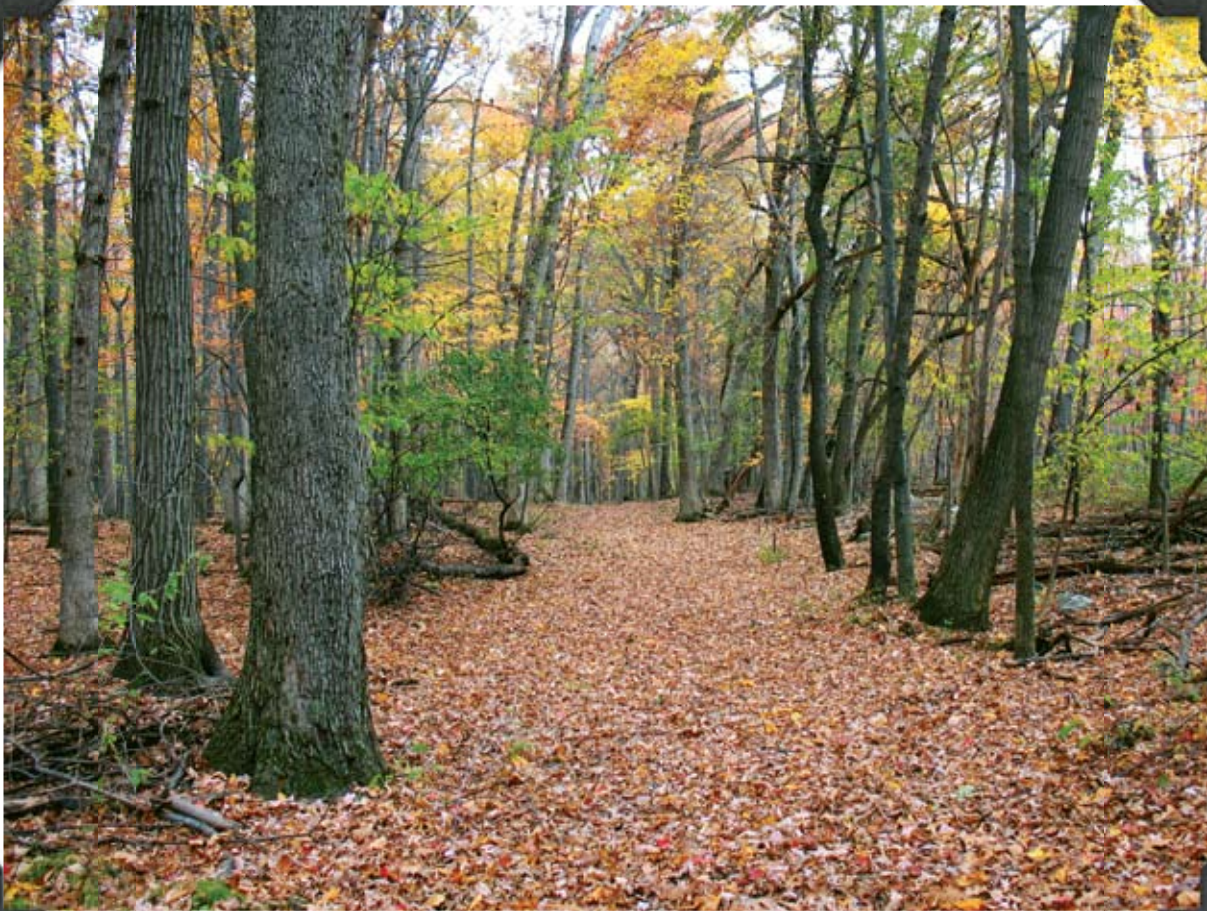


MICHIGAN'S Clean Energy LEGISLATION

Charging Toward a New Energy Future

By Christopher Bzdok and James Clift



Trail in autumn through the Hardwood Forest at Six Rivers' Springbrook Farm Project in Metamora Township.
Photo by Susanne Greenlee

Introduction: Change is Coming

Michigan ratepayers spend \$3 billion a year to purchase fuel for the conventional power plants that generate most of our electricity; only 3.1 percent of it comes from renewable sources.¹ While saving energy is the most cost-effective way to meet future growth in energy demand,² until recently Michigan law did not mandate the use of efficiency programs. And while the Michigan Public Service Commission (PSC) was authorized to review the general reasonableness and prudence of plans to build new power plants, the law did not require the PSC to compare the cost of those plants with the cost of supplying that energy through a combination of savings programs and renewable sources.

All that is changing. A package of laws passed last fall aims to fundamentally change the way electricity is generated, used, and regulated in our state.³ The package's three focal points are:

- (1) Boosting the building and use of new renewable sources to generate energy;
- (2) Saving energy through energy optimization programs; and
- (3) Adopting a method for evaluating future energy generation needs called integrated resource planning, which approaches decisions about new power plants by considering the full set of alternatives and choosing the most cost-effective, least risky option.

The hope is that these changes will be good for Michigan—good for the economy by stimulating investment in renewable energy facilities;⁴ good for the environment by reducing pollution from coal plants; good for energy security by diversifying our sources of energy; and good for ratepayers by insulating us from volatility in the future price of energy from fossil fuels.⁵

Fast Facts:

Michigan electrical facilities have the capacity to generate over 30,000 megawatts of electricity, and spend \$3 billion annually to purchase fuels from out of state to power them.

Public Act 295 of 2008 (PA 295) requires electricity providers in Michigan to generate or purchase 10 percent of their energy from renewable sources by 2015.

PA 295 also requires electrical utilities to institute energy efficiency programs. These programs must reduce energy usage in increasing increments until they reach a savings level of 1 percent per year by 2012 and each year thereafter as long as the programs continue to be cost-effective.

Renewable Energy

Goals of the Program

Renewable energy resources are “ultimately derived from solar power, water power, or wind power.” The statutory definition includes biomass, solar, wind, hydropower, geothermal, municipal solid waste, and landfill gas.

The primary goal of the renewable energy program is to increase the amount of electricity that comes from renewable energy resources. Each electric provider—including shareholder-owned utilities, electric cooperatives, and municipal utilities—must meet a renewable energy standard of 10 percent of total sales in megawatt hours by 2015.

RECs

The currency of the renewable energy standard is the renewable energy credit (REC). RECs are allotted to the owner of a renewable energy system—one REC for each megawatt hour of renewable energy generated by the system. Electric providers have to amass enough RECs to meet the 10 percent renewable energy requirement by 2015.

The law offers flexibility in amassing RECs. Detroit Edison and Consumers Energy may build or own up to 50 percent of the renewable energy systems necessary to meet their REC requirements and are required to purchase at least 50 percent of their required RECs through power purchase agreements (PPAs) with independent energy developers.⁶ With PSC approval, electric providers can use “advanced cleaner energy credits”—such as gasification, cogeneration, or coal technologies that capture and sequester CO₂—for up to 10 percent of their required RECs. Electric providers can also use energy savings to meet part of their REC obligations. Finally, the statute includes a detailed incentive program.

Paying for Renewable Energy

Utility customers will pay the cost of renewable energy in two ways. First, they will pay a “transfer price” that represents what the same amount of energy would have cost had it been acquired from conventional sources. Utilities will then pass on the rest of the cost through a surcharge that represents the incremental additional cost of complying with the renewable energy program. This “incremental cost of compliance” surcharge will be assessed on a per-meter basis for the life of the program and is capped by the statute at \$3 a month for residential customers.

PSC Review of Renewable Energy Plans

Each electric provider must prepare a renewable energy plan outlining how it will meet the REC requirements and how its customers will pay for it. The PSC must approve the plans. Large

Life-Cycle Test

The life-cycle test takes into consideration construction, operation, and maintenance costs; projected fuel costs; costs associated with pollution control for pollutants, including carbon dioxide; financing costs; and return on investment. The projected amount of electricity to be produced is then divided by anticipated costs to determine the expected life-cycle costs. The analysis does not include any consideration of environmental or public health impacts.

Under the statute, the utility's life-cycle costs for renewable energy minus the life-cycle benefits from energy efficiency must cost less than a new coal-fired power plant. The analysis conducted by the Public Service Commission in cooperation with Consumers Energy and Detroit Edison determined the anticipated life-cycle cost for a new coal-fired power plant would be \$133/MWh or 13.3 cents a kilowatt.

The plans submitted by both Detroit Edison and Consumers Energy passed this life-cycle test.

shareholder-owned utilities' plans are reviewed through a contested-case process with broad rights of intervention for stakeholders. The plans for electric co-ops and municipal utilities are reviewed after a public comment period.

There are two primary approval standards for the shareholder-owned utilities' plans: whether the plans—including their projected costs—are reasonable and prudent, and whether the plans pass the "life-cycle cost test." To pass that test, the life-cycle cost of renewable energy acquired or generated under a provider's renewable energy plan, less the projected life-cycle net savings associated with the provider's energy optimization plan, must not exceed the expected life-cycle cost of electricity generated by a new conventional coal-fired facility.

The purpose behind the life-cycle cost test is that while there is an incremental additional cost to developing clean energy resources, that cost, by unit volume, should be less than the incremental additional cost, by unit volume, of developing new coal-fired generating resources. In other words, the life-cycle cost test is about protecting ratepayers by ensuring that utilities are looking at long-term total costs when making decisions about meeting future demand.

Finally, three types of proceedings involving shareholder-owned utilities' renewable energy plans will occur after approval of the initial plans: biennial reviews of the plans every two years, requests for amendments by a utility between the biennial reviews, and reconciliations in which the PSC is to reconcile the utilities' actual revenues and expenses with those projected in the plans. Each of these reviews is to be done as a contested case, similar to the initial plans.

Energy Optimization

Goals of the Program

Energy optimization (EO) is an umbrella term that includes energy conservation, energy efficiency, and load management. It is the most cost-effective way to save ratepayers money. The goal of the EO program is to reduce the future costs of electric service to customers by reducing the total amount of generation capacity utilities will have to acquire and maintain in the future. The EO program applies to both electric and natural gas providers.

The statute directs utilities to implement programs that will collectively achieve a minimum level of energy savings each year. The targets ramp up to reach annual incremental savings of 1 percent of total retail sales by 2012 for electric providers and 0.75 percent for natural gas providers.

Review of Energy Optimization Plans

Like the renewable energy program, electric providers must prepare energy optimization plans and submit them to the PSC for approval. Among other things, an EO plan must:

- Propose EO programs for each customer class, including low-income customers;

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- Specify necessary funding levels and describe how costs will be recovered;
- Ensure, to the extent feasible, that charges collected from a customer class are spent on programs for that class;
- Demonstrate that the programs will collectively be cost-effective; and
- Include independent evaluation and verification.

The review process for the EO plan is the same as for the renewable energy plan, including the contested case for shareholder-owned utilities. The PSC reviews the EO plan to determine if it is reasonable and prudent and meets a test called the “utility system resource cost test.” The utility system resource cost test is met when the cost of the EO program is less than the avoided life-cycle cost of supplying, transmitting, and distributing the energy that is saved.

In determining whether the plan is reasonable and prudent, the PSC is required to consider if each element of the plan would reduce the future cost of service for customers. The PSC must also consider at least all of the following:

- Specific changes in consumption patterns the plan is attempting to influence;
- A cost and benefit analysis;
- The plan’s consistency with any long-range resource plan filed by the provider;
- Unreasonable prejudice or disadvantage to any customer class; and
- The extent to which the plan provides programs that are available, affordable, and useful to all customers.

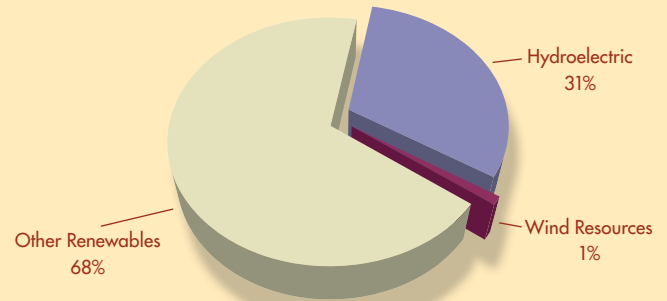
Paying for Energy Optimization

Shareholder-owned utilities may recover the actual costs of implementing their approved energy optimization plans as long as those costs are within limits set by the statute. The spending limits ramp up to 2 percent of total retail sales by 2012. Funding is collected from each customer class and spent on programs targeted at that class. A utility may spend more on EO programs than the limits in the statute if it gets “specific approval” to do so from the PSC. Certain large customers are allowed to run their own EO programs instead of paying EO charges to the utility.

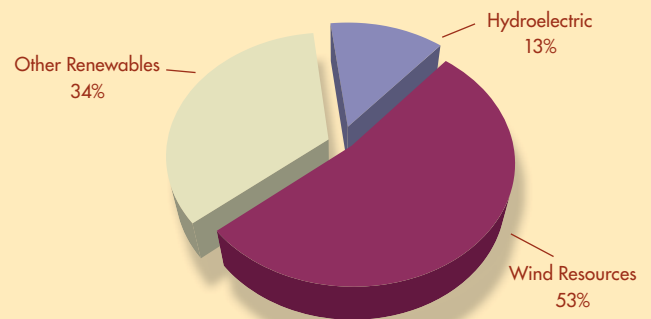
Integrated Resource Planning

Traditionally, utilities meet demand by determining how to supply reliable electricity with minimum revenue requirements.⁷ The utility evaluates only options to increase supply, not options to decrease demand. Historically, utilities met demand primarily by building large power plants, with insufficient attention given to the costs of those plants compared to other options.

Renewable Energy Generation—2007



Estimated Renewable Energy Generation—2016



Generation of renewable energy is expected to rise from approximately 3.7 million megawatt hours in 2007 to approximately 11 million megawatt hours by 2016. The vast majority of that new generation is expected to come from on-shore wind resources. The “other renewables” category is comprised primarily of biomass (waste wood burning facilities and landfill gas). These categories expect modest increases over the same period.

Integrated resource planning evaluates all available demand-side and supply-side options in an attempt to meet future electricity demands and minimize cost and risk to ratepayers. In Public Act 286 of 2008, the Michigan legislature introduced an integrated resource planning process for future large power-plant proposals. The goal of the law is that any new power plant will be built only if it is the most reasonable and prudent option.

Certificate of Necessity

A certificate of necessity is an assurance a utility can seek from the PSC that the utility will be able to recover the cost of a large investment in new electric generation. The utility can seek a certificate of necessity before it constructs, invests in, or enters a long-term power purchase agreement for new electric generation with a cost of more than \$500 million. A utility may request one or

more of the following determinations from the PSC in a certificate of necessity:

- That the power to be supplied by the proposed investment is needed;
- That the facility's size, fuel type, and design characteristics or the terms of the PPA are the most reasonable and prudent means of meeting the power demand;
- That the price specified in the PPA will be recovered in rates from the utility's customers; or
- That the estimated purchase or capital costs for the existing or proposed electric generation facility will be recoverable in rates.

Integrated Resource Plan

To seek a certificate of necessity, a utility must file an integrated resource plan (IRP). An IRP must include:

- A long-term energy load growth forecast under various scenarios;
- The generation technology, capacity, fuel costs, and regulatory costs for the proposed facility under various scenarios;
- Projected renewable energy and capacity purchased or produced by the utility;
- Projected energy-efficiency savings and costs;
- Projected load management and demand response savings and costs;
- An analysis of the availability and costs of alternatives, including additional renewable energy, energy efficiency, load management, and demand response programs; and
- Electric transmission options.

PSC Review Process

The PSC decides whether to grant or deny a certificate of necessity through a contested case with broad intervention rights. The PSC must grant the certificate if it determines the following:

- The utility has demonstrated a need for the power from the facility through its IRP;
- The facility will comply with state and federal environmental law;
- The facility's or PPA's estimated costs result from competitive contracts or solicitations;
- The utility's proposal represents the most reasonable and prudent means of meeting the power need relative to other options, including energy-efficiency measures; and
- To the extent practicable, the construction or investment uses a Michigan workforce.

The PSC may also consider any other information about the costs of the facility or alternatives to the proposal raised by intervening parties.

Conclusion

The Clean Energy Laws of 2008 represent a new direction in the way we generate, regulate, and save energy in Michigan. By diversifying our generation sources, mandating cost-effective energy savings, and laying the groundwork for new power-source planning that seeks the best supply- and demand-side options for ratepayers, our state is on the road to a more prudent energy future. ■



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FOOTNOTES

1. Michigan Public Service Commission, *Michigan Energy Overview* (September 2008), available at <<http://www.dleg.state.mi.us/mpsc/reports/energy/energyoverview/>>. All websites cited in this article were accessed August 3, 2009.
2. See, e.g., McKinsey & Company, *Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?*, available at <<http://www.mckinsey.com/clientervice/ccsi/greenhousegas.asp>>.
3. Public Acts 286 and 295 of 2008, MCL 460.6s and 460.1001, *et seq.* Because of space constraints, detailed statutory citations for this article can be found in the online version at <<http://www.michbar.org/environmental/publications.cfm>>.
4. See, e.g., Tegen, *Comparing Statewide Economic Impacts of New Generation from Wind, Coal, and Natural Gas in Arizona, Colorado, and Michigan* (2006), available at <<http://www.nrel.gov/docs/fy06osti/37720.pdf>>.
5. See, e.g., Northwest Power and Conservation Council, *Draft Fuel Prices for the Sixth Power Plan* (November 26, 2008), available at <<http://www.nwccouncil.org/library/2008/2008-14.pdf>>.
6. Because the plan is subject to review of its reasonableness and prudence, including the reasonableness and prudence of its projected costs, the big utilities may only "max out" their 50 percent allotment if that allocation is reasonable and prudent.
7. Swisher, et al., *Tools and Methods for Integrated Resource Planning* (Riso National Laboratory, Denmark: United Nations Environment Programme, 1997), available at <<http://uneprisoe.org/IRPManual/IRPmanual.pdf>>.