

Alternative Energy Technologies in Michigan's 21st Century Energy Plan

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Alternative Technology Workgroup
May 10, 2006 Workgroup Meeting

Outline of Presentation

- Review Governor's Executive Directive
- Workgroup Project Schedule/Timeline
- Workgroup Scope of Technologies
- Work Products/Deliverables
- subgroups
 - Establish subgroup participants & leaders
 - Set preliminary subgroup meeting schedule

The Governor's E.D. 2006-2

- meeting the state's **short and long-term electric needs** for residential, industrial, commercial and governmental customers in way that that ensures a **reliable, safe, clean and affordable supply**;
- developing Michigan's **electrical infrastructure** to further the state's competitive business climate, grow jobs, and provide **affordable rates for all customers**;
- **reducing reliance on fossil fuels through energy efficiency, alternative energy, and renewable energy technologies** consistent with the goal of assuring reliable, safe, clean and affordable energy;

The Governor's E.D. 2006-2 (2)...

- **protecting natural resources and the environment from pollution**, physical or visual impairment, or destruction and future risks associated with fossil fuels;
- developing a **renewable portfolio standard** which will establish targets for the share of the state's energy consumption that should come from renewable energy sources;
- identifying **new technology options** to generate, transmit, or distribute energy more cleanly or more efficiently;

The Governor's E.D. 2006-2 (3)...

- **fostering continued growth of alternative and renewable energy technologies within the state** by ensuring development of the **intellectual capital, financing, infrastructure, and other resources necessary** for the growth of the industry; and,
- identifying any **legislative or regulatory changes** necessary to its implementation, together with any **financial, funding, or incentive mechanisms** needed to best position the state to meet the energy challenges of the future.

21st Century Energy Plan Schedule

- By mid-May – Finalize agenda, establish subgroups
- subgroups work on specific projects, with deliverables between early August and mid-September
- Meetings:
 - Workgroup meetings monthly (Jun, Jul, Aug, Sept)
 - Joint 21st Century Energy Plan Meetings: June 22nd, July 18, August 28th
 - Early October – review & comment on Workgroup Reports

Energy Plan Schedule(2)

- Draft subgroup reports due by July workgroup meeting
 - Second subgroups project reports due by August workgroup meeting
 - Final subgroup reports due by early September*
 - Final Workgroup Report - September 29th
 - Comments on Workgroup Reports - October 16th
- * Alt. Energy CHP subgroup report due late-July.

Workgroup Priorities

- Update Capacity Need Forum (CNF) data & modeling:
 - Confirm or modify, as needed
 - Further investigate resource options
- Develop Policy Recommendations:
 - Legislative & regulatory changes
 - Financial, funding, & incentive mechanisms

Next AE Workgroup Meetings

- Tuesday, June 6th, 1:30 p.m.
- Tuesday, July 11th, 9:30 a.m.
- Wednesday, August 9th, 9:30 a.m.
- Tuesday, September 12th, 9:30 a.m.

*Unless noted otherwise, all meetings will be held at MPSC offices @ Mercantile Building

Combined Heat and Power Subgroup

- Traditional Co-generation applications - Gas and Steam Turbines, Combined cycle and Simple cycle (gas and steam)
- Tri-generation Technologies
- Internal Combustion Engines (Otto and Diesel Engines)
- Stirling Engines

Smart Grid/Smart Metering Subgroup

- Smart Grid Technologies
- IT & Communication Upgrades
- Remote Sensing and Telemetry Systems
- Transmission Grid Performance Standards
- Grid Utilization Issues for Variable Renewable Energy Sources

Emerging Energy Subgroup

- Fuel Cells (high temp and low temp)
- Micro-turbines
- Advanced Engine types/fuels
- Low-flow turbines
- Others?
- Plug-in EV's?

Regulatory & Policy Subgroup

- Recommendations to advance application of alternative energy forms
- Regulatory Barriers to Technologies
- Tax Policies and Incentives
- Financing/Funding Approaches

Related MREP & EDGE2 Reports

- September – 2005 Michigan net metering program data report & evaluation report on net metering
- September – DEQ/NextEnergy Report on Net Economic & Employment Impacts of Renewable Energy & Energy Efficiency in Michigan

Next Steps

- Discuss & Refine Work Plans
- Sign up for AE Subgroups
 - Identify subgroup leaders & project leaders
 - Set schedule for subgroup work
- 21st Century Energy Plan Alternative Technologies Workgroup meetings