

Department of Legislative Services
 Maryland General Assembly
 2006 Session

FISCAL AND POLICY NOTE

House Bill 305 (The Speaker, *et al.*) (By Request – Administration)
 Ways and Means

Tax General - Income Tax Credit - Energy Efficient Residential Heating Systems

This Administration bill creates a tax credit against the State income tax for the costs of purchasing and installing certain energy efficient heating systems that meet specified energy efficiency standards installed at an individual’s primary residence located in the State. The maximum amount of the credit cannot exceed \$500, and the credit may only be claimed once by any taxpayer. The Maryland Energy Administration (MEA), in consultation with the Comptroller’s Office, is required to adopt regulations that provide for a program that awards \$5 million of tax credits annually on a first-come, first-served basis in tax years 2006 through 2011. MEA is also required to develop a consumer awareness program to promote the availability of the tax credit program.

The bill takes effect July 1, 2006 and applies to tax years 2006 through 2011.

Fiscal Summary

State Effect: General fund revenues could decrease by \$5.0 million annually from FY 2007 through 2011. The proposed FY 2007 budget assumes a general fund decrease of \$1.1 million in FY 2007. General fund expenditures could increase by approximately \$282,900 in FY 2007 due to implementation costs at MEA and the Comptroller’s Office. Future years reflect implementation costs at MEA.

(in dollars)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
GF Revenue	(\$5,000,000)	(\$5,000,000)	(\$5,000,000)	(\$5,000,000)	(\$5,000,000)
GF Expenditure	282,900	277,800	280,500	283,300	286,200
Net Effect	(\$5,282,900)	(\$5,277,800)	(\$5,280,500)	(\$5,283,300)	(\$5,286,200)

Note:() = decrease; GF = general funds; FF = federal funds; SF = special funds; - = indeterminate effect

Local Effect: None.

Small Business Effect: A small business impact statement was not provided by the Administration in time for inclusion in this fiscal note. A revised fiscal note will be issued when the Administration's assessment becomes available.

Analysis

Bill Summary: The bill provides a tax credit for the cost of residential heating systems that meet specified energy efficiency standards and includes air source heat pumps; closed and open loop geothermal heat pumps; direct expansion geothermal heat pumps; and gas, oil, propane, furnace, or hot water boiler units. The requirements for each system are:

- ***Air Source Heat Pump:*** Meets or exceeds a heating seasonal performance factor of at least 8.2, an energy efficiency ratio (EER) of at least 14, and a seasonal energy efficiency ratio of at least 14.
- ***Closed Loop Geothermal Heat Pump:*** EER of at least 14.1 and a heating coefficient of performance of 3.3.
- ***Open Loop Geothermal Heat Pump:*** EER of at least 16.2 and a heating coefficient of performance of 3.6.
- ***Direct Expansion Geothermal Heat Pump:*** EER of at least 15 and a heating coefficient of performance of 3.5.
- ***Gas, Oil, Propane Furnace, or Hot Water Boiler Unit:*** Annual fuel utilization efficiency rating of 90.

Current Law: No similar State tax credit program exists.

Background: Heating and cooling (“space conditioning”) account for 50% to 70% of the energy used in the average American home. Generally, newer heating systems are more efficient. The most common type of heat pump for domestic use, referred to as a “conventional” heat pump, is the air-to-air system in which heat is taken from air (heat source) at one location and transferred to air (heat sink) at another location. In the winter, a heat pump takes heat from outside air and transports the heat inside a home. In the summer, the heat pump reverses the process, removing heat from the home and transporting it to the outside air, cooling the house in the process. Conventional heat

pumps lose efficiency in providing heat when outside temperatures drop below 20 to 30°F and switch to a higher cost electric resistance back-up heating system.

A geothermal heat pump is a heat pump that draws heat from or removes heat to the ground or ground water, instead of air. A geothermal heat pump benefits from nearly constant ground temperatures over most of the temperate climate zone in the continental United States, regardless of outside air temperatures. The ground temperature is cooler than the air temperature in the summer and warmer than the air temperature in the winter, so the heat pump does not need to work as hard to cool or heat a home. A geothermal heat pump can also provide hot water at greatly reduced costs.

Depending on the location, geothermal heat pumps can reduce energy consumption and corresponding emissions of carbon and other air pollutants by more than 20%. Although heat pumps reduce electricity costs, a barrier to widespread use is the higher initial capital cost. On average, a geothermal heat pump system typically costs about \$7,500 for a typical residence. In comparison, a conventional system would cost about \$4,000. Based on energy and maintenance savings, geothermal heat pumps have a payback period of 2 to 10 years.

MEA was created, in part, to promote the conservation and efficient use of energy, and to evaluate and coordinate energy-related policies and activities among State and local agencies. Several MEA programs promote the use of efficient use of energy and renewable energy. Chapter 476 of 2005 established the Geothermal Heat Pump Grant Program where MEA can provide grants of up to \$1,000 to individuals for the cost of purchasing and installing a geothermal heat pump. Funding for the program has not been included in the proposed fiscal 2007 budget. MEA also administers the Solar Energy Grant Program created by Chapter 128 of 2004, which converted an existing tax credit program into a grant program. The program provides grants to individuals, local governments, and businesses for a portion of the costs of purchasing and installing photovoltaic property and solar water heating property. The proposed fiscal 2007 budget includes \$2,575,000 in funding for the solar energy program, compared with a \$75,000 general fund appropriation in fiscal 2006.

The federal Energy Tax Incentives Act (ETIA) of 2005 (Title 13 of the Energy Policy Act of 2005) contains an estimated \$14.5 billion in tax incentives designed to promote domestic energy production and conservation, including several major tax provisions related to conservation and energy efficiency that are estimated to reduce federal revenues by a total of approximately \$1.3 billion. ETIA creates a new federal tax credit under which purchases of qualified energy-efficiency improvements and property qualify for a new tax credit that equals the sum of (1) 10% of the costs of qualified energy efficiency improvements; and (2) residential energy property expenditures. The value of

the credit is subject to a \$500 lifetime limit, and no more than \$200 of the credit may be attributable to expenditures on windows. There is no requirement for certification of expenditures, and the credit applies only to installation in a taxpayer's primary residence located in the United States. Generally, improvements and property must meet applicable energy efficiency standards.

Qualified residential energy property includes, with the maximum credit in parentheses, (1) advanced main air circulating fans (\$50); (2) natural gas, propane, or oil furnace or hot water boilers (\$150); and (3) "energy efficient building property" including energy efficient electric and geothermal heat pumps and central air conditioners (\$300). Advanced main air circulating fans are defined as a fan used in a natural gas, propane, or oil furnace and which has an annual electricity use of no more than 2% of the total annual energy use of the furnace. Qualifying energy efficiency improvements include (1) any insulation material or system primarily designed to reduce heat loss or gain; (2) exterior windows, including skylights; (3) exterior doors; and (4) metal roofs coated with heat-reduction pigments. The energy improvement must be expected to remain in use for at least five years.

State Revenues: Tax credits can be claimed beginning in tax year 2006. As a result, general fund revenues could decrease by \$5 million annually in fiscal 2007 through 2011. According to MEA, it expects that the full amount of credits would be awarded in each fiscal year.

State Expenditures: The bill would require MEA to administer the tax credit program and develop a consumer awareness program to promote the availability of the tax credit program. Assuming the maximum amount of credits would be awarded, MEA would be required to process and certify a minimum of 10,000 applications. MEA advises that it would implement a two-step process, whereby applicants apply to MEA for initial approval and receive final certification after purchasing a qualifying residential heating system. MEA reports that it would incur an additional \$500,000 in expenses in order to fulfill these requirements; \$200,000 to conduct a consumer education program for the credit, \$225,000 for a contractor to manage the application process, and \$75,000 for program effectiveness evaluation.

Legislative Services advises that, based on existing tax credit programs, MEA would incur additional expenses of \$250,000 in fiscal 2007, which represents \$100,000 for a consumer education program and \$150,000 for a contractor to administer the program. In addition, MEA could evaluate the effectiveness of the program beginning in fiscal 2008, at a cost of \$25,000 annually. Future years reflect 1% annual increase in inflation.

The Comptroller's Office reports that it would incur a one-time expenditure increase of \$32,850 in fiscal 2007 to add the credit to the personal income tax form. This includes

processing changes to the SMART income tax return processing and imaging systems and systems testing.

Additional Information

Prior Introductions: None.

Cross File: SB 217 (The President, *et al.*) (By Request – Administration) – Budget and Taxation.

Information Source(s): Comptroller's Office, Maryland Energy Administration, Department of Legislative Services

Fiscal Note History: First Reader - March 8, 2006
ncs/hlb

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