



WISCONSIN LEGISLATIVE COUNCIL INFORMATION MEMORANDUM

Siting of New Renewable Resource Electric Generating Facilities

INTRODUCTION

This Information Memorandum summarizes state regulations and policies that govern or affect the siting of the facilities that use renewable resources to generate electricity for sale in Wisconsin by electric utilities and electric cooperatives. The memorandum also identifies the current amount of electricity generated in Wisconsin from renewable resources.

State legislators are likely to have a growing interest in the siting of these facilities. In particular, renewable resource electric generating facilities are likely to become more commonplace as electric utilities and other developers of these facilities respond to a number of stimuli, including the following state programs:

- Construction and sales requirements. Under s. 196.376, Stats., each utility in eastern Wisconsin was required to construct by the end of 2000 an aggregate total 50 megawatts (MW) of new electric generating capacity in Wisconsin that use renewable energy sources. Under s. 196.377, Stats., retail electric utilities and cooperatives must provide a specified portion of their total retail energy sales in the form of renewable energy from facilities built, in general, after January 1, 1988. This “renewables portfolio

standard” is based on a three-year rolling average. It starts at 0.5% by December 31, 2001, and increases to a maximum of 2.2% by December 31, 2011.

- Technical assistance. The Department of Administration (DOA) has conducted a variety of technical assistance programs that support the development and use of renewable energy resources. These programs include the mapping, in cooperation with public utilities, of wind energy resources across the state.

Also, as more facilities are proposed, legislators may be confronted by local controversies that arise in the siting of some of these facilities, such as the controversy over the proposed wind farm in the Town of Addison, Washington County.

This Information Memorandum does not address the taxation of electric generating facilities or the public utility distribution component of state revenue sharing under which municipalities and counties that host specified electric generating facilities receive state aid. The Legislature is presently reviewing the entire revenue sharing program as part of its deliberations on the 2002 budget adjustment bill, 2002 January Special Session Assembly Bill 1.

RENEWABLE RESOURCES USED TO GENERATE ELECTRICITY

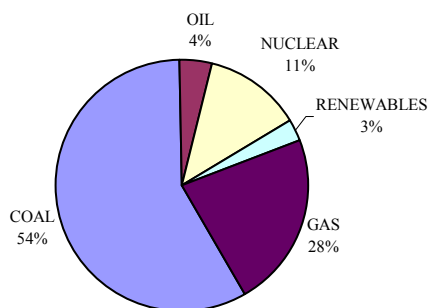
In Wisconsin, the principal renewable resources used to generate electricity include hydroelectric power, waste wood, refuse-derived fuel, methane generated by municipal solid waste landfills, wind power and sun light converted to electricity through the use of photovoltaic cells.

In addition, the “Reliability 2000” legislation in 1999 Wisconsin Act 9 identified other renewable resources which may be used to generate electricity: other biomass resources; fuel cells that use a renewable fuel, as determined by the Public Service Commission (PSC); geothermal technology; tidal or wave action; and other resources designated by the PSC.

CURRENT ELECTRICITY GENERATION FROM RENEWABLE RESOURCES

Figure 1 shows the capacity by fuel type for the summer of 2001 for facilities within the state that produce electricity by or for electric utilities and cooperatives in Wisconsin. Facilities powered by renewable resources constitute about 3% of this existing capacity.

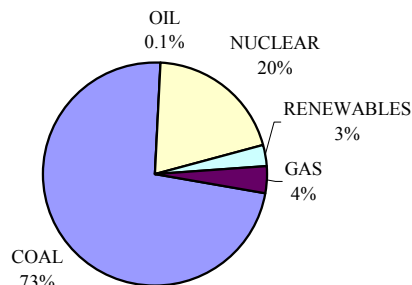
Figure 1
Electric Generation Capacity By Fuel Type
July 2001 Summer Rating



Source: PSC Staff.

Figure 2 shows the proportion of electricity produced by different fuel types in the state in 2000. During this year, renewable resources were used to produce about 3% of the electricity produced in the state.

Figure 2
Electric Energy Produced in Wisconsin
By Fuel Type - 2000



Source: PSC Staff.

For a given type of fuel, the differences in the percentages in Figures 1 and 2 reflect a number of factors. The most significant factor is whether the fuel is used to power facilities that operate continuously (i.e., “base load” plants, like nuclear power plants) or intermittently (i.e., “peak load” plants, like gas-fired turbines).

Currently, operating electric generating facilities in Wisconsin are powered by the following renewable resources, in order of decreasing statewide capacity: hydropower, biomass combustion (wood fuel, landfill gas and waste paper fibers), wind power and solar power. Hydropower makes up about 70% of this capacity, and biomass combustion.

STATE SITING REGULATIONS AND POLICIES

STATE ENERGY PRIORITIES

The state’s energy policy establishes the following goal:

It is the goal of the state that, to the extent that is cost-effective and technically feasible, all new installed capacity for electric generation in the state be based on renewable energy resources, including hydroelectric, wood, wind, solar, refuse, agricultural and biomass energy resources. [s. 1.12 (3) (b), Stats.]

This policy also establishes that in meeting energy demands, to the extent cost-effective and technically feasible, options be considered based on the following priorities, in the order listed:

- Energy conservation and efficiency.
- Noncombustible renewable energy resources.
- Combustible renewable energy resources.
- Nonrenewable combustible energy resources (natural gas, low sulfur oil or coal and then all other carbon-based fuels).

Both the DOA and the PSC have specific statutory duties to implement these priorities. The DOA must implement them in designing its energy programs and in awarding grants or loans for energy projects. The PSC must implement them, to the extent cost-effective, technically feasible and environmentally sound, in making all energy-related decisions and orders.

PSC APPROVAL OF LARGE GENERATING FACILITIES

In general, no person, including an electric utility or cooperative, may commence the construction of an electric generating facility with a capacity of 100 MW or more, irrespective of the type of fuel powering the facility, unless the person has received a certificate of public convenience and necessity (CPCN) from the PSC under s. 196.491 (2), Stats.¹

The PSC must consider a number of criteria in approving a CPCN, including whether there is a need for the facility,² whether the design and location of the facility is in the public interest, considering a number of specified factors, and whether the proposed facility will have an undue adverse impact on environmental values, such as ecological balance, historic sites, public health and welfare and the aesthetics of land, water and recreational use. Additional information on the PSC's CPCN approval process is presented in PSC publications available at the Internet address given at the end of this memorandum.

If installation or utilization of a facility for which a CPCN has been granted is precluded or prohibited by a local ordinance, then s. 196.491 (3) (i), Stats., overrides the ordinance and establishes that the installation and utilization of the facility may nevertheless proceed.

PSC APPROVAL OF SMALL UTILITY GENERATING FACILITIES

If a public utility intends to construct a new electric generating facility with a capacity of less than 100 MW, the utility must obtain a Certificate of Authority (CA) from the PSC under s. 196.49 (2), Stats., to construct the facility. The CA requirement only applies to utilities and only if the project costs exceed the threshold specified in the PSC's rules. For the largest electric utilities in the state, a CA is required for a project that costs more than \$5 million. The CA approval process is simpler and shorter than the CPCN approval process.

DEPARTMENT OF NATURAL RESOURCES POLLUTION CONTROL APPROVALS

If a renewable resource electric generating facility discharges air or water pollutants or creates solid or hazardous wastes, then the facility may need a permit, license or other approval from the Department of Natural Resources (DNR) for the discharge of the

pollutants or the management and disposal of the wastes. These regulations are set forth in chs. 281 to 291, Stats.

LOCAL ZONING AND PLANNING REQUIREMENTS

Section 66.0401 (1), Stats., establishes that no county or municipality may place any restriction on the installation or use of a solar or wind energy system unless the restriction satisfies one of the following conditions:

- Serves to preserve or protect the public health or safety.
- Does not significantly increase the cost of the system or significantly decrease its efficiency.
- Allows for an alternative system of comparable cost and efficiency.

A county board of adjustment is authorized by s. 59.694 (7) (d), Stats., to grant special exceptions and variances from county zoning ordinances for renewable energy resource systems.

Section 66.1001, Stats., calls for local governmental units, including regional planning commissions, to prepare comprehensive plans. These plans are an element of what is known as the “smart growth” initiative. Beginning January 1, 2010, any program of a local governmental unit that affects land use, including zoning and other regulations, must be consistent with the local governmental unit’s comprehensive plan. One required element of a plan is the utilities and community facilities element. This element must compile the objectives, policies, goals, maps and programs to guide the future development of community facilities and utilities, including “power-generating facilities,” in the local governmental unit. The element must also include an approximate timetable that forecasts, among other things, the need to create new utility facilities in the local governmental unit and the

needed governmental services related to these facilities.

PROGRAMS AND POLICIES TO ENSURE CONTINUED ACCESS TO SOLAR AND WIND RESOURCES

In addition to the programs and policies described above that directly relate to the siting of renewable resource electric generating facilities, state law contains a number of programs and policies to ensure the owner of solar and wind powered generating facilities continued access to sunlight and wind resources. While these programs and policies do not explicitly deal with the siting of an electric generating facility, they do affect the long-term viability of a solar or wind powered electric generating facility and thus could become factors in the siting of a generating facility. These programs and policies include the following:

- Solar and wind access permits. A municipality or county with a zoning ordinance may establish under s. 66.0403, Stats., a solar and wind access permit program. Under this program, an owner of a solar collector or wind energy system may obtain a permit under the specified circumstances which restricts the development and vegetation on nearby property so that that property does not create an impermissible interference with the solar collector or wind energy system.
- Land platting. Under s. 236.13 (2) (d), Stats., a county or municipality may require, as a further condition of approval for platting land, that the subdivider dedicate easements for the purpose of assuring unobstructed flow of solar wind energy across adjacent lots of the subdivision. In addition, s. 236.292 (2), Stats., voids all restrictions on platted land that prevent or unduly restrict the construction and operation of a solar or wind energy system.

- Renewable energy resource easements. Section 700.35, Stats., authorizes the creation of a renewable energy resource easement which may limit the height or location of permissible development or vegetation on the burdened land for the purpose of providing access to the benefited land to wind or sunlight passing over the burdened land.
- Solar and wind access. Under s. 66.0401 (2), Stats., a county or municipality may provide by ordinance for the trimming of vegetation which blocks solar energy from a collector surface or which blocks wind from a wind energy system if the vegetation was planted after the installation of the solar or wind energy system. The owner of a solar or wind energy system may receive under s. 700.41, Stats., the specified damages from any person who uses his or her property in a way that creates an obstruction of the owner's solar collector surface or wind energy system. In addition, s. 844.22, Stats., establishes that any structure that is constructed, or vegetative growth that occurs, on property adjoining or near to property on which a solar or wind energy system was previously installed, is considered to be a private nuisance if the structure or growth interferes with the functioning of the system.

INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES

Section 196.496, Stats., directs the PSC to establish, by rule, standards for the connection of "distributed generation facilities" to electric distribution facilities. A "distributed generation facility" is a facility for the generation of electricity with a capacity of up to 15 MW that is located near the point where the electricity will be used or where it will support the option of the electric power distribution grade. As such, these facilities can include renewable resource electric generating facilities.

These standards are intended to promote the development of distributed generation facilities and must address engineering, electric reliability and safety concerns, and methods for determining charges for these interconnections. The PSC is presently drafting these rules with the assistance of an advisory committee.

ADDITIONAL INFORMATION

The following Internet sites, maintained by state agencies, contain the statutes cited in this memorandum and additional information relating to the siting and use of renewable energy electric generating facilities:

- Wisconsin statutes:
<http://www.legis.state.wi.us/rsb/stats.html>
- DOA's Division of Energy:
<http://www.doa.state.wi.us/depb/boe/index.asp>
- DNR's Bureau of Integrated Science Services Power and Energy:
<http://www.dnr.state.wi.us/org/es/science/program/energy/index.htm>
- PSC information on the construction of electric generating facilities:
<http://www.psc.state.wi.us/eleconstr.htm>

This memorandum was prepared on March 19, 2002, by **John Stolzenberg, Chief of Research Services**. The Information Memorandum is not a policy statement of the Joint Legislative Council or its staff.

¹ By way of comparison with the 100 MW threshold for a CPCN, at present, the largest power plant in Wisconsin whose primary fuel is a mixture of wood and coal has a capacity of 68 MW, the largest wind farm has a capacity of 30 MW and the largest hydroelectric dam has a capacity of 57 MW.

² This criterion does not apply to a "wholesale merchant plant."

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