HB 1186

Department of Legislative Services

Maryland General Assembly
2012 Session

FISCAL AND POLICY NOTE
Revised

House Bill 1186 (Delegate Jameson, *et al.*)
Economic Matters Finance

Renewable Energy Portfolio Standard - Renewable Energy Credits - Geothermal Heating and Cooling

This bill adds specified geothermal systems as eligible for inclusion in meeting the State Renewable Energy Portfolio Standard (RPS).

The bill applies only to geothermal systems commissioned on or after January 1, 2013.

Fiscal Summary

State Effect: None. The Public Service Commission (PSC) can implement the bill with existing budgeted resources.

Local Effect: Minimal.

Small Business Effect: Minimal or none.

Analysis

Bill Summary: "Geothermal heating and cooling system" means a system that (1) exchanges thermal energy from groundwater or a shallow ground source to generate thermal energy through one or more geothermal heat pumps that is a closed loop system, or a specified open loop system; (2) meets or exceeds the current federal Energy Star product specification standards; (3) replaces specified equipment; (4) is manufactured, operated, and installed according to appropriate government and industry standards; and (5) does not feed electricity back to the grid.

A "tier 1 renewable source" includes energy generated through a geothermal exchange from or thermal energy avoided by groundwater or a shallow ground source. A person

must receive a renewable energy credit (REC) equal to the amount of energy, converted from British Thermal Units (BTUs) to kilowatt-hours, that is generated by a geothermal heating and cooling system for space heating and cooling or water heating if the person owns and operates the system, leases and operates the system, or contracts with a third party who owns and operates the system.

All sources of geothermal energy, including those specified in the bill, are eligible for inclusion in RPS only if the source is connected to the electric distribution grid serving Maryland.

PSC must determine the energy savings of both residential and nonresidential geothermal heating and cooling systems. For a residential system, PSC must identify available Internet-based energy consumption calculators developed by the geothermal heating and cooling industry and collect identifying information that provides the annual BTU energy savings attributable to the system. For a nonresidential system, PSC must use the system's technical designs to calculate the annual energy savings. The specified information used by PSC is submitted by individuals in REC certification applications to PSC, as required under current law. For all systems, PSC must determine the annual amount of RECs awarded by converting the annual BTUs into annual megawatt-hours (MWh).

A geothermal heating and cooling system must be installed in accordance with applicable State well construction and local building code standards.

Current Law: A REC is a tradable commodity representing the renewable energy generation attributes of one MWh of electricity. RECs are awarded to operators who generate electricity using specified renewable energy sources. A renewable on-site generator of electricity owns and may sell or transfer RECs to another party. RECs are not awarded for electricity conservation measures.

Statute requires PSC to establish by regulation requirements for documentation and verification of RECs by licensed electricity suppliers and other generators that create and receive RECs for compliance with RPS. COMAR 20.61.02 requires a renewable energy facility to apply for certification as either a Tier 1 or Tier 2 renewable source provider on a form provided by PSC. The form must include identifying information including the name and location of the facility, the legal name of the owner, and a description of the facility technology, among other things. Additional information is required for facilities that cofire renewable source fuel simultaneously with fossil fuels, and for residential and nonresidential solar water heating systems.

Maryland's RPS requires that renewable sources generate specified percentages of Maryland's electricity supply each year, increasing to 20%, including 2% from solar power, by 2022. Electricity suppliers must submit RECs equal to the percentage

mandated by statute each year, or pay an alternative compliance payment (ACP) equivalent to the supplier's shortfall. RECs are classified as Tier 1, Tier 1 Solar, or Tier 2. Examples of Tier 1 sources include solar; wind; qualifying biomass; methane from anaerobic decomposition of organic materials in a landfill or wastewater treatment plant; geothermal; ocean, including energy from waves, tides, currents, and thermal differences; a fuel cell that produces electricity from a Tier 1 renewable source; a small hydroelectric plant of less than 30 megawatts; poultry litter-to-energy; and waste-to-energy. Examples of Tier 2 sources include a hydroelectric plant of greater than 30 megawatts. Solar RECs may be generated from photovoltaic cells and residential solar hot water heating systems commissioned in fiscal 2012 or later.

In general, electricity derived from a Tier 1 or Tier 2 renewable source is eligible for inclusion in the State's RPS (by generating a Maryland-eligible REC for each MWh of electricity) only if the source is located in the PJM region or outside the PJM region if the electricity is delivered into the PJM region. However, certain technologies must generate energy in-State. Sources of solar energy (including solar photovoltaic and solar water heating systems), poultry litter-to-energy, waste-to-energy, and refuse-derived fuel are eligible for inclusion in RPS only if the source is connected with the electric distribution grid serving Maryland.

A person may not drill a well in Maryland unless the person obtains a permit. The Maryland Department of the Environment has delegated the authority to issue well driller permits to local health departments. A local health department may establish a permit fee to defray the cost of inspecting and testing wells and issuing certificates of potability.

Local governments are authorized to grant, by law, a tax credit against the county or municipal property tax imposed on a structure if the structure uses a solar energy device, a geothermal energy device, or a qualifying energy conservation device to heat or cool the structure, generate electricity to be used in the structure, or provide hot water for use in the structure.

Background: The Geothermal Heat Pump Grant Program was created by Chapter 476 of 2005 and took effect July 1, 2005. The program is administered by the Maryland Energy Administration and provides grants to individuals for a portion of the cost of acquiring and installing a geothermal heat pump. A geothermal heat pump is defined in regulation as a heating and cooling device that is installed using ground loop technology to heat and cool a residence or commercial building. The program has awarded over 1,400 grants since fiscal 2009.

Chapters 127 and 128 of 2008 created the Maryland Strategic Energy Investment Program, and the implementing Strategic Energy Investment Fund, to decrease energy demand and increase energy supply to promote affordable, reliable, and clean energy.

Currently, the fund's primary source of revenue is proceeds from the sale of carbon dioxide (CO_2) allowances under the Regional Greenhouse Gas Initiative. Money received from the CO_2 auctions is required by statute to be allocated among various programs, including renewable energy programs.

Electricity suppliers have generally been able to meet their Tier 1 nonsolar RPS requirements. Solar ACPs have comprised the dominant portion of RPS compliance payments for the most recent years data is available. There was a shortfall of 2,707 MWh in 2008 and 2,865 MWh in RECs for the Tier 1 Solar requirement, which represent approximately 99% of the total ACPs (including Tier 1 nonsolar and Tier 2) made in those years. ACPs for Tier 1 Solar were $1.2 million in 2008 and $1.4 million in 2009.

Additional Information

Prior Introductions: None.

Cross File: SB 652 (Senator Middleton, *et al.*) - Finance.

Information Source(s): Public Service Commission, Maryland Energy Administration, Office of People's Counsel, Department of Legislative Services

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