for DTE's GreenCurrents renewable energy program.

Townships around the state have developed, or are considering adopting, wind development ordinances *(see sidebar at right for more on adopting a wind ordinance)*. In the last few months alone, announcements have come from the Upper Peninsula (**Garden Township** in Delta County), West Michigan (**Muskegon Charter Township** in Muskegon County) and mid-Michigan (**Sebewa Township** in Ionia County) that companies are investigating the development of wind farms in those areas.

In addition to capturing the wind in Michigan, there's also potential to capture jobs in this industry—specifically in the turbine manufacturing sector. As the automotive industry continues to contract, one of Michigan's strongest economic resources continues to be expertise in high-quality design, engineering and manufacturing. The backbone of Michigan's automotive supply chain is thousands of companies—large and small—casting components, manufacturing gears and bearings, building transmissions, assembling engines, stamping metal, and more. These same capabilities are required by the rapidly expanding wind energy industry. More than 1,500 of Michigan's auto suppliers could provide the component parts needed for wind turbines.

Paffhouse seconds that opinion. "Ideally, it would be nice if Michigan plants could manufacture the turbines themselves," she said, noting that the Stoney Corners' turbines were manufactured and shipped from Germany.

Zoning for wind energy

When adopting a wind ordinance, there are a variety of issues to consider—set-backs, sound levels, environmental impacts, electromagnetic interference, shadow flicker, construction codes, safety, and visual impact. Siting issues can be technical and complex, and MTA recommends that townships explore adopting a special use permit process for site approvals.

Property set-back requirements are designed to protect neighbors in the unlikely event of a tower failure, as well as for noise and other nuisance issues. Common set-back recommendations are that the distance between a wind energy system and the property lines of adjacent non-leased properties be at least the height of the turbine—including the top of the blade in its vertical position.

Although today's wind turbines are much quieter than older machines—due to sound-proofing of the design, slower moving blades and quieter gear boxes—it is recommended that sound levels generated by a wind nergy system not exceed 55 decibels measured at the property lines between leased and non-leased property.

Although commercial wind farms typically do not have significant negative environmental and wildlife impacts, these areas need to be studied by qualified, third-party professionals. Site-specific issues should determine which areas are studied in-depth.

Visual impact, often the most important issue to residents, is difficult to address in zoning. Individuals often either like or dislike the look of wind energy systems. Guidelines can address visual impact issues by providing some design standards and by restricting commercial advertising. Electromagnetic interference and shadow flicker are two additional areas that should be studied.

While decline in property values is an important concern of many residents, some studies have shown that commercial wind farms decrease property values, while other studies have shown no effect. The most comprehensive study, by Ben Hoen at the Lawrence Berkeley National Laboratory, collected data from 11 study areas surrounding more than 25 wind facilities. Results indicate there is no statistical evidence that homes near wind facilities have different sales values than other homes.

For sample ordinances, visit www.michigantownships.org/wind_energy.asp.

In 2006, the Michigan Economic Development Corporation (MEDC) asked NextEnergy, a non-profit organization in southeast Michigan, to promote the growth of renewable energy component manufacturing in Michigan. As a result of this initiative—with most of the activity coming from wind—more than 60 companies were invited to bid for more than $1.5 billion worth of new contracts in the past 18 months alone, and 29 of them received new business worth $377 million. These companies also invested $80.5 million of their own capital into retooling, and hired or retained 1,145 employees.

Several companies, particularly in West Michigan, are manufacturing smaller turbines for residential and commercial markets. Plans are also in the works for a $32 million production facility in southeast Michigan, which will develop a utility-scale, 1.5-megawatt wind turbine and employ 356 workers within five years.

State-appointed commissions are also working to determine how to best capitalize on the wind energy industry. As reported in the July *Michigan Township News*, in early June, the Wind Energy Resource Zone Board issued its proposed report, identifying four regions in Michigan with the highest level of wind energy harvest potential. Region 1 includes parts of Allegan County; Region 2 includes parts of Antrim and Charlevoix counties; Region 3 includes parts of Benzie, Leelanau and Manistee counties; and Region 4 includes parts of Huron, Sanilac, Tuscola, Bay and Saginaw counties.

Being identified as part of a wind zone does not necessarily mean wind development will occur in a specific township. Inclusion within a wind zone, however, does mean that an expedited process can be used to help site high voltage transmission lines to connect the wind farms to the electrical grid.

The Wind Energy Resource Zone Board sent copies of the report directly to local units of government identified within the wind zones, with a comment period ending Aug. 4. Two public hearings are being held on the proposed report, in Bad Axe on Aug. 24, and Scottville on Aug. 31. The board is required to issue its final report within 45 days of the last public hearing. The MPSC, which was granted the ultimate authority under PA 295 to identify the wind zones, will consider the findings in the board's final report and other information before designating one or more areas as a "wind energy resource zone."

In addition, the 25-member Michigan Great Lakes Wind Council, which addresses offshore wind energy, will provide recommendations in a report due Sept. 1.

TURNING BIOMASS INTO ENERGY

Biomass energy resources include energy crops, crop residue, wood and wood waste, animal manure, some municipal solid waste, and the biogas that results from the breakdown of organic wastes. Biomass production and energy development supports local economies, and Michigan has a variety of biomass resources. Overall pollutant levels associated with biomass energy production and use are lower than in fossil fuels, and biomass energy is considered "carbon neutral" when sustainable practices are utilized.

Michigan has abundant woody biomass sources, and has the fifth largest timberland resource in the U.S. Capturing wood from waste markets will not only reduce impacts to timber resources, but provide an alternative use for otherwise landfill-bound materials. As an economic outlet for disposal of waste materials from local sawmills, forest products and other industries, biomass power plants provide a financial driver for conservation when combined with other sustainable practices.

Currently, there are seven woody biomass power plants providing commercial electricity in the state. Officials in **Mancelona Township** (Antrim Co.) are hoping to add to that number, with plans in the works for a $140 million forest products biomass power plant in the township. In what officials call a "win-win," the township recently sold some 64 acres to a Traverse City-based company that hopes to break ground this fall on a facility that will burn wood scraps from logging operations to generate electricity. An additional 87 acres for the building site were purchased from the Community Resource Development Association, a non-profit organization that advocates for Mancelona-area development.

Site plans estimate that the 36-megawatt facility could create sufficient electrical power to meet the needs of approximately 30,000 homes.

In an area that has seen the loss of hundreds of jobs in recent years, any expansion of job opportunities is welcome. "We've lost a lot of industry jobs here," noted Mancelona Township Clerk **Mike Biehl**. "We're happy to welcome anything that we can get to bring jobs back into the area, and help with the job situation."

It is estimated that the biomass facility could employ 30 workers, in addition to related jobs, such as trucking and logging.

"This is good for northern Michigan," said Biehl of the biomass industry. "And this project is exciting for the area."

As of press time, the Michigan Department of Environmental Quality was reviewing the project's air quality permit application, and the Legislature was also considering a bill creating a renaissance zone for the area, to allow the state and county to grant property tax abatements for the acreage on which the facility will be built. The township is also in the process of creating an industrial development district, allowing for a township tax abatement as well.

A township doesn't need to be surrounded by trees or the logging industry to make use of biomass. Biogas recovery efforts include municipal solid waste at landfills and anaerobic digesters at wastewater treatment plants, farms and food processors. Biogas is often used on-site to reduce electric costs and reduce greenhouse gases. Biogas consists primarily of methane (50 to 60 percent), carbon dioxide (40 to 50 percent), and trace amounts of hydrogen sulfide.

Delhi Charter Township (Ingham Co.) recently received national recognition for developing the state's first integrated biomass-to-energy digester system.

One mid-Michigan township recently received national recognition from the U.S. Environmental Protection Agency for its innovative efforts to protect our environment, using the byproducts of its wastewater treatment plant to turn "poo to power," as the project's slogan puts it.

The **Delhi Charter Township** (Ingham Co.) wastewater treatment plant received the PISCES (Performance and Innovation in the SRF Creating Environmental Success) award for developing the state's first integrated biomass-to-energy digester system, in which residuals or "leftovers" from the wastewater treatment process are "digested" (treated and stabilized) so they can be safely returned to the environment as nutrient-rich biosolids. The heat and energy component of the system will reduce the township's demand for natural gas and electricity, yielding an annual energy savings of more than $75,000.

The new digester is expected to be operational this summer.

"We are honored to have our work recognized by the EPA," said **Sandra Diorka**, Delhi Charter Township's director of public services. "The digester system represents another important advance toward sustainability in Delhi Township."

Township Supervisor **Stuart Goodrich** added, "The digester project is the latest stride taken by the township in its ongoing commitment to recycling, reuse, environmental education, and a 'green' approach to wastewater and solid waste management."

BIOFUELS FOR THE FUTURE

Biofuels are derived from biomass and will be important in decreasing the nation's reliance on foreign oil. Some common examples include ethanol (E-10 & E-85 are common blends) and biodiesel (B5, B20 and B100). Currently, Michigan has four operating corn-to-ethanol plants and three biodiesel plants. According to the National Ethanol Vehicle Coalition, some 98 E-85 refueling stations operate in Michigan. According to the Michigan Soybean Promotion Committee, 117 biodiesel suppliers, nine B2 pumps, 11 B5 pumps, six B10 pumps, 26 B20 pumps, and two B100 pumps existed in 2007.

Individual municipalities across the state have begun to set their own renewable energy goals, including such initiatives as using biodiesel in municipal vehicles. In 2002, St. Johns Public Schools was the first district in Michigan to switch its entire bus fleet over to B20. By October 2006, some 47 Michigan public school district bus fleets were using biodiesel fuel, and the number of success stories at the local level has only continued to grow.

A factor that may drastically impact the industry is the development of advanced biofuels, such as cellulosic ethanol. In fall 2008, a cellulosic ethanol manufacturer announced plans to build a $250 million plant in **Kinross Charter Township** (Chippewa Co.). Groundbreaking on the facility—which will produce clean-burning, fuel-grade ethanol made from wood fiber—is anticipated in late 2010 or early 2011, with the plant up and running in 2012. The plant could produce upwards of 40 million gallons of ethanol per year. It will be the first wood forest ethanol plant in the state.

The venture into Michigan's Upper Peninsula—a joint project by JM Longyear and Mascoma, known locally as Frontier Renewable Resources (FRR)—is all about location, location, location.

"Why Kinross?" asked Kathy Noel, president of the Economic Development Corporation of Chippewa County. "According to FRR, it was three reasons: market, feedstock and infrastructure. The area has access to a large ethanol market,

Currently, Michigan has four operating corn-to-ethanol plants and three biodiesel plants. A $250 million cellulosic ethanol plant is slated for groundbreaking in Kinross Charter Township (Chippewa Co.) in 2010 or early 2011.

proximity to large, underutilized wood resource, and is adjacent to the I-75 corridor, municipal water and sewer, and a railroad. There is also the availability of a skilled workforce."

The community worked with the MEDC to provide information for the FRR project, and is also working with the state to obtain a "Renewable Energy Renaissance Zone" designation for the township, which will allow the township to offer tax breaks to the company. In addition, the community is working with the company to hash out any zoning issues with the project property, and to make any necessary infrastructure improvements and extensions.

The project could bring upwards of 60 jobs at the facility itself, in addition to related jobs in forest management, harvesting and transportation, as well as some 150 jobs during the construction phase. But bringing jobs to the area is not the only benefit of the endeavor. The "greening" of the local economy is a key benefit to this U.P. community, according to Noel.

"This project offers a diversification of the local economy, since much of the region's economy is service and/or governmental in nature," she said. "The entire region is experiencing an increase in site inquiries by wood-related 'green' industries. There have also been a significant number of inquiries by wind energy concerns as well, but typically those activities require two years' worth of wind analysis to determine whether the preferred site will work.

"I am certain the increased interest is prompted by the president's commitment to green industry, as well as the governor's interest in making Michigan the nation's alternative energy showcase. But we also have firms that have been closely tied to the automotive industry for years looking for opportunities to fill the gaps they now find in their business."

Noel does forewarn that dependence on any one sector can be dangerous to a local economy. "Kinross Charter Township and Chippewa County faced this reality back in 1977 when the former Kincheloe Air Force Base closed," she recalled. "A number of Michigan communities came face-to-face with this type of a crisis in ensuing years as major employers have relocated, and/or closed. The challenge with green industries is that much is new, and unproven, and carries many unknowns for the local communities in which they locate."

However, she continued, "With the state's reliance on the automotive industry, we need to capitalize on any opportunity, in any segment of the economy where Michigan can be competitive."

A SHINING SOLAR INDUSTRY

When people think about solar energy, Michigan might not immediately come to mind. In fact, many people erroneously believe that solar energy does not work in Michigan. One Michigan solar installer even named his company "Solar Works in Michigan" to help battle this widely held misconception.

The solar energy industry is important to Michigan for two reasons. One is because of the potential for Michigan's manufacturing expertise to be applied to this multi-billion dollar export industry that is growing at an annual rate of over 25 percent. The other is the vast potential for Michigan consumers to utilize solar energy in ways that are already economical today or well on their way to being economical in the near future.

Two of the world's leading solar manufacturers have operations in Michigan—including Hemlock Semiconductor Group in **Thomas Township** (Saginaw Co.) In December 2008, Hemlock Semiconductor—a world leader in production of polycrystalline silicon, a rock-like material used in solar panels and computer chips—announced a $1 billion expansion at its manufacturing complex located in the township.

According to Thomas Township Supervisor **Robert Weise**, the township worked closely with Hemlock Semiconductor, the MEDC and the state to ensure the expansion would take place in Michigan. The township entered into a 425 agreement with the city of Saginaw to temporarily transfer the property to the city, to allow a 328 agreement to be used to gain personal property tax benefits. The township also negotiated a separate water agreement with the city of Saginaw to provide the increased water needed to service Hemlock Semiconductor.

"Additionally, there have been a lot of indirect impacts due to the expansion from lights, noise, traffic, speeds, trucks, emergency preparedness, sewer, water, etc.," Weise explained. "As a township government, we have had to make adjustments for building inspections, assessing, public works and law enforcement. Overall, it has changed our daily workload dramatically in all departments."

But, he says, the benefits of the expansion far outweigh any negatives. "The company has created thousands of jobs—direct jobs, permanent contract employees, and construction positions—supporting many families from throughout the

region," Weise said. "The company is one of the largest taxpayers impacting the township, county, Delta College, public schools and other taxing units. Many firms have also expanded as a result of doing business with Hemlock Semiconductor."

Due in part to Hemlock Semiconductor's presence—and expansion—in the area, the Saginaw Valley is becoming the Solar Valley of Michigan. Area economic development organizations have launched the Great Lakes Bay Economic Development Partnership to focus on attracting the solar industry to the region. Companies such as Evergreen Solar, Fulcrum Composites and Dow Corning Solar Solutions Center have all made commitments and investments in the region. Local colleges are getting into the mix as well. Delta College is launching a Solar Academy, and Saginaw Valley State University is applying for funding to support applied research in the solar industry.

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"This has helped create a positive image of the region as an emerging area for development," Weise said. "As we continue to see the downturn in the automotive sector, we can at least hope that the 'green' industries can fill some of that employment gap. There is a lot of potential that has yet to be tapped in this industry. Locally, we have put an enormous amount of collective effort to try to draw the solar sector here."

And the best, Weise hopes, is yet to come. "The township has likely not seen the full impact of the expansion yet," he said. "We are starting to look at developing a unique zoning district specifically for the solar industry. We anticipate continued interest from various solar-related companies for several years. As such, we are trying to prepare for the demands by having large tracts of land available with the necessary utility services to support them and the zoning in place that would allow them to locate here."

In addition to Michigan's leadership in solar energy manufacturing, one Michigan municipality—the City of Ann Arbor—is a U.S. leader in the commercialization of solar energy. The city was one of 13 municipalities nationwide to became a federally designated "Solar City" in 2007, and serves as a model for the integration of solar energy. The Solar City effort integrates solar technologies into municipal planning, zoning and facilities; streamlines local-level regulations and practices that affect solar adoption; and promotes solar technology among residents and local businesses through outreach, curriculum development and incentive programs.

Ann Arbor's experience may be helpful to other local governments in Michigan looking to integrate solar energy into their municipal practices. For additional details, visit www.a2gov.org/energy.

GREENING TOWNSHIP ROLES

Zoning and siting of wind turbines and other renewable energy installations is a major responsibility for Michigan townships, but townships can play other roles related to renewable energy. Township government can use renewable energy in their own operations, reduce their energy costs, and demonstrate to their residents good applications of renewable energy. Leading by example is always the best way to promote change. By using renewable energy themselves, townships can gain valuable experience that is useful when they have to address policy issues.

A state program to help local governments is also on the way. The MPSC will select one or more non-profit or public organizations to conduct a "Renewables for Local Governments" program that will facilitate the installation of renewable energy and energy efficiency measures at multiple local government facilities. This $8.5 million program, expected to begin in October, should be very helpful to local governments interested in installing renewable energy projects at their facilities.

The Michigan economy is struggling and everyone is impacted, including townships. Renewable energy is not without its challenges, but it has great potential to turn green into gold. Townships can help Michigan capture that gold, and become greener at the same time. ■

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Townships think 'green'

Getting baaaack to nature

Sorting wool, checking on sheep, petting the llama … it's all in a day's work for Department of Public Services (DPS) staff in **Delhi Charter Township** (Ingham Co.).

This spring, the township purchased eight Shetland sheep—found on craigslist.com—to tend the grass around the lagoons at the township wastewater treatment plant. They've since added two additional Jacob ewes, and a nearby farmer also added several Suffolk ewes to the flock (pictured above).

The now sheep-shorn property—totaling roughly five acres—was previously maintained by summer employees, at a cost of more than $11,000 each. Director of Public Services **Sandra Diorka** approached the township board with the idea to let sheep do the shearing, saving the township dollars and helping the environment as well. The board loved the idea, and plans went full-steam ahead.

The concept isn't a new one to municipalities, according to Diorka. "A lot of lagoon facilities have sheep, since the areas are fenced in and there aren't a lot of people around," she said.

The sheep have adapted quickly—and well—to their new home. "They are just in heaven," said Diorka. "They have made themselves at home."

In addition to the dozen grass-loving sheep, the township also purchased a llama—named Firebird—who serves as a protective animal, defending the flock from any predators, such as dogs or coyotes. Newly adopted Australian Shepherd Sadie will become the official herder once the five-month-old undergoes additional training.

The township debuted the sheep to the public during the DPS's annual spring open house celebrating Water Quality Awareness Week. The sheep were sheared at the event—the wool will be sent to a woolen factory in Frankenmuth and turned into socks sold as a township holiday-time fundraiser—and residents were able to get an up-close look at the new township "employees."

At the event, which also included a free community Re-use Rally and water-themed games and activities to help connect children with their environment, one family was inspired to give back to the township and become more involved in this eco-friendly project. "They wanted their kids to be more involved in the environment," said Diorka. "They donated money to the township to 'sponsor' a sheep."

Thinking about the environment and undertaking sustainable activities is nothing new to the township. The township's recycling center took in more than 527 tons of recyclable goods in 2008, and the township also received a national Environmental Protection Agency award for its innovative "Poo to Power" project. (*See main article for details.)* Residents are clamoring for plots in the newly created community garden, and can also take part in a township tree-planting program.

The reason for undertaking these "outside-the-box" ways of doing things is simple. "It makes the township a good place to live," said Diorka.

Ira Township's (St. Clair Co.) 'green roof'

Green roof puts township at forefront of environmental design

A grant from the Michigan Department of Environmental Quality (MDEQ), and a desire to be at the forefront of environmental consciousness, have resulted in a "green roof" for **Ira Township** (St. Clair Co.), saving some green for the community.

Green roofs—also called "vegetative," "living" or "eco-roofs"—are living plants installed on top of conventional roofs. Properly designed, all green roofs are stable, living ecosystems that can keep buildings cooler, save energy, extend the useful life of the roof, and add beauty and useable space.

In 2007, the Ira Township fire hall roof was in a state of deterioration and in need of replacement. Officials learned that the MDEQ was offering storm water management grants, and decided to pursue the funding opportunity.

"Ira Township has always been a strong advocate of source water protection," said **Marilyn Kershaw**, township low impact development project administrative coordinator. "Going green compliments our continuous efforts in working with other communities to protect our water. It was a sound environmental move, and we hoped that by being at the forefront, other communities and developers would follow."

Although Kershaw admits that some residents found the project to be frivolous, by and large, "most of the residents appreciated our effort to enhance storm water management, protecting one of our most precious natural and vital resources," she said.

The township is one of a handful of local governments to have a green roof on a municipal building. The benefits of installing such a roof—which now only requires minimal maintenance, though watering of the plants was necessary when the roof was first established—are plentiful, according to Kershaw.

"In addition to having exceptional storm water retention capabilities, a green roof filters out fine airborne particulate matter as air passes over plants," she said. "It has a much larger insulation value, improves storm water run-off management and has double the life span of a conventional flat roof."

The cost of installing a green roof can be prohibitive, and the MDEQ grant made the effort possible for Ira Township. However, "from an environmental standpoint," Kershaw said she "absolutely" recommends other townships look at integrating green efforts into their municipal buildings/practices. "We strongly urge any new building design to take a green roof into consideration," she said.

Lenox Township's (Macomb Co.) 'green' township hall

Township boasts state's first 'green' hall

It's a true dichotomy. On one side of Gratiot Avenue, hundreds of trucks deliver truckloads of garbage to Macomb County's only active landfill. On the other side of the street sits the beautiful, new **Lenox Township** (Macomb Co.) hall—the state's first Leadership in Energy and Environmental Design (LEED)-certified municipal building.

The landfill was both an inspiration behind building an environmentally friendly hall and also allowed the funding to help make it happen.

The township had long been planning for a new township hall, having outgrown their old hall and needing more space to accommodate its expanding population and services. Although township officials and residents are not always thrilled to have the landfill in their borders, officials "take the good with the bad," said Treasurer **Karon Ottenbacher**, and banked the tipping fees the township receives from the landfill.

That money allowed the township to pay—in full—for its new $4 million township hall, without any millage or bonds. Officials and employees moved into their new digs just over a year ago, in May 2008.

The unique hall design features environmentally conscious and sustainable design principals. The building is registered with the U.S. Green Building Council and has received LEED Silver Certification. Sustainable design concepts—such as geothermal heating and cooling, zero storm water runoff, rainwater capture, a rain garden, daylighting, accessible flooring, indoor air quality management, and energy efficient design—are all incorporated into this project.

"We also tried to use Michigan-made materials in the construction, and used recycled materials all that we could, including our carpets and countertops," said Ottenbacher.

Although the township did spend slightly more to use eco-friendly products and design aspects, Ottenbacher said they anticipate that the savings in energy costs will allow the township to recoup the additional costs within seven years—by 2015.

The new hall also features a 4,000-square-foot community room and 12,000 square feet of dedicated township office space. The township is now able to hold elections for all four of its precincts at the township hall, and has ample room for future expansion.

"We planned for the future," said Ottenbacher. "We were trying to think ahead."

Both residents and other municipal officials alike are impressed by the building's appearance and intent. Municipal officials from neighboring areas have come to tour the facility to get ideas for their own green initiatives. "Most people think it's beautiful," said Ottenbacher. "They understand what we're going for."

While she recognizes that in today's economy, going green may not be on the forefront of officials' minds, Ottenbacher said, "Things will turn around, and it [environmental consciousness] is something that officials need to be thinking about. Start small."