

Special Report

**Fiscal Impact Study
Residential Energy Conservation Incentive Program**

September 2006



Office of the County Auditor
Baltimore County, Maryland

Special Report

**Fiscal Impact Study
Residential Energy Conservation Incentive Program**

Fiscal and Policy Analysis

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Office of the County Auditor
Baltimore County, Maryland



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September 29, 2006

Honorable Members of the County Council
Baltimore County, Maryland

At the request of Councilman Vince Gardina, we reviewed the feasibility and financial impact of a County energy conservation tax credit program in order to encourage energy efficient improvements. In determining the fiscal impact, we were asked to recommend a program that specifically targeted residential properties while at the same time was fiscally prudent.

State law authorizes local jurisdictions to grant property tax credits for certain qualifying energy conservation improvements. Although there are several alternative approaches for implementing such a program, we believe that the best alternative would be to implement a one-time property tax credit for certain energy efficient improvements made to county residential properties. The qualifying improvements should be limited to solar hot water heaters, photovoltaic systems, geothermal heat pumps, and ENERGY STAR qualified windows, central air conditioning systems, furnaces, and air source heat pumps. We further recommend that the amount of the credit be the lesser of 25% of the cost of qualifying improvements or 100% of the County property tax levied on the residential building (excluding land value) for the year in which the credit is sought. Property owners would be eligible to apply for and receive the property tax credit once every three years.

While it is very difficult to project how many property owners would participate in this program annually, we can estimate that if 5% of residential property owners who make improvements each year participated, the annual cost could be as high as \$3.1 million. Therefore, we recommend placing a cap of \$1 million on the yearly amount of tax credits to be granted and, if the cap is reached, carrying over subsequent applications to the following tax year.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brian J. Rowe", is written over the typed name.

Brian J. Rowe, CPA
County Auditor

Fiscal Impact Study — Residential Energy Conservation

Incentive Program

Background

Amid escalating energy prices and growing concern over global warming, renewable energy has garnered attention as a favorable method of conserving energy, thus spurring local and state governments, as well as the federal government, to enact financial incentives for residents who choose to invest in energy conservation improvements. The following are examples of improvements that are frequently eligible for such financial incentives.

- Geothermal (ground source) heat pumps utilize underground piping “loops” filled with water, refrigerant, or an anti-freeze solution to absorb heat from the ground or ground water instead of from the air. For cooling, the pump removes heat from the building and returns it to the ground. Because geothermal heat pumps use the ground rather than the air as a source of heat, geothermal heat pumps are more energy efficient than traditional heat pumps.¹
- Photovoltaic (PV) systems, or solar electric systems, convert the sun’s energy from photons to electrons in order to produce electricity. The energy is produced when sunlight strikes silicon semiconductors and creates DC electric currents, which are converted to AC power by an inverter for household use. The PV systems are generally located on roofs or in yards.
- Solar hot water heating devices are constructed in three primary ways, with the most common method being the direct solar hot water system. A collector panel involving an insulated box with a glass top is mounted on a building’s roof, and a small pump circulates water through copper tubing inside the box. The tubing transfers heat to the water, which is ultimately stored at ground level in a hot water heater tank.
- ENERGY STAR is a program run by the U.S. Department of Energy and the U.S. Environmental Protection Agency (EPA). Household products that have earned the ENERGY STAR certification meet energy efficiency standards set by the Department of Energy and EPA. ENERGY STAR qualified products include certain central air conditioners, furnaces, heat pumps, and windows.

¹ Geothermal heat pumps are more efficient because their heat source has a more moderate temperature than a traditional heat pump’s heat source. The earth temperature remains fairly steady throughout the year, while air temperature tends to fluctuate considerably.

In general, these eligible improvements are aimed at protecting the environment and preclude or minimize the use of coal, oil, and other natural resources.

Local, State, and Federal Incentives

There are several types of incentives the County could offer to homeowners for energy conservation investments.

Energy Conservation Property Tax Credits

Maryland Code, Tax-Property Article, §9-203 (Appendix A), authorizes the City of Baltimore and Maryland counties to grant property tax credits for energy conservation measures for heating, cooling, generating electricity, and providing hot water when the structures use solar or geothermal energy devices or “a qualifying energy conservation device.” The legislation permits the City and counties to determine the amount and duration of the property tax credit (not exceeding three years) as well as the definition of a qualifying device.

To date, two counties in Maryland have enacted property tax credits for solar energy improvements. Anne Arundel County has a one-time property tax credit for residences that use solar energy equipment for heating or cooling; the amount of the credit is the lesser of either the yearly property tax or the cost and installation of the energy conservation equipment (Appendix B). Harford County also offers a maximum \$1,000 property tax credit for the lesser of either the cost of solar energy units or the residential property tax bill; the County caps the annual fiscal impact of the bill to \$150,000 (Appendix C). Although Baltimore County recently enacted a property tax credit for high performance (“green”) commercial buildings, the County does not offer property tax credits for residential energy conservation measures.

Rebate/Rewards Program

A second option is a rebate or rewards program for homeowners who make investments in energy conservation improvements. In July 2006, Montgomery County initiated the Clean Energy Rewards Program to provide incentives to residents who use renewable energy from wind, landfill gas, or the sun. The Montgomery County Council reasoned that because these residents pay approximately 2.5 cents more per kilowatt hour for renewable energy and pay the county energy tax, they should be rewarded for their efforts to reduce pollution, global warming, and dependence on fossil fuels. The County offers a rebate of a half-cent per kilowatt-hour of consumed energy, which is approximately equivalent to the county energy tax. This rebate is available as either a direct payment from the County or as a credit against utility bills. Another example of a local rebate program is the Solar Rebate Program in Marin County, California, which

offers a homeowner a rebate of \$500 for a grid inter-tied photovoltaic system,² \$300 for a solar hot water heater, and \$200 for a swimming pool solar heater.

Waiver of Building Permit Fees

A third option is a waiver for building permit fees associated with construction and/or major renovations that involve energy efficient improvements. In 2002, the City of Santa Monica, California, for example, began waiving building permit fees for solar water heat, solar space heat, solar thermal process heat, and photovoltaic systems.

State and Federal Incentives

Maryland homeowners who make investments in energy conservation improvements are also eligible for incentives from the state and federal governments. The Maryland Energy Administration (MEA)'s Solar Energy Grant Program includes grants for solar water heating devices, 20% of system costs up to a maximum grant of \$2,000, and for photovoltaic systems, 20% of system costs up to a maximum grant of \$3,000 (Maryland Code, State Government Article, §9-2007—Appendix D). The MEA's Geothermal Heat Pump Grant Program offers homeowners grants of up to \$1,000 toward the cost of purchasing and installing a geothermal heat pump (Maryland Code, State Government Article, §9-2008—Appendix E).³

The federal government's Energy Policy Act of 2005 offers income tax credits of up to \$500 for energy efficient home improvements including windows and HVAC systems that achieve certain energy efficiency ratings and/or meet the International Energy Conservation Code (IECC). The Act also provides for a 30% tax credit up to \$2,000 each for the purchase and installation of photovoltaic and solar hot water heating systems and a 30% credit up to \$500 per half kilowatt for fuel cells⁴ (26 USC §25D, Appendix F). The 30% tax credit is calculated based on the net system cost after other subsidized energy financing incentives are applied.

No cost data was available to determine the success of the aforementioned programs.

² A grid-connected (inter-tied) photovoltaic system sends the homeowner's surplus AC power to the utility grid to be used by other homeowners. In turn, the utility is responsible for providing AC power to the homeowner at night and in times of heavy demand.

³ Instead of grant programs, other states, including Hawaii, Arizona, and Idaho offer income tax incentives, while California and New York opt not to increase property assessments based upon solar improvements.

⁴ A fuel cell produces electricity (DC current) by converting hydrogen and oxygen into water.

Recommendation

Under the authority of Maryland Code, Tax-Property Article, §9-203 (Appendix A), we recommend a one-time property tax credit as the preferable method for spurring residential investments in energy efficient improvements. A property tax incentive geared toward residential properties would complement the County's property tax credit for green commercial buildings.

Structuring the incentive as a property tax credit is preferable to a rebate or grant program. If the green buildings tax credit were expanded in future years to include residential construction, having the energy efficiency program structured as a tax credit could prevent residents from "double dipping," or qualifying for both the green buildings tax credit plus an energy efficiency rebate or grant in the same year for the same improvements. Additionally, implementing a property tax credit rather than a grant or rebate program could be advantageous due to the fact that the Internal Revenue Service will reduce the amount of the federal income tax credit it offers homeowners under the Energy Policy Act of 2005 by any local rebates homeowners receive. A local property tax credit may not reduce the amount of the federal credit and could act, therefore, as an extra incentive.⁵

A property tax credit is also preferable to a waiver for building permit fees because a tax credit would be available to virtually all homeowners who choose to make qualifying energy conservation improvements. Installing a solar hot water heater or geothermal heat pump on an existing home, for example, does not require a building permit and would render the homeowner ineligible for the county incentive despite making energy efficient improvements. A property tax credit is applicable to a larger pool of County residents and, thus, could motivate a larger interest in making energy efficient improvements.

⁵ Because 2006 is the first year in which the federal tax credit can be claimed, the IRS is still developing regulations for the credit and may, in fact, determine that a local property tax credit would impact the amount of the federal credit.

Fiscal Impact

Because there are no other local energy credit programs in Maryland that have yielded results and because it is difficult to determine the number of people who replace qualifying household items such as water heaters and windows in a given year, calculating the fiscal impact of this proposed program is complex. Still, reasonable estimates can be made. Accordingly, we made a number of assumptions to estimate the fiscal impact, the most significant of which are set forth in Exhibit A.

An incentive program is best designed to encourage a behavior without fully subsidizing the behavior. Therefore, Maryland Solar Energy grants and federal income tax incentives should be considered in conjunction with the cost premiums associated with energy efficient improvements when determining the appropriate amount for a County property tax credit so as to prevent subsidizing the entire cost of the energy efficient improvements. Accordingly, we recommend offering a one-time property tax credit for energy efficient improvements on a property owner's principal residence for the lesser of 25% of the cost of the energy conservation equipment before consideration of any other grants or credits or 100% of the County property taxes issued on the residential buildings (excluding the taxes levied on the land).⁶ We recommend a property tax credit be limited to the following residential energy efficient improvements: solar hot water heaters, photovoltaic systems, geothermal heat pumps, and ENERGY STAR⁷ furnaces, windows, central air conditioning systems, and air-source heat pumps. The following table illustrates the estimated credit that a typical property owner would receive for making specific energy efficient improvements. (See Exhibit A for additional detail.)

⁶ The average County property tax bill, excluding the property tax levied on the land, is \$1,182.

⁷ ENERGY STAR qualified products are available in over 40 categories. Appliances, home sealing, roofing, electronics, office equipment, and lighting are examples of ENERGY STAR qualified products which would be ineligible for this tax credit.

	Solar Hot Water Heater	Photo- voltaic System*	Geo- Thermal Heat Pump	ENERGY STAR			
				Windows	Central A/C	Furnace	Air- Source Heat Pump
Est. Cost of Energy Saving Device**	\$ 4,500	\$ 30,000	\$ 7,500	\$ 5,715	\$ 4,500	\$ 4,000	\$ 5,000
MD Grant	\$ (900)	\$ (3,000)	\$ (1,000)	N/A	N/A	N/A	N/A
Fed. Income Tax Incentive	\$(1,080)	\$ (2,000)	\$ (300)	\$ (200)	\$ (300)	\$ (150)	\$ (300)
County Property Tax Incentive	\$(1,125)	\$ (1,182)	\$ (1,182)	\$ (1,182)	\$(1,125)	\$ (1,000)	\$ (1,182)
Net Cost	\$ 1,395	\$ 23,818	\$ 5,018	\$ 4,333	\$ 3,075	\$ 2,850	\$ 3,518
Comparable Cost***	\$ 600	\$ 6,000	\$ 4,000	\$ 4,500	\$ 4,000	\$ 2,750	\$ 4,000
<p>* Assumes that PV system is installed during new construction. PV system is purchase price plus cost of standard electric wiring. **Cost estimates do not distinguish between installations of energy efficient products in new construction versus existing structures, though there may be a small cost difference. *** Cost of non-energy efficient device Notes: These calculations subject to change based upon as-yet-unreleased IRS guidelines. Purchase prices include estimated installation costs.</p>							

If 5% of owner-occupied households that make improvements in the first year of the tax credit claim the credit, the first-year fiscal impact could be as high as \$3,090,883. (See Exhibits B and C.)

These fiscal impact estimates do not include any administrative costs that the County might incur for implementing and administering this program. However, we expect that the administrative costs will be minimal due to the projected ease of initiating and maintaining this program. We suggest that each homeowner submit an application to the Office of Budget and Finance by June 1 immediately prior to the tax year for which the credit is sought, accompanied by receipts that document the purchase and installation costs for the qualifying improvements as well as the address at which the improvements are made. In the case of a newly constructed residential building, a homeowner should present certification from the developer of the total cost, description, and address of installation of the qualifying residential energy conservation equipment. The Director of the Office of Budget and Finance would be responsible for verifying and approving the applications.

Placing a yearly cap, such as \$1 million, on the amount of property tax credits that may be issued would limit the County's fiscal loss to a predictable and manageable amount, yet still allow a substantial number of county homeowners to claim the credit. If the County reaches its annual cap on the amount of credits that may be awarded, subsequent applicants would be placed on a waiting list in order to be considered for eligibility for a credit during the following tax year. We recommend limiting eligibility for the property tax credit to owner-occupied residential buildings once every three years.

Scope, Objectives, Methodology

We analyzed the fiscal impact that would result from implementing a one-time property tax credit for property owners who make residential energy efficient improvements—specifically, the installation of solar hot water heaters, geothermal heat pumps, photovoltaic systems, and ENERGY STAR furnaces, windows, central air conditioning, and air-source heat pumps.

The purposes of the study were to recommend a financial incentive for property owners to make residential energy efficient improvements and to estimate the amount of fiscal loss that would result from implementing the incentive. Our study was mindful of the dual purpose of fostering environmentally sound practices while preserving the fiscal well-being of the County.

Our study consisted of researching published studies and documents, news articles, information on energy efficient and ENERGY STAR products, and federal, state, and local legislation that encourages residential energy efficient improvements. In addition, we contacted officials in other jurisdictions to obtain information related to tax credit programs in their jurisdictions and spoke to building industry experts to gain insight into the costs of energy efficient improvements. Our study did not constitute an audit conducted in accordance with generally accepted government auditing standards. Our work was conducted during the period June to September 2006.

Residential Energy Conservation Incentive Program Fiscal Impact Methodology

The fiscal impact estimate was based on the following assumptions:

- According to the State Department of Assessment and Taxation (SDAT) 2005 data, there are 207,154 owner-occupied residential accounts (not rentals or apartments), including single-family homes, condominiums, and townhomes, in Baltimore County.¹ Furthermore, Baltimore Metropolitan Council data indicates that the 3-year average for the number of County housing permits issued for new single-family homes, condominiums, and townhomes is 2,006. Therefore, the estimated fiscal impact assumes that there would be, at maximum, 209,160 properties eligible for a tax credit in the first year.
- In order to determine the likely number of property owners that may make energy improvements each year, it is necessary to determine the life expectancies of the equipment that will qualify for the tax credit; we assume that property owners will replace the eligible items at the end of the items' life expectancies. The estimated fiscal impact assumes a 10-year life expectancy for water heaters, 15-year life expectancies for heat pumps and central air conditioners, and 20-year life expectancies for windows and furnaces. Electrical systems are assumed to be included in new construction and not replaced in existing residences.²
- In order to calculate the fiscal impact to the County, we must assume that all property owners will choose to upgrade their equipment to energy efficient devices instead of standard equipment, and we must also project percentages of the county population that will select different types of equipment. We assume that 75% of residences have central air conditioning. We also assume that 20%

¹ We could not obtain a breakdown of the number of owner-occupied residential accounts by building type. Therefore, because condominium owners may not be able to make certain energy efficient improvements yet are included in our calculations, our fiscal impact estimates may be overstated.

² We assume that it is unlikely that existing homeowners will supplement their traditional electrical systems with photovoltaic systems because of the extremely high cost. Therefore, we assume that the maximum number of property owners per year who could qualify for a tax credit for an energy efficient electrical system is equal to the number of county residential construction permits issued per year, or 2,006; however, existing homeowners are not excluded from applying for the tax credit if they wish to install photovoltaic systems.

of residences use heat pumps and 80% of residences use furnaces. Of the residences with heat pumps, we assume that a maximum of 90% of residences would replace their units with Energy Star air source heat pumps, 5% would replace their units with geothermal heat pumps, and 5% would replace their units with Energy Star furnaces. Of the residences with furnaces, we assume that a maximum of 90% of residences would replace their units with Energy Star furnaces, 5% would replace their units with geothermal heat pumps, and 5% would replace their units with air source heat pumps.

- To determine the value of property tax credits to be issued, we assumed that the average residential property tax bill is \$1,764 (FY 2007 Budget Message). We assumed that 67% of the bill is based on the improvements, and 33% is based on land value (SDAT).
- The following table demonstrates how energy savings, Maryland grants, the federal income tax incentive, and the proposed County property tax incentive lower the payback periods for the cost premiums associated with purchasing each energy efficient device.

Exhibit A
(Page 3 of 3)

	Solar Hot Water Heater	Photovoltaic System*	Geothermal Heat Pump	ENERGY STAR Windows**	ENERGY STAR Central Air Conditioning	ENERGY STAR Furnace	ENERGY STAR Air-Source Heat Pump
Purchase Price of Non-Energy Saving Device	\$600	\$6,000	\$4,000	\$4,500	\$4,000	\$2,750	\$4,000
Purchase Price of Energy Saving Device***	\$4,500	\$30,000	\$7,500	\$5,715	\$4,500	\$4,000	\$5,000
Purchase Price Premium (PPP) for Energy Saving Device	\$3,900	\$24,000	\$3,500	\$1,215	\$500	\$1,250	\$1,000
Energy Savings Per Year	\$333	\$2,784	\$600	\$58	\$62	\$402	\$268
Payback Period (Years) for PPP in Energy Savings	11.7	8.6	5.8	20.9	8.1	3.1	3.7
MD Grant	(\$900)	(\$3,000)	(\$1,000)	N/A	N/A	N/A	N/A
Federal Income Tax Incentive	(\$1,080)	(\$2,000)	(\$300)	(\$200)	(\$300)	(\$150)	(\$300)
Cost Premium (CP) for Energy Saving Device	\$1,920	\$19,000	\$2,200	\$1,015	\$200	\$1,100	\$700
Payback Period (Years) for CP in Energy Savings	5.8	6.8	3.7	17.5	3.2	2.7	2.6
County Property Tax Incentive	(\$1,125)	(\$1,182)	(\$1,182)	(\$1,182)	(\$1,125)	(\$1,000)	(\$1,182)
Adjusted CP	\$795	\$17,818	\$1,018	(\$167)	(\$925)	\$100	(\$482)
Payback Period (Years) for Adjusted CP in Energy Savings	2	6.4	1.7	0	0	0.2	0

*Assumes PV system is installed in new construction. Purchase price plus standard electric wiring cost. Energy savings calculation does not include standard wiring cost.

**Energy savings are for a 2,000 sq. ft., single story, detached house with 300 sq. ft. of window area, gas heat, and electric air conditioning.

***Cost estimates do not distinguish between installations of energy efficient products in new construction versus existing structures, though there may be a small cost difference.

Notes: These calculations subject to change based upon as-yet-unreleased IRS guidelines.

Purchase prices include estimated installation costs.

Exhibit B

Energy Device	Owner-Occupied Residences	Device Life Expectancy (Yr.)	No. Houses Replacing/Yr.
Water heater	209,160	10	20,916
Heat pump*	41,832	15	2,789
Windows	209,160	20	10,458
Central air conditioning**	156,870	15	10,458
Furnace***	167,328	20	8,366

Residential Building Permits

Energy Device

Electric System**** 2,006

5% Qualifying First Yr.

2,750

*Assumes 20% of homes utilize heat pumps

**Assumes 75% of homes utilize central air conditioning

***Assumes 80% of homes utilize furnaces

****Baltimore Metropolitan Council data for new single-family homes, condos, townhomes listed as "for sale," avg. 2003-2005

Exhibit C

Energy Efficient Device	Energy Efficient Product Cost	25% Incentive	Total Amount of Credit (Lesser of Incentive or Avg. Tax Bill Excl. Land Value)	Est. No. of Eligible Households	Fiscal Impact
<i>Replace water heater with:</i> Solar Hot Water Heater	\$4,500	\$1,125	\$1,125	20,916	\$23,530,500
<i>Replace heat pump with:</i> Energy Star Furnace	\$4,000	\$1,000	\$1,000	140	\$140,000
Energy Star Air Source Heat Pump	\$5,000	\$1,250	\$1,182	2,510	\$2,966,820
Geothermal Heat Pump	\$7,500	\$1,875	\$1,182	139	\$164,298
<i>Replace windows with:</i> Energy Star Windows	\$5,715	\$1,429	\$1,182	10,458	\$12,361,356
<i>Replace central air conditioning with:</i> Energy Star Central Air Conditioning	\$4,500	\$1,125	\$1,125	10,458	\$11,765,250
<i>Replace furnace with:</i> Energy Star Furnace	\$4,000	\$1,000	\$1,000	7,529	\$7,529,000
Energy Star Air Source Heat Pump	\$5,000	\$1,250	\$1,182	419	\$495,258
Geothermal Heat Pump	\$7,500	\$1,875	\$1,182	418	\$494,076
<i>Supplement electrical system with:</i> Photovoltaic System	\$30,000	\$7,500	\$1,182	2,006	\$2,371,092
Total: 5% eligibility					\$3,090,883

Note: Avg. Residential Tax Bill, Excl. Land Value, Proj. FY07=\$1,182

Source:

Maryland Code/TAX-PROPERTY /TITLE 9. PROPERTY TAX CREDITS AND PROPERTY TAX RELIEF/SUBTITLE 2. STATEWIDE OPTIONAL /§ 9-203. Energy devices.

§ 9-203. Energy devices.

(a) *Tax credit.*- The Mayor and City Council of Baltimore City or the governing body of a county or of a municipal corporation may grant, by law, a tax credit against the county or municipal corporation property tax imposed on a structure, if to heat or cool the structure or to provide hot water for use in the structure, the structure uses:

- (1) a solar energy device;
- (2) a geothermal energy device; or
- (3) a qualifying energy conservation device.

(b) *Amount, duration, and definitions.*- A county or municipal corporation may provide, by law, for:

- (1) the amount of a property tax credit under this section;
- (2) the duration of a property tax credit under this section not exceeding 3 years;
- (3) the definition of:
 - (i) a solar energy device;
 - (ii) a geothermal energy device; and
 - (iii) a qualifying energy conservation device; and
- (4) any other provision necessary to carry out this section.

[An. Code 1957, art. 81, § 12F-5; 1985, ch. 8, § 2.]

CODE

County of
ANNE ARUNDEL, MARYLAND

Article 6 FINANCE AND TAXATION

TITLE 1. PROPERTY TAXES

SUBTITLE 1. IN GENERAL

§ 1-105. Solar energy tax credit.

- (a) In this section, "solar energy equipment" means collectors, panels, storage tanks, and all other hardware that is necessary and used as a part of the operating mechanism that collects, stores, and distributes energy by using the rays of the sun.
- (b) There is a one-time tax credit from County real property taxes levied on residential buildings that use solar energy equipment for:
- (1) heating or cooling the buildings; or
 - (2) except for heating water for swimming pools, providing hot water for use within the buildings.
- (c) Application for the tax credit created by this section shall be filed on or before June 1 immediately before the taxable year for which the tax credit is sought. If the application is filed after June 1, the credit shall be disallowed that year but shall be treated as an application for a tax credit for the next succeeding taxable year.
- (d) (1) The tax credit shall be credited from the taxes levied on the buildings, and may not be credited from the taxes levied on the land.
- (2) The total tax credit allowed under this section shall be the lesser of:
- (i) the cost of materials and installation or construction of the solar energy equipment, less the amount of federal and State solar energy tax credits;
 - (ii) the real property taxes levied against the buildings for the year in which the tax credit is granted; or
 - (iii) for tax credits applied to qualifying properties during fiscal years 1986, 1987 and 1988, \$400.
- (e) An application for the tax credit shall be:
- (1) submitted to the Controller on forms that the Office of Finance requires;
 - (2) under oath, containing a declaration preceding the signature of the applicant to the effect that it is made under the penalties of perjury provided for by The Tax-Property Article, § 1-201 of the State Code; and
 - (3) accompanied by documented receipts of the purchase of materials or supplies, and actual installation cost.
- (f) An application may be filed only once for the duration of the tax credit.
(Code 1967, § 17-712; Bill No. 23-04, § 2)
State Code reference-- § 9-203 of the Tax Property Article.

CODE OF HARFORD COUNTY, MARYLAND, v38 Updated 8-10-2004

PART II GENERAL LEGISLATION

Chapter 123, FINANCE AND TAXATION

ARTICLE II, Real Property Tax Credits

§ 123-44. Credit for solar energy units. [Amended by Bill Nos. 80-25; 82-20]

§ 123-44. Credit for solar energy units. [Amended by Bill Nos. 80-25; 82-20]

A. For the purposes of this Article, "solar energy unit" shall mean a heating or cooling system, including collectors, panels, storage tanks and all other hardware that is necessary and used as a part of the operating mechanism, that provides energy by using the sun's rays.

B. In accordance with the provisions of the Annotated Code of Maryland, 1957, Article 81, § 12F-5, ^{EN1} there is hereby created a tax credit from county real property taxes levied on residential or nonresidential buildings or other structures that use solar energy heating or cooling units for heating and cooling buildings or structures or for supplying hot water for use within the buildings or other structures. The tax credit shall be credit from the taxes levied on the buildings or other structures and not from the land.

C. An application for a tax credit for using solar energy heating or cooling units shall be filed on or before the first day of October immediately prior to the taxable year for which the tax credit is first sought. If the application is not so filed, it will be disallowed that year.

D. The total real property tax credit allowed under the provisions of this section shall be the lesser amount of up to a maximum of one thousand dollars (\$1,000.) for the cost of materials and installation or construction of the solar energy unit, to apply against one (1) year of property taxes, or the total amount of the real property taxes levied against the buildings or structures that is to be paid by the taxpayer for one (1) year following the approval of the application.

E. All applications for tax credits under this section shall be submitted to the Director of Administration only on forms prepared by his office. An application shall be filed one time only for the duration of the tax credit. Each application shall be made under oath or affirmation and shall contain a declaration preceding the signature of the applicant to the effect that it is made under the penalties of perjury as provided for by the Annotated Code of Maryland, 1957, Article 81. § 5.^{EN2} Each application shall be accompanied by documented receipts of such purchase of materials or supplies and actual installation cost, if available; otherwise, the application shall be accompanied by a statement of the cost of the materials, supplies and installation cost, verified in the same manner as the application by a person competent to so certify.

F. The total tax credit allowed by Harford County for any one (1) year may not exceed one hundred fifty thousand dollars (\$150,000.). The granting of credits shall be on a first-come-first-served basis, and, when the limitation is reached, any subsequent applications will be carried over to the next succeeding year or years.

^{EN1} Editor's Note: For current statutory provisions, see § 9-203 of the Tax-Property Article of the Annotated Code of Maryland.

^{EN2} Editor's Note: For current statutory provisions, see § 1-201 of the Tax-Property Article of the Annotated Code of Maryland.

Document 1 of 1

Source:

Maryland Code/STATE GOVERNMENT /TITLE 9. MISCELLANEOUS EXECUTIVE AGENCIES/SUBTITLE 20.
MARYLAND ENERGY ADMINISTRATION /§ 9-2007. Solar Energy Grant Program.

§ 9-2007. Solar Energy Grant Program.

(a) *Definitions.*-

(1) In this section the following words have the meanings indicated.

(2) "Photovoltaic property" means solar energy property that uses a solar photovoltaic process to generate electricity and that meets applicable performance and quality standards and certification requirements in effect at the time of acquisition of the property, as specified by the Maryland Energy Administration.

(3) "Program" means the Solar Energy Grant Program.

(4) (i) "Solar energy property" means equipment that uses solar energy:

1. to generate electricity;
2. to heat or cool a structure or provide hot water for use in a structure; or
3. to provide solar process heat.

(ii) "Solar energy property" does not include a swimming pool, hot tub, or any other energy storage medium that has a function other than storage.

(5) "Solar water heating property" means solar energy property that:

- (i) when installed in connection with a structure, uses solar energy for the purpose of providing hot water for use within the structure; and
- (ii) meets applicable performance and quality standards and certification requirements in effect at the time of acquisition of the property, as specified by the Maryland Energy Administration.

(b) *Created.*- There is a Solar Energy Grant Program in the Administration.

(c) *Purpose.*- The purpose of the Program is to provide grants to individuals, local governments, and businesses for a portion of the costs of acquiring and installing photovoltaic property and solar water heating property.

(d) *Duties of Administration.*- The Administration shall:

- (1) administer the Program;
- (2) establish application procedures for the Program; and
- (3) award grants from the Program.

(e) *Grant.* - A grant awarded under the Program may not exceed:

(1) for photovoltaic property installed on residential property, the lesser of \$3,000 or 20% of the total installed cost of the photovoltaic property;

(2) for photovoltaic property installed on nonresidential property, the lesser of \$5,000 or 20% of the total installed cost of the photovoltaic property; and

(3) for solar water heating property, the lesser of \$2,000 or 20% of the total installed cost of the solar water heating property.

[2004, ch. 128.]

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Source:

Maryland Code/STATE GOVERNMENT /TITLE 9. MISCELLANEOUS EXECUTIVE AGENCIES/SUBTITLE 20. MARYLAND ENERGY ADMINISTRATION /§ 9-2008. Geothermal Heat Pump Grant Program.

§ 9-2008. Geothermal Heat Pump Grant Program.

(a) *Definitions.*-

(1) In this section the following words have the meanings indicated.

(2) "Geothermal heat pump" means a heating and cooling device that is installed using ground loop technology.

(3) "Program" means the Geothermal Heat Pump Grant Program.

(b) *Established.*- There is a Geothermal Heat Pump Grant Program in the Administration.

(c) *Purpose.*- The purpose of the Program is to provide grants to individuals for a portion of the cost of acquiring and installing a geothermal heat pump.

(d) *Administration.*- The Administration shall:

(1) administer the Program;

(2) establish application procedures for the Program; and

(3) award grants from the Program.

(e) *Limitation of award.*- A grant awarded under the Program may not exceed \$1,000.

[2005, ch. 476.]

UNITED STATES CODE
TITLE 26. INTERNAL REVENUE CODE
SUBTITLE A. INCOME TAXES
CHAPTER 1. NORMAL TAXES AND SURTAXES
SUBCHAPTER A. DETERMINATION OF TAX LIABILITY
PART IV. CREDITS AGAINST TAX
SUBPART A - NONREFUNDABLE PERSONAL CREDITS

26 USC § 25D (2005)

§ 25D. Residential Energy Efficient Property.

(a) Allowance of Credit- In the case of an individual, there shall be allowed as a credit against the tax imposed by this chapter for the taxable year an amount equal to the sum of--

- (1) 30 percent of the qualified photovoltaic property expenditures made by the taxpayer during such year,
- (2) 30 percent of the qualified solar water heating property expenditures made by the taxpayer during such year, and
- (3) 30 percent of the qualified fuel cell property expenditures made by the taxpayer during such year.

(b) Limitations-

(1) MAXIMUM CREDIT- The credit allowed under subsection (a) for any taxable year shall not exceed--

- (A) \$2,000 with respect to any qualified photovoltaic property expenditures,
- (B) \$2,000 with respect to any qualified solar water heating property expenditures, and
- (C) \$500 with respect to each half kilowatt of capacity of qualified fuel cell property (as defined in section 48(c)(1)) for which qualified fuel cell property expenditures are made.

(2) CERTIFICATION OF SOLAR WATER HEATING PROPERTY- No credit shall be allowed under this section for an item of property described in subsection (d)(1) unless such property is certified for performance by the non-profit Solar Rating Certification Corporation or a comparable entity endorsed by the government of the State in which such property is installed.

(c) Carryforward of Unused Credit- If the credit allowable under subsection

(a) exceeds the limitation imposed by section 26(a) for such taxable year reduced by the sum of the credits allowable under this subpart (other than this section), such excess shall be carried to the succeeding taxable year and added to the credit allowable under subsection (a) for such succeeding taxable year.

(d) Definitions- For purposes of this section--

(1) QUALIFIED SOLAR WATER HEATING PROPERTY EXPENDITURE- The term 'qualified solar water heating property expenditure' means an expenditure for property to heat water for use in a dwelling unit located in the United States and used as a residence by the taxpayer if at least half of the energy used by such property for such purpose is derived from the sun.

(2) QUALIFIED PHOTOVOLTAIC PROPERTY EXPENDITURE- The term 'qualified photovoltaic property expenditure' means an expenditure for property which uses solar energy to generate electricity for use in a dwelling unit located in the United States and used as a residence by the taxpayer.

(3) QUALIFIED FUEL CELL PROPERTY EXPENDITURE- The term 'qualified fuel cell property expenditure' means an expenditure for qualified fuel cell property (as defined in section 48(c)(1)) installed on or in connection with a dwelling unit located in the United States and

used as a principal residence (within the meaning of section 121) by the taxpayer.

(e) Special Rules- For purposes of this section--

(1) LABOR COSTS- Expenditures for labor costs properly allocable to the onsite preparation, assembly, or original installation of the property described in subsection(d) and for piping or wiring to interconnect such property to the dwelling unit shall be taken into account for purposes of this section.

(2) SOLAR PANELS- No expenditure relating to a solar panel or other property installed as a roof (or portion thereof) shall fail to be treated as property described in paragraph(1) or (2) of subsection (d) solely because it constitutes a structural component of the structure on which it is installed.

(3) SWIMMING POOLS, ETC., USED AS STORAGE MEDIUM- Expenditures which are properly allocable to a swimming pool, hot tub, or any other energy storage medium which has a function other than the function of such storage shall not be taken into account for purposes of this section.

(4) DOLLAR AMOUNTS IN CASE OF JOINT OCCUPANCY- In the case of any dwelling unit which is jointly occupied and used during any calendar year as a residence by two or more individuals the following rules shall apply:

(A) The amount of the credit allowable, under subsection (a) by reason of expenditures (as the case may be) made during such calendar year by any of such individuals with respect to such dwelling unit shall be determined by treating all of such individuals as 1 taxpayer whose taxable year is such calendar year.

(B) There shall be allowable, with respect to such expenditures to each of such individuals, a credit under subsection (a) for the taxable year in which such calendar year ends in an amount which bears the same ratio to the amount determined under subparagraph (A) as the amount of such expenditures made by such individual during such calendar year bears to the aggregate of such expenditures made by all of such individuals during such calendar year.

(C) Subparagraphs (A) and (B) shall be applied separately with respect to expenditures described in paragraphs (1), (2), and (3) of subsection (d).

(5) TENANT-STOCKHOLDER IN COOPERATIVE HOUSING CORPORATION- In the case of an individual who is a tenant-stockholder (as defined in section 216) in a cooperative housing corporation (as defined in such section), such individual shall be treated as having made his tenant-stockholder's proportionate share (as defined in section 216(b)(3)) of any expenditures of such corporation.

(6) CONDOMINIUMS-

(A) IN GENERAL- In the case of an individual who is a member of a condominium management association with respect to a condominium which the individual owns, such individual shall be treated as having made the individual's proportionate share of any expenditures of such association.

(B) CONDOMINIUM MANAGEMENT ASSOCIATION- For purposes of this paragraph, the term 'condominium management association' means an organization which meets the requirements of paragraph (1) of section 528(c) (other than subparagraph (E) thereof) with respect to a condominium project substantially all of the units of which are used as residences.

(7) ALLOCATION IN CERTAIN CASES- If less than 80 percent of the use of an item is for nonbusiness purposes, only that portion of the expenditures for such item which is properly allocable to use for nonbusiness purposes shall be taken into account.

(8) WHEN EXPENDITURE MADE; AMOUNT OF EXPENDITURE-

(A) IN GENERAL- Except as provided in subparagraph (B), an expenditure with respect to an item shall be treated as made when the original installation of the item is completed.

(B) EXPENDITURES PART OF BUILDING CONSTRUCTION- In the case of an expenditure in connection with the construction or reconstruction of a structure, such expenditure

shall be treated as made when the original use of the constructed or reconstructed structure by the taxpayer begins.

(9) **PROPERTY FINANCED BY SUBSIDIZED ENERGY FINANCING-** For purposes of determining the amount of expenditures made by any individual with respect to any dwelling unit, there shall not be taken into account expenditures which are made from subsidized energy financing (as defined in section 48(a)(4)(C)).

(f) **Basis Adjustments-** For purposes of this subtitle, if a credit is allowed under this section for any expenditure with respect to any property, the increase in the basis of such property which would (but for this subsection) result from such expenditure shall be reduced by the amount of the credit so allowed.

(g) **Termination-** The credit allowed under this section shall not apply to property placed in service after December 31, 2007.