

# **Michigan Renewable Energy Program**

*2006 Annual Report to the Michigan Public Service Commission*

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October 1, 2007

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## Introduction

This is the third report to the Michigan Public Service Commission (Commission or MPSC) on the Michigan Renewable Energy Program (MREP). It covers activities for 2006.

The state legislature recognized the importance of renewable energy by directing the Michigan Public Service Commission in Section 10r of Public Act 141 of 2000 [[MCL 460.10r](#)], Michigan's Customer Choice and Electricity Reliability Act, to establish the Michigan Renewables Energy Program (MREP). The Commission, in turn, directed its Staff to establish an MREP Collaborative and charged participants with some specific policy analysis and recommendation functions.

The report presents:

1. A brief review of the purpose and goals of the MREP;
2. A summary of Commission orders about renewable energy, from the previous year;
3. A report on activities of the MREP Collaborative over the past year;
4. A report on MPSC Staff activities for MREP over the past year;
5. A report on activity in 2006 on the MREP Website; and
6. MPSC Staff plans and recommendations for MREP activities for 2007 and beyond.

In previous years, data about renewable energy resource production and consumption in Michigan was incorporated into this annual report to the Michigan Public Service Commission. This year, the data is compiled in a separate document, which is available on the Commission's MREP website, at: <http://www.michigan.gov/mrep>.

### 1. Review of MREP Purpose and Goals

The first purpose of the MREP Collaborative is to encourage and provide an opportunity for continuing dialogue among all interested parties to identify and quantify the benefits to Michigan from increased renewable energy production and consumption. Second, to the extent there are significant benefits, which many Collaborative participants already believe is a certainty, then a vital function of the Collaborative will be to try to identify the most appropriate means to improve the prospects for renewable energy in Michigan. And, third, the Commission has requested that the Collaborative address some specific policy questions and, if possible, provide consensus recommendations for appropriate Commission or state legislative actions.

In the Commission's [May 16, 2002 Order in Case No. U-12915](#) (p. 4), the Commission directed:

...Staff should initiate an MREP collaborative that will assume policy analysis and recommendation functions. From time to time, the Commission may refer specific issues to the collaborative, beginning with those issues referred in this order. The collaborative may report to the Commission concerning the issues referred to it, and may bring other issues before the Commission. The collaborative may also recommend to the Commission legislative initiatives that it believes

will advance the Commission's ability to fulfill the statutory mandate of Section 10r(6) [[MCL 460.10r\(6\)](#)]. The Staff shall structure the membership of the collaborative so as to include the interests of all affected persons.

The Commission has assigned to the collaborative specific policy analysis and recommendation functions, including: possible tax rebates or exemptions; methods to encourage the development of renewable energy generation by residential and small commercial customers, including net metering; solar rights and easements; utility rates that will appropriately reward renewable energy generators that provide system benefits; implementation proposals for creative financing for renewable energy; renewable energy emissions credits; and options for utility incentives and performance standards ([May 16, 2002 Order in Case No. U-12915](#), pp. 11, 16, and [May 18, 2004 Order in Case No. U-12915](#), pp. 4-5, 7-8).

## 2. Commission Orders on Renewable Energy

The Commission issued eight important orders about renewable energy, from October 2005 through October 2006. These orders are listed in Table 1, which includes links to the relevant pages on the Commission's website.

In its October 18, 2005 Order in **Case No. U-14626**, the Commission approved one amended and seven new power purchase agreements (PPAs) between Consumers Energy Company and various renewable energy producers. The PPAs are accessible on the Commission's website. The seven projects include:

1. Bay Windpower I, Mackinaw City, LLC, replacing the previous contractual relationship between the parties that governed the purchase from the 1,800 kilowatt (design capacity) wind powered plant located at Mackinaw City, Michigan.
2. Gas Recovery Systems, LLC, for the C&C Electric 2 Plant, a landfill gas fueled generation facility to be constructed in Calhoun County, Michigan.
3. Mackinaw Power, LLC, for a yet to be constructed wind power facility whose exact location has been redacted from the agreement.
4. Noble Thumb Windpark I, LLC, for a yet to be constructed wind power park consisting of approximately 32 wind generators to be constructed near Ubly, Michigan.
5. North American Natural Resources, Inc., (Peoples Generating Station–Fourth Generating Unit), for a previously idled landfill gas fueled generating facility located in Saginaw County, Michigan.<sup>1</sup>

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<sup>1</sup> The parties also specified that, in the event of a shortfall in landfill gas, the designated location of the plant could be shifted to another location somewhere in Michigan's Lower Peninsula.

6. North American Natural Resources, Inc., (Venice Park Generating Station–Second Generating Unit), for a previously constructed landfill gas fueled generating facility located in Shiawassee County, Michigan.<sup>2</sup>
7. North American Natural Resources, Inc., (White Lake Landfill Generating Facility), for a yet to be constructed landfill gas fueled generating facility located in Muskegon County, Michigan.<sup>2</sup>
8. Zeeland Farm Services, Inc., for a yet to be constructed landfill gas fueled generating facility whose exact location has been redacted from the agreement.<sup>2</sup>

As of the end of 2006, facilities 3 and 4, the two new Michigan wind farms, are not yet operational. All of the landfill gas facilities did become operational in 2006, however, and began delivering electric energy to Consumers Energy under these contracts.

**Table 1: 2006 Michigan Public Service Commission Orders on Renewable Energy**

Date	Case No.	Caption
10-18-2005	<a href="#">U-14626</a>	PAPERLESS <sup>[1]</sup> - In the matter of the application of Consumers Energy Company for ex parte approval of certain power purchase agreements pursuant to the Renewable Resource Program.
10-18-2005	<a href="#">U-14346</a>	In the matter of the application of the Commission Staff and Commission-regulated electric utilities to implement a statewide net metering proposal.
12-20-2005	<a href="#">U-14345</a>	PAPERLESS - In the matter, on the Commission's Own Motion, to solicit comments regarding the 2004-2005 Michigan Renewable Energy Program Report.
1-10-2006	<a href="#">U-14231</a>	In the matter, on the Commission's Own Motion, to commence an investigation into future capacity requirements.
5-10-2006	<a href="#">U-14734</a>	PAPERLESS - In the matter of the application of Edison Sault Electric Company for expedited, ex parte authority to reduce its Experimental Renewable Energy Rider.
7-25-2006	<a href="#">U-13843</a>	In the matter of the application of Mackinaw Power, LLC, and North American Wind Energy, LLC, to amend and make permanent the Consumers Energy Company green power pilot program.
9-26-2006	<a href="#">U-14569</a>	PAPERLESS - In the matter of the application of The Detroit Edison Company to implement a renewable resources program.
10-24-2006	<a href="#">U-15113</a>	PAPERLESS - In the matter, on the Commission's Own Motion, to commence an investigation into the interconnection of independent power producers with a utility's system.

<sup>1</sup> Cases marked "paperless" in the caption are electronically filed with the Commission. Almost all documents associated with electronically filed cases are accessible in portable document format (PDF) from the Commission's website. Interested parties that need assistance obtaining documents associated with Commission cases should contact the MPSC Executive Secretary's office, by email to [mpscefilecases@michigan.gov](mailto:mpscefilecases@michigan.gov), or by voice phone at (517) 241-6160.

<sup>2</sup> The parties also specified that, in the event of a shortfall in landfill gas, the designated location of the plant could be shifted to another location somewhere in Michigan's Lower Peninsula.

In an October 18, 2005 Order in **Case No. U-14346**, the Commission approved Detroit Edison's net metering program. Detroit Edison requested Commission approval for a net metering tariff that would expand eligibility beyond renewable energy sources, as defined in 2000 PA 141, section 10g(1)(f) ([MCL 460.10g\(1\)\(f\)](#)). The approved net metering tariff for Detroit Edison customers extends eligibility "to fuel cells and Stirling engines that have the potential of becoming hydrogen enabling technologies, regardless of the fuel they use to generate electricity" (Order, p. 2).<sup>3</sup>

The MREP Annual Report for 2004-2005 was submitted to the Commission in November 2005, and the Commission issued an order on December 20, 2005, in **Case No. U-14345**, requesting comments on the Staff report. Comments were eventually received from seven parties.<sup>4</sup> The Commission issued an order on August 21, 2007 approving the report and directing that this 2006 report on MREP be submitted by September 30, 2007.

In response to the Commission's October 14, 2004 Order in **Case No. U-14231**, the MPSC Staff embarked on a year-long study of Michigan's future electric capacity needs, called the Capacity Need Forum. Various participants from the MREP Collaborative worked with MPSC Staff in 2005 to analyze renewable energy resource availability for Michigan. Data on renewable resources was then made available to the modelers working on the CNF project. The MPSC Staff report on this study was filed with the Commission on January 3, 2006, and the Commission issued an order and press release on January 10, inviting comments on the Staff report and scheduling a public hearing to provide an opportunity for interested parties to make verbal presentations directly to the Commission. Written comments were received from 35 parties, and 18 made oral presentations at the Commission hearing.<sup>5</sup>

Edison Sault, in **Case No. U-14734**, requested Commission approval for changes in the its Experimental Renewable Energy Rider. This application requested Commission approval to reduce customer charges under the Company's green rate program, due to the fact that renewable energy prices had not increased as much as non-renewable generation sources in recent months. The Commission approved the Company's application in its May 10, 2006 Order in Case No. U-14734. Under this Commission Order, the Company has established a maximum price premium it may charge customers for additional renewable energy, but the Company may charge less than that maximum by providing the Commission with 30 days' written notice and submitting revised tariff sheets. The currently implemented price premium is approximately 1/3 less than the maximum price premium, which was initially approved by the Commission in August 2003.

In its July 25, 2006 Order in **Case No. U-13843**, the Commission directed Consumers Energy Company to stop collection of the five-cent per meter per month customer charge used to fund the Company's renewable resource program, and to refund amounts previously collected from its

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<sup>3</sup> Details of the Detroit Edison net metering program can be found through the MREP net metering webpages, at <http://www.michigan.gov/netmetering>.

<sup>4</sup> See the comments at <http://efile.mpsc.cis.state.mi.us/cgi-bin/efile/viewcase.pl?casenum=14345>.

<sup>5</sup> See the comments and a transcript of the public hearing at <http://efile.mpsc.cis.state.mi.us/cgi-bin/efile/viewcase.pl?casenum=14231>. In addition to these formal comments, the Commission received 580 letters and postcards and numerous email messages regarding the CNF report and generally supporting the expansion of renewable energy in Michigan.

customers. The money was refunded through a one-time credit to customers' September bills. The Michigan Court of Appeals, in a decision published on January 19, 2006, determined that the Commission lacked direct statutory authority to authorize Consumers Energy Company to charge the five-cent customer charge. The Michigan Supreme Court, on June 21, denied the Commission's application to appeal the decision by the Court of Appeals.<sup>6</sup>

In **Case No. U-14569**, the Detroit Edison Company had proposed a Renewable Resources Program. Detroit Edison filed its application on July 1, 2005 and a revised application September 14, 2005. The Commission issued an order on September 20, 2005, inviting public comment on the Company's proposed program. Comments were received from 20 groups and citizens. On September 26, 2006, the Commission issued an Order in Case No. U-14569, rejecting Detroit Edison's application and directing the Company to make changes to its proposal and file again by March 2007. The Company filed its second amended application on December 15, 2006, and the Commission issued an Order on December 21, 2006, requesting public comment on the second revised application by January 26, 2007.<sup>7</sup>

On October 24, 2006, the Commission issued an Order in **Case No. U-15113**. This Order, on the Commission's own motion, commences an investigation into the interconnection of independent power producers, including renewable energy producers, with a utility's system. The Commission initiated this proceeding to: "(1) investigate the interconnection of independent power producers with a utility's system, (2) identify any problems or deficiencies in the existing interconnection procedures, and (3) develop and implement remedies" (Order, p. 5).<sup>8</sup>

The Commission directed the Detroit Edison Company to file a report by November 14, 2006, detailing events associated with a recent interconnection application at Laker School District (Order, p. 5). All other MPSC-regulated electric utilities were directed

to file, by November 28, 2006, a listing of all interconnections completed pursuant to the [Commission approved] procedures... as well as any pending interconnection applications [and] (f)or each interconnection...indicate the timing of each step in the interconnection process and...whether any problems arose in the process.

By December 19, 2006, other interested parties were invited to "file information detailing Interconnection problems they have experienced and any suggestions for changes to the interconnection procedures." The Laker School District was also explicitly invited to "file any response to Detroit Edison's filing of November 14 that it deems appropriate" (Order, p. 6). The Commission Staff was directed to analyze the filings, and convene a public meeting on January 9, 2007, to "discuss the issues raised in the filings and determine if any consensus can be

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<sup>6</sup> See <http://efile.mpsc.cis.state.mi.us/cgi-bin/efile/viewcase.pl?casenum=13843>.

<sup>7</sup> See <http://efile.mpsc.cis.state.mi.us/cgi-bin/efile/viewcase.pl?casenum=14569>. Comments were received from 176 individuals. The Commission approved Detroit Edison's application, with modifications, in an April 3, 2007 Order. Detroit Edison was directed to file tariff sheets consistent with the order, and to file annual reports on the Company's renewable resources program, with the first report due by March 31, 2008.

<sup>8</sup> See <http://efile.mpsc.cis.state.mi.us/cgi-bin/efile/viewcase.pl?casenum=15113>.

reached” (Order, p. 6).<sup>9</sup> Lastly, the Staff was directed to file a report by January 31, 2007, summarizing the issues identified and making recommendations for future action.<sup>10, 11</sup>

### 3. MREP Collaborative Activity in 2006

The majority of MREP activity in 2006 was focused on participation in the 21<sup>st</sup> Century Electric Energy Plan.<sup>12</sup> That project was initiated by Governor Jennifer M. Granholm, who issued Executive Directive 2006-2 on April 6, 2006.<sup>13</sup> The Executive Directive called for development of a proposed Energy Plan for the State of Michigan by December 31, 2006.<sup>14</sup> The public was invited to participate in development of the 21<sup>st</sup> Century Electric Energy Plan, through a collaborative process managed by the Michigan Public Service Commission Staff. Because many MREP Collaborative participants were involved in that process, which continued from April through December 2006, many of the MREP committees suspended meetings for the remainder of 2006. The MREP Collaborative intends to commence meetings again with guidance from the Commission on renewable energy issues, in response to the 2004-2005 MREP Report, this 2006 MREP Report, and current Michigan legislative policy proposals.

Several MREP Collaborative participants have become active in the state’s newly formed Renewable Fuels Commission.<sup>15</sup> This Commission was formed in September 2006, following the passage by the Michigan legislature of a package of seven bills.<sup>16</sup> The Commission was formed in the Michigan Department of Agriculture. Former MPSC Chairman J. Peter Lark was appointed to the Commission by Governor Granholm, to represent the Department of Labor & Economic Growth. Among other duties, this Commission is charged to:

...investigate and recommend strategies that the governor and the legislature may implement to promote the use of alternative fuels and encourage the use of vehicles that utilize alternative fuels... [and] identify mechanisms that promote research into alternative fuels.

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<sup>9</sup> See <http://www.michigan.gov/mpsc/0,1607,7-159-16377-159923--,00.html>.

<sup>10</sup> The MPSC Staff Report is available in the E-Docket file, at <http://efile.mpsc.cis.state.mi.us/efile/viewcase.php?casenum=15113>. Other documents associated with the Staff investigation are included in a separate webpages, at [http://www.michigan.gov/mpsc/0,1607,7-159-16377\\_47107---,00.html](http://www.michigan.gov/mpsc/0,1607,7-159-16377_47107---,00.html).

<sup>11</sup> The Commission issued an Order on February 27, 2007 in Case No. U-15113 approving certain staff recommendations and directing further study on net metering and interconnection issues. A final staff report on that process is due to the Commission by September 30, 2007. See the Order at <http://efile.mpsc.cis.state.mi.us/efile/docs/15113/0048.pdf>.

<sup>12</sup> See <http://www.dleg.state.mi.us/mpsc/electric/capacity/energyplan/>.

<sup>13</sup> See <http://www.michigan.gov/gov/0,1607,7-168-36898-140415--,00.html>.

<sup>14</sup> The final 21<sup>st</sup> Century Electric Energy Plan documents are available on the 21<sup>st</sup> Century Electric Energy Plan website (see footnote 12).

<sup>15</sup> See <http://www.renewablefuelscommission.org/>.

<sup>16</sup> See <http://www.renewablefuelscommission.org/legislation.htm>. The Commission itself was created by the Michigan Renewable Fuels Commission Act, 2006 PA 272 ([MCL290.581 et seq.](#)).



The Commission is directed by its enabling legislation to “issue a written report on its investigation and recommendations to the legislature and the governor.” The first meeting of the Renewable Fuels Commission (RFC) was held in Lansing on November 30, 2006. MREP Staff and Collaborative participants helped to arrange a tour of a nearby ethanol production facility, following the RFC meeting.

What follows are reports on the activities of each of the MREP Committees in 2006 and plans for Committee activities in 2007. In order to complete MREP plans for 2007 and beyond, MREP Collaborative participants and Committees are awaiting guidance from the Commission and implementation activities that are expected to follow based on recently proposed legislation.

**Biomass Committee** – Goals for the Biomass Committee are to: (1) explore more thoroughly, assess, and make available information and an atlas of Michigan biomass energy resources; (2) identify best practices for biomass energy policy incentives; (3) develop a consensus proposal for utility rates or other financial incentives for biomass self-service power; (4) identify and create a comprehensive plan for developing one or more Michigan biomass energy target markets; and (5) develop consensus siting guidelines for biomass facilities and share those guidelines with Michigan planning and zoning officials.<sup>17</sup>

Three Biomass Committee meetings were held in early 2006: January 25, February 28, and April 6. On March 15, 2006, a very successful, first annual, Michigan Agri-Energy Conference was held at the Horizon Center in Saginaw, with approximately 300 people in attendance. MREP Biomass Committee participants were instrumental in helping to plan this event, and workshop leaders and presenters there included Biomass Committee Chairperson, Dulcey Simpkins; MREP Coordinator, Tom Stanton; and Biomass Committee participants Robert Craig, Michigan Department of Agriculture; Lynn Hamilton of MSU Extension; Terri Novak, Michigan Department of Environmental Quality; and Chris Shilling of Saginaw Valley State University. As a result of the high level of interest shown in this first conference, a second annual Michigan Agri-Energy Conference was held March 13-14, 2007, in Lansing.<sup>18</sup>

At the January 25 meeting (27 attendees), there were four major presentations. Two were about anaerobic digestion, from Dr. Imad Mahawili of the Michigan Alternative and Renewable Energy Center (MAREC), of Grand Valley State University, and Dr. William Bickert of Michigan State University.<sup>19</sup> A third presentation was about plans for a biomass powered district heating system in Traverse City, by Jim Cooper of Traverse City Light and Power.<sup>20</sup> The fourth was about developing Michigan crops for biofuels or bioenergy, by Dr. Chris Schilling of Saginaw Valley State University.<sup>21</sup>

The February 28 meeting (15 attendees) included a presentation by Jessica Simons of the Southeast Michigan Regional Conservation & Development organization. The presentation was

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<sup>17</sup> See *Michigan's 21<sup>st</sup> Century Electric Energy Plan, Appendix – Volume 1: Policy Proposals*, p. 67, at <http://www.dleg.state.mi.us/mpsc/electric/capacity/energyplan/>.

<sup>18</sup> See [http://www.michigan.gov/deq/0,1607,7-135-3308\\_3333\\_4169---,00.html](http://www.michigan.gov/deq/0,1607,7-135-3308_3333_4169---,00.html).

<sup>19</sup> See <http://www.gvsu.edu/marec> and <http://www.egr.msu.edu/age/index.htm>.

<sup>20</sup> See <http://www.tclp.org>, or contact Mr. Cooper at 231-932-4560, or email [jcooper@tclp.org](mailto:jcooper@tclp.org).

<sup>21</sup> See <http://www.svsu.edu/cbed/svrdc/>.

about Michigan's ongoing problems with emerald ash borers, and ideas for how to best utilize the wood and wood residues that are presently being created as more and more ash trees succumb to this insect pest.<sup>22</sup>

The April 26 meeting (10 attendees) included three presentations. Norma McDonald, of Phase 3 Investments, presented *Exploring the Alternatives for Farm-Based Energy Production*. Ms. McDonald presented and explained a spreadsheet she is using to assess potential bioenergy production from agricultural wastes and residues. In the second presentation, Anthony Weatherspoon and Cara Boucher, of Michigan Department of Natural Resources, presented *The Forestry Industry and Wood Energy Resources in Michigan*. MSU Professor Ray Miller, from the Upper Peninsula Tree Improvement Center in Escanaba, presented a preliminary assessment of Michigan cellulosic biomass energy feedstocks, and a pre-proposal for a project to more accurately assess those resources. All of these presentations were instrumental in assisting participants in the 21<sup>st</sup> Century Electric Energy Plan and provided data that was used for the biomass resource assessments that were eventually reported.<sup>23</sup>

In looking ahead to 2007 and 2008, MREP Biomass Committee goals remain the same as those identified in this report. Achieving these goals will require a sustained commitment. In particular, development of a biomass resource atlas will require input from many interested parties including state and federal agencies, as well as funding to complete required geographic information systems (GIS) mapping. As a preliminary step in that process, MREP Biomass Committee participants will develop a proposal and obtain cost estimates.<sup>24</sup>

**Solar Committee** – The present goals of the solar committee are to: (1) develop a solar energy “green map” for Michigan, including identification of facilities with solar energy systems that are open to the public as demonstration and learning centers; (2) develop a proposal for Michigan solar access and easements; (3) develop a proposal for solar property tax treatment; (4) explore and develop recommendations for solar energy financial incentives, including incentives for net metering; and (5) using education and outreach programs to support solar energy in Michigan. The Solar Committee has also made a commitment to develop specific recommendations regarding renewable energy education, and submit them to the Commission in a separate report.

The Solar Committee did not meet in 2006. A research study is underway, to estimate the value of electricity that is likely to be displaced by solar electricity production in Michigan. Volunteers working on behalf of the Great Lakes Renewable Energy Association are leading this project. A report on this study is expected to be circulated by winter 2008.

**Wind Working Group** – Goals for the Wind Working Group (WWG) identified for 2005 and 2006 included: (1) complete and enact wind system siting guidelines; (2) explore more thoroughly, assess, and make available information on Michigan wind energy resources; (3) establish an anemometer loan program; (4) support tall-towers wind measurement; (5) develop wind energy

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<sup>22</sup> See <http://semircd.org/ash/index.php>.

<sup>23</sup> For the *Resource Assessment for Renewables, Jan 31, 07*, See <http://www.dleg.state.mi.us/mpsc/electric/capacity/energyplan/renewables/renewables.htm>.

<sup>24</sup> See <http://www.michigan.gov/cgi>.

information for an MREP atlas project; (6) identify appropriate capacity values for variable-output energy supplies, such as wind; (7) establish state goals for onshore wind development; (8) adopt an appropriate renewable portfolio standard; (9) evaluate offshore wind development potential; and (10) identify priorities for wind energy research. Significant progress was made in 2006 towards meeting nearly every one of these goals.

The Michigan Wind Working Group held eight meetings in 2006. The January meeting included presentations on NextEnergy tax incentives and the electric Capacity Needs Forum (CNF). The February meeting focused on project updates and brainstorming on research needs. Peter Kailing, of King & MacGregor Environmental Inc., made a presentation at the March meeting on his company's environmental assessment of the Noble Environmental Power wind farm project, planned for installation in Huron County. That was followed in April by Dr. Al Kurta, Eastern Michigan University, who talked about bats and his bat assessment for the Noble Environmental Power wind farm. The May meeting included a discussion of the 21<sup>st</sup> Century Electric Energy Plan and a presentation by Brion Dickens about Laker School District's small wind energy project.

The last WWG meeting was held in November and included presentations reviewing 2006 developments. Presentations were made by MPSC, the Great Lakes Renewable Energy Association, City of Ann Arbor, Oakland University, Consumers Energy, Michigan State University, WindStor, Noble Environmental Power, Mackinaw Power, and Western Michigan University.

John Patten, director of the Department of Manufacturing Technology at Western Michigan University, began organizing the Michigan Wind Manufacturing Working Group, which is focused on the manufacturing potential in Michigan for wind energy technologies and component parts. The first meeting of this group was held in April 2006, to explore how Michigan manufacturers might get involved in the wind generation industry. A second meeting was held on October 25 at a Society of Manufacturing Engineers (SME) alternative energy conference. Approximately 40 attendees there heard a presentation by Nordic Windpower, about that company's interest in partnering with existing companies to manufacture wind generators.<sup>25</sup>

The major goals identified for the wind working group for 2007 and beyond include: (1) improve on-shore wind energy resource estimates by working with the National Renewable Energy Laboratory (NREL) on verification of the 70-meter wind energy resource map for Michigan; (2) improve off-shore wind energy potential estimates by working with NREL, other Great Lakes states, and AWS Truewind to have offshore wind energy resource maps developed for the Great Lakes; (3) continue efforts to inform and educate the public, farmers, businesses, institutions, and political leaders about wind energy opportunities; and (4) provide forums and assistance to foster the development of a wind energy manufacturing industry in Michigan.

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<sup>25</sup> The Michigan Wind Manufacturing Working Group is now organized under the auspices of Michigan's NextEnergy Center. Cooperating organizations supporting the group include MREP, the Michigan State Energy Office, Michigan Economic Development Corporation, and the Department of Manufacturing Technology at Western Michigan University. In the future, the participating organizations expect to explore Michigan manufacturing potentials for all kinds of renewable and alternative energy technologies, but the focus in 2006 was almost exclusively on wind energy. See [http://www.nextenergy.org/industrygroups/wind\\_manufacturing\\_working\\_group.asp](http://www.nextenergy.org/industrygroups/wind_manufacturing_working_group.asp).

**Preliminary Status Report on Offshore Wind Energy** – In 2005, the Michigan Wind Working Group began exploring offshore wind energy as a possibility for both future manufacturing in our state and production in state waters in the Great Lakes. A preliminary briefing paper on offshore wind was completed in 2005 and posted on the Commission’s website.<sup>26</sup> In its August 21, 2007 Order in Case No. U-14345 (p. 13), the Commission directed MREP staff “to continue this investigation and make available to all interested parties a status report, in conjunction with the 2006-2007 Annual MREP Report.” The Commission also directed MREP staff (Order, p. 13) to “consult with additional entities, such as the DNR, the United States Army Corps of Engineers, the United States Coast Guard, other states bordering the Great Lakes, and the province of Ontario, Canada regarding their research on the feasibility and development of offshore wind turbines.”

In 2006, MREP staff and Michigan Wind Working Group participants helped to develop and participated in the first *Offshore Wind Energy Conference in the Great Lakes*, held in Toledo, Ohio, April 3-5.<sup>27</sup> Later in 2006, discussions were held with the Great Lakes Fisheries Commission, and a preliminary report on permitting issues was developed for the Fisheries Commission. The National Renewable Energy Laboratory (NREL) agreed, with the support of the Wind Working Groups in the Great Lakes States, to complete a map of the wind resources over the Great Lakes. NREL also began discussions with Great Lakes states to determine interest in forming a collaborative group for the purpose of studying the region’s offshore wind potential. The Great Lakes wind resource map is presently undergoing the process of validation, by NREL staff, and is expected to be available by the beginning of 2008. Discussions are continuing about the possibility of forming a collaborative group among Great Lakes states and Ontario.

A small group of staff from the Michigan Energy Office, Michigan DEQ, Michigan Economic Development Corporation, and MREP assembled in 2007 to continue to explore offshore wind possibilities. This newly formed Michigan Offshore Wind Working Group is beginning to explore issues involved with possible development of Michigan offshore wind resources, and will initiate the consultations as directed by the Commission.

In order to communicate most effectively with interested parties, MREP staff is developing a webpage on Great Lakes Offshore Wind Energy, and will provide updates both there and via notices to the MREP email distribution list and to the Wind Working Group.

**Economic Impacts Committee** – The primary goal of the Economic Impacts Committee has been to complete a valid and reliable analysis of the potential economic impacts of renewable energy expansion in Michigan, using a Michigan-specific economic impacts model.

The Economic Impacts Committee did not meet in 2006, while an economic impacts study was being completed by a project team under contract to the Michigan Department of Environmental Quality and the NextEnergy Center. This research was undertaken utilizing grant funds received from the Michigan Public Service Commission. A final report on this modeling effort is expect-

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<sup>26</sup> See *Potential for MI Offshore Wind Energy* at <http://www.dleg.state.mi.us/mpsc/electric/capacity/cnf/othergen/other.htm>.

<sup>27</sup> See [http://www.eere.energy.gov/windandhydro/windpoweringamerica/wkshp\\_2006\\_offshore.asp](http://www.eere.energy.gov/windandhydro/windpoweringamerica/wkshp_2006_offshore.asp).

ed in mid-2007. Based on recent modeling by other researchers, and preliminary findings from the MDEQ and NextEnergy project, projections of positive Michigan economic and employment impacts from increased reliance on renewable energy do appear to be valid and reliable.<sup>28</sup>

Looking to 2007-2008, the future role of the Economic Impacts Committee is uncertain. Committee participants could be helpful in modeling: (1) different methods of valuation of renewable energy systems for property tax purposes; (2) property tax credits or exemptions for residential scale renewable energy equipment; and (3) ecological tax reform principles, applied to Michigan renewable energy resources and production. These are all ongoing projects of interest to MREP participants, which are planned to be undertaken by the MREP Financing Committee. In addition, with the growing interest on the part of MREP participants in renewable energy manufacturing opportunities, the Economic Impacts Committee could focus more attention on specific Michigan manufacturing opportunities and the new Michigan Wind Manufacturing Working Group could be combined with the Economic Impacts Committee.

Lastly, in many other states, economic impacts studies were used to justify the adoption of a renewable portfolio standard (RPS), but to date there have been few if any follow-up studies to confirm actual impacts, after RPS policies were adopted. It makes sense for the Economic Impacts Committee to continue to track, report, and model the effects of renewable energy expansion in Michigan for some time to come, to inform the Commission and other state policy makers regarding the impacts of expanded renewable energy production and use in Michigan.<sup>29</sup>

**Financing Committee** – The present goals of the MREP Financing Committee are: (1) work with interested parties to prepare implementation proposals for appropriate approaches to creative financing for the development of new renewable energy facilities in Michigan; (2) work with the Michigan Department of Management and Budget to encourage efficiency and renewable energy resource use for state facilities, which could produce long-run cost savings to the state; (3) encourage the Michigan Department of Environmental Quality to work cooperatively with the United States Environmental Protection Agency to amend emissions credit guidelines so that utilities can be rewarded for developing green power tariffs; and (4) explore options for ecological tax reform.

The financing committee met by teleconference five times in early 2006. Committee participants began work on a document that is intended to become a request for proposals (RFP), for the purpose of identifying and hiring a consultant or consultants to research and answer many basic questions about the possible role that innovative financing mechanisms could play in helping Michigan to achieve its near- and longer-term renewable energy infrastructure goals. Another important project that remains to be completed is the development of a complete directory or index of all existing state and federal programs that are already available to provide funding, financing, or incentives for renewable energy systems in Michigan. The Financing Committee intends to collaborate with interested parties in Michigan to see that such a directory is develop-

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<sup>28</sup> Reports from four recent studies, including the MDEQ and NextEnergy report, were presented at a Wind Energy & Economic Development Forum at Michigan State University on April 24, 2007. See <http://www.nationalwind.org/events/forums/070424/presentations/default.htm>.

<sup>29</sup> See J. Peter Lark, January 2007, *Michigan's 21<sup>st</sup> Century Electric Energy Plan*, pp. 26, 27, 29, 43; <http://www.dleg.state.mi.us/mpsc/electric/capacity/energyplan/index.htm>.



ed and made readily available to the interested public.

After the start-up of the 21<sup>st</sup> Century Electric Energy Plan in late spring 2006, committee participants concluded there was significant overlap between the goals and activities of the committee and the 21<sup>st</sup> Century Electric Energy Plan, and thus agreed to suspend MREP finance committee activities for the remainder of the year. In the Commission's August 21, 2007 Order in Case No. U-14345 (p. 18), the Commission indicated it is awaiting a report from the Financing Committee. The Financing Committee intends to continue its efforts in 2007-2008, by first completing its report and then receiving further guidance from the Commission.

**Ratemaking and Net Metering Committee** – The Ratemaking and Net Metering Committee did not meet in 2006. The first and second annual net metering program reports, for 2005 and 2006, are being separately filed and will be available on the MREP website.

In its February 27, 2007 Order in Case No. U-15113, the Commission directed the MREP Ratemaking and Net Metering Committee “to form a task force comprised of representatives from the Staff, utilities, and interested parties to seek a new consensus and report to the Commission within 90 days [by May 29] on a simplified approach for net metering for inverter based systems smaller than 10 kW” (Order, pp. 8-9).

#### **4. MPSC Staff MREP Activity in 2006**

MREP Staffing at the MPSC was reorganized into the Operations and Wholesale Markets Division. MPSC Staff Engineers Julie Baldwin, Brian Mills, and Pat Poli, and Student Assistant Stacy Stiffler devoted significant time in 2006 to providing assistance to the MREP and the Renewable Energy Workgroup for the 21<sup>st</sup> Century Electric Energy Plan project. In 2007, discussions are underway about formalizing assignments for Engineering Section Staff to provide continuing support to the MREP.

A new MREP brochure and business-card-size brochure were developed and printed in 2006. The business-card size brochure turned out to be very popular. Staff plans to update the business-card-size brochure for 2007.

MREP Staff provided some support for faculty/student projects, one at the University of Michigan and another at Wayne State University. The University of Michigan project is assessing various state level policies for the reduction of the emissions of gases associated with global climate change. The Wayne State University project attempts to assess the potential for utilizing the Ludington pumped storage facility in conjunction with Michigan wind energy.

An MREP Legislative Update meeting was held June 16 at the Michigan Alternative and Renewable Energy Center (MAREC; <http://www.gvsu.edu/marec>), in Muskegon. MPSC Chair J. Peter Lark and Michigan Representative Bill Huizenga made presentations and held a dialogue with participants. Dr. Imad Mahawili, Executive Director of MAREC, gave a presentation about MAREC activities, and a tour of the facility was provided.

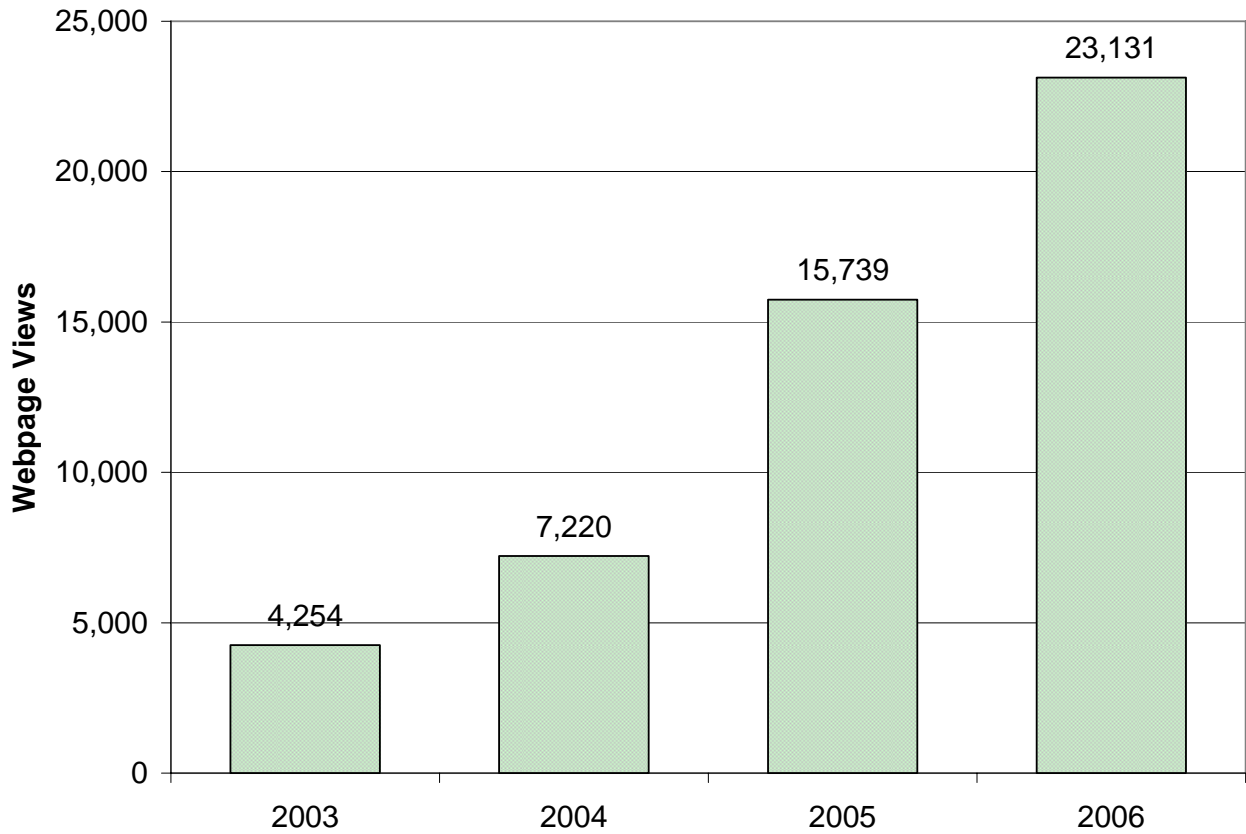
MREP Staff also helped to plan and participated in, and the MPSC/MREP was a co-sponsor of, the Michigan Energy Efficiency and Renewable Energy Fair, held at the Manistee County Fairgrounds in Onkama, June 16-17-18. The Fair was a big success, with 50 workshops and about 2,500 attendees. An MREP Open Forum meeting was held at the Fair, where approximately 50 participants joined in a review and discussion of Michigan renewable energy policy issues. See [http://www.glea.org/events/MichiganEnergyFair2007/2006\\_recap.php](http://www.glea.org/events/MichiganEnergyFair2007/2006_recap.php).

MREP Staff presented at a dozen other conferences, workshops, and seminars in 2006. These included: a Wind Town Meeting in Wyandotte; a Combined Heat & Power conference at the NextEnergy Center in Detroit; Michigan's first annual Agri-Energy Conference in Saginaw; the fourth annual Renewable Energy Conference at the Pierce Cedar Creek Institute, near Hastings; the Michigan Society of Professional Engineers annual conference at Gaylord; the annual Bioneers Conference in Detroit; the Great Lakes Renewable Energy Association annual meeting in Ann Arbor; and the Air and Waste Management Association annual conference in Lansing.

## 5. Activity on MREP Website

Activity on the MREP website has continued to increase significantly each year. The average annual growth rate from 2003 through 2006 has been 75% per year, and the growth for 2006 compared to 2005 was almost 50%. As shown in Figure 1 below, 2006 MREP website page views totaled 23,131.

**Figure 1: MREP Webpage Views by Year (2003-2006)**





The MREP web pages most viewed in 2006 are shown in Table 2. Web pages associated with Michigan's net metering program represented nine of the top twelve.

**Table 2: Most Frequently Viewed MREP Webpages in 2006**

Title of MREP Webpage	Page Views in 2006
Michigan Renewable Energy Program Main Page ( <a href="http://www.michigan.gov/mrep">http://www.michigan.gov/mrep</a> )	6,974
Net Metering ( <a href="http://www.michigan.gov/netmetering">http://www.michigan.gov/netmetering</a> ) <sup>1</sup>	2,544
Michigan Renewable Energy Program (description)	1,828
MPSC Press Release ( <i>MPSC Approves Eight Consumers Energy Power Purchase Agreements for Renewable Energy Projects in Michigan</i> , October 18, 2005)	1,067
Utility Interconnection and Net Metering Information (index of Michigan utilities) <sup>1</sup>	1,054
Financial Incentives and Assistance <sup>1</sup>	905
Net Metering Basics <sup>1</sup>	808
MREP Calendar of Events <sup>2</sup>	658
Consumers Energy Net Metering Program Information <sup>1</sup>	539
MPSC Press Release ( <i>MPSC Approves Agreement Implementing Statewide Net Metering Program that will Allow Customers to Put Excess Electricity Back on the Grid</i> , March 29, 2005) <sup>1</sup>	415
Finding a Renewable Energy Manufacturer, Dealer, Installer, or Contractor <sup>1</sup>	331
Planning and Designing Self-Service Renewable Energy Systems <sup>1</sup>	299
We Energies Net Metering Program Information <sup>1</sup>	270
<sup>1</sup> These pages are all associated with the Net Metering webpages.	
<sup>2</sup> Three specific renewable energy events listings were frequently visited in 2006, on the order of a few hundred page views each, but those pages generally expire 90 days after the event listed, so it is not possible to identify the particular events that were most frequently visited.	

In addition to this activity on the MREP website, important Michigan renewable energy reports were posted on the Capacity Need Forum (CNF) and 21<sup>st</sup> Century Electric Energy Plan websites in 2005 and 2006.<sup>30</sup> The CNF Other Generation workgroup webpage includes reports that involved extensive MREP input, including reports on: methods for analyzing the capacity value of wind energy; offshore wind energy development in the Great Lakes; and wind energy, landfill gas, and anaerobic digestion resource assessments for Michigan. The 21<sup>st</sup> Century Electric Energy Plan Renewable Energy Workgroup website includes reports on the renewable energy assessments and policy proposals considered for and recommended in that study.

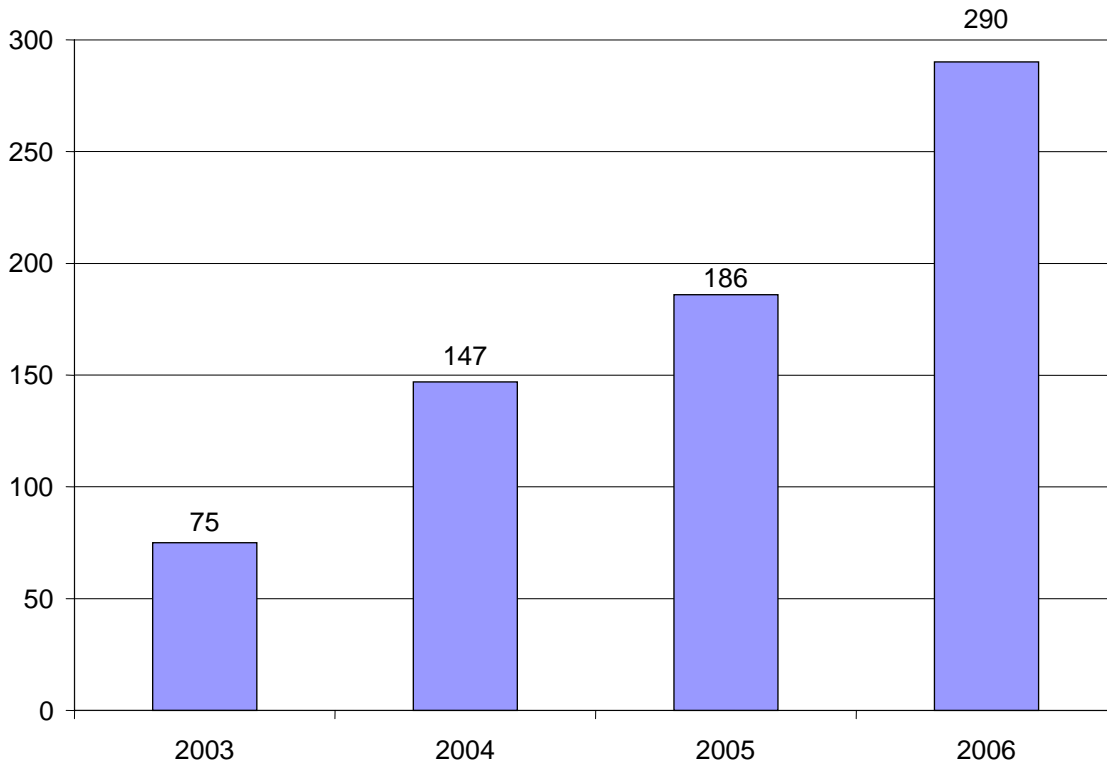
<sup>30</sup> See <http://www.dleg.state.mi.us/mpsc/electric/capacity/cnf/othergen/other.htm> for the CNF and <http://www.dleg.state.mi.us/mpsc/electric/capacity/energyplan/renewables/renewables.htm> for the 21st Century Electric Energy Plan.

### Activity on MREP Email Distribution List

The MREP email distribution list is an un-moderated email distribution list, open to all subscribers. MREP email distribution list included 290 subscribers at year end 2006.

The growth in the number of subscribers to the MREP list from year-end 2003 to 2006, is shown in Figure 2 below. The average annual growth rate in number of subscribers has been 56%.

**Figure 2: MREP Email Distribution List Subscribers (Year-End 2003-2006)**



Because the MREP email distribution list is an open, un-moderated list, subscribers are not pre-screened in any way, and there is no systematic attempt to identify subscribers. Many subscribers provide only their email address as a form of identification when completing their subscription requests, and others provide only their name and email address. Based on the email addresses of subscribers, and direct knowledge of many of the current MREP subscribers by name and affiliation, MREP Staff attempted to identify the major type of affiliation of participants as shown below in Table 3:

**Table 3: Major Affiliation of MREP Email Distribution List Subscribers**

<b>Type of Affiliation</b>	<b>Number</b>
Utility Companies	38
Michigan State Government	28
Non-Governmental Organizations	19
Renewable Energy Professionals	18
Colleges & Universities (Staff & Faculty)	18
Alternative Electric Suppliers & Independent Power Producers	15
Consultants & Trade & Professional Associations	17
Manufacturers	9
College and University Students	7
Local and County Governments	6
Journalists	5
Non-Michigan State Governments	2
Unknown	108
<b>Total</b>	<b>290</b>

In 2006, 189 messages were distributed through the MREP email distribution list. That is approximately four per week or 16 per month. The message types are summarized in Table 4. Nearly half were related to renewable energy conferences, workshops, seminars, and other meetings.

**Table 4: Types of Messages Distributed through MREP Email List in 2006**

<b>Type of Message</b>	<b>Number</b>	<b>Percent</b>
Events, Conferences, Workshops, Meetings	90	48%
Publications and Reports	31	16%
Non-MPSC Press Releases	21	11%
MREP and 21 <sup>st</sup> Century Energy Plan Meetings	20	11%
Grants, Requests for Proposals, Job Offerings	15	8%
MPSC Press Releases	7	4%
MREP Issues Discussion	5	3%
<b>Total</b>	<b>189</b>	<b>100%</b>

## **6. MREP Plans for 2007 and Beyond**

In general, MREP Staff plan to focus closely in the coming months on those activities that are the responsibility of the Michigan Public Service Commission and its Staff and for which the Commission and Staff are uniquely suited to address. The agenda of projects related to recent policy proposals and implementing the Commission's various renewable energy orders is substantial. To the extent that MREP collaborative participants wish to undertake additional projects in coordination with MREP's stated goals and objectives, MREP Staff will facilitate communications and coordination. Otherwise, MREP Staff plans to focus its work in the coming months on specific assignments, as the Commission directs. Current plans are as follows.

MREP Staff is already working extensively on interconnection issues and the assignments which result from Commission Orders in Cases Nos. U-15113 and U-15239.<sup>31</sup> In addition, Staff has reporting responsibilities for MREP program activities, for Michigan renewable energy data and statistics, and for Michigan's net metering program. If the recommendations being considered in the legislature are enacted, then MREP Staff expects to be extensively engaged in developing proposals for the establishment of three major initiatives: (1) a Michigan renewable energy certificate (REC) trading program; (2) alternative compliance payments (ACP); and (3) utility solar energy pilot programs.

In addition, MREP Staff expects to participate in the collaborative process for smart grid infrastructure initiatives, which the Commission recently initiated through its April 24, 2007

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<sup>31</sup> See the discussion beginning on p. 7.

Order in Case No. U-15278.<sup>32</sup>

MREP Staff will also be working with various MREP collaborative participants to try to develop consensus on siting guidelines for various renewable resource facilities, including biomass, hydroelectric, and solar energy. Once guidelines have been developed, MREP Staff will disseminate them to local planning and zoning officials.

In response to some requests received from interested parties, MREP Staff plans to support the establishment of a new MREP Hydroelectricity committee. The first tasks for this new committee will be to develop a proposed work plan, including a preliminary resource assessment. In addition, the Federal Energy Regulatory Commission (FERC), which licenses hydroelectricity facilities throughout the U.S., has invited interested parties from Michigan to work collaboratively on streamlining, as much as possible, procedures for small Michigan hydroelectric facility licensing or obtaining exemptions from FERC's licensing procedures.

In 2006, MREP Staff agreed to cooperate with and support a grant project being managed by the Great Lakes Renewable Energy Association, to help develop a County Wind Energy Plan for Manistee County. That project is expected to be completed by early 2008.

MREP Staff proposes to add to the MREP website information on utility green pricing programs and fuel mix reports during the coming year. Providing information on green pricing programs could help boost customer participation. Most of the utilities provide fuel mix reports on their websites but the information can be hard to locate. Staff has received several requests for fuel mix information recently.

In addition to those activities, Staff intends to focus its remaining resources on education regarding renewable energy. Staff is working now to complete an updated Michigan Wind Energy Resource Assessment publication. In addition, Staff plans to develop detailed work plans for various aspects of the proposed Michigan Renewable Energy Atlas. And, Staff is working with other state departments including Michigan Departments of Agriculture and Environmental Quality, to develop a series of MREP-KIDS web pages for educators and primarily elementary and middle school students, to be incorporated into both MREP and MI-KIDS websites.<sup>33</sup>

MREP Staff continues to respond to many requests for giving presentations at conferences, seminars, and workshops. Because of the current state budget constraints and directions to restrict travel to essential purposes only, however, MREP Staff has recently limited its participation in such events, until further notice. To the extent that the requesting organizations are prepared to reimburse the state government for expenses associated with travel, MREP Staff is continuing to accept such engagements when Staff time allows.

MREP Staff continues its interest in participating in Open Forum meetings, to educate the public about and obtain public input on renewable energy policy issues. In 2007, an MREP Open Forum was held at the Michigan Energy Efficiency and Renewable Energy Fair, on the Manistee

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<sup>32</sup> See <http://efile.mpsc.cis.state.mi.us/efile/viewcase.php?casenum=15278>.

<sup>33</sup> See <http://www.michigan.gov/mikids>.

County Fairgrounds in Onkama, June 22-23-24.<sup>34</sup>

To minimize all meeting participants' travel expenses, MREP is continuing to utilize toll-free teleconference and webconference capability for as many meetings as possible. Many MREP meetings are now advertised primarily as teleconference and webconference meetings. Details of MREP meetings and other related events are provided through the MREP email distribution list and via the MREP Calendar of Events.<sup>35</sup>

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<sup>34</sup> See <http://www.grea.org/events/MichiganEnergyFair2007>. The MREP Open Forum was scheduled for Sunday, June 24, at 11:00 – 11:50 a.m.

<sup>35</sup> The MREP Calendar of Events is accessible from <http://www.michigan.gov/mrep>. See the link in the upper left hand portion of that web page.