

T&E ITEM #1
March 26, 2009

Worksession

MEMORANDUM

March 25, 2009

TO: Transportation, Infrastructure, Energy and Environment Committee

FROM: Amanda Mihill, Legislative Analyst 

SUBJECT: **Worksession:** Expedited Bill 6-09, Home Energy Loan Program - Establishment

Expedited Bill 6-09, Home Energy Loan Program – Establishment, sponsored by Councilmembers Berliner, Elrich, Ervin, Trachtenberg, Floreen, and Leventhal, was introduced on February 24, 2009. A public hearing was held on March 24; select testimony and correspondence begins on ©39.

Expedited Bill 6-09 would establish a Home Energy Loan Program to assist single family homeowners to make an energy efficiency improvement or install a renewable energy device, establish a revolving loan fund to provide homeowners loans under the Program, and generally amend the environmental sustainability law.

Experience in other jurisdictions. Jurisdictions in other areas of the country have adopted or are considering programs similar to Bill 6-09. Berkley, California, for instance developed a program that provides property owners an opportunity to borrow money from the City’s “Sustainable Energy Financing District” to install solar photovoltaic electric systems. The loan is repaid over 20 years through an annual special tax on their property tax bill (©28).

Experience in Maryland. The State does not currently have a home loan program for energy efficiency improvements or renewable energy devices. Delegate Sue Hecht has introduced House Bill 1567, Clean Energy Loan Programs, which would authorize political subdivisions to establish a Clean Energy Loan Program (©22-27). HB 1567 was introduced on March 16 and referred to the House Rules and Executive Nominations Committee. As of the time this packet went to print, HB 1567 was re-referred to the Economic Matters Committee.

Issues for Committee Discussion

Renewable Energy

Should an owner be required to complete energy efficiency improvements before obtaining funds to install a renewable energy device? Bill 6-09 would allow a person to borrow funds to install a renewable energy device only if the single-family home has a Home Energy Rating System (HERS) score of 100 or below *or* the energy efficiency of the home is increased by 30%. Clean Currents, the Maryland, District of Columbia, Virginia Solar Energy Industries Association, and Standard Solar, recommended that this requirement be replaced with a requirement for the owner to have an audit done within 6 months after a renewable energy device has been installed (©41-49). These companies would not require that any energy efficiency improvements be made.

Whether to require an energy audit before loaning funds to install a renewable energy device depends on what the Committee believes the goal of the legislation should be. If the Committee believes that the primary goal of the program should be to reduce energy consumption in the home, then the requirement to meet a certain level of energy efficiency should be retained in Bill 6-09. Dollar for dollar, home shell retrofits are more cost effective (\$1.6/ton) than distributed solar PV (\$2.2/ton) (©33). To provide flexibility with this requirement, however, Councilmember Berliner intends to offer an amendment at the worksession to require the Department of Environmental Protection to develop the specific energy efficiency thresholds in regulation.

Energy Efficiency Improvements

How should energy efficiency be measured? Washington Gas recommended amending Bill 6-09 to require the home energy audit to include the measurement of the total energy cycle for the home, defined as the “measurement of energy efficiency from the point of energy generation to the end use in the home”, and to require the auditor’s report to contain findings and recommendations to improve the home’s energy efficiency “based on total energy efficiency measurement” (©71-72). As introduced, the focus of Bill 6-09 has been focused on energy consumption in the home and making improvements to the shell and HVAC portions of the building. The Washington Gas amendments would alter the bill’s focus on home energy consumption. Washington Gas also recommended that certified energy auditors certify that the auditor has no bias with a regulated energy utility to promote fair and unbiased recommendations. **Council staff recommends** discussing this issue with DEP staff at the worksession.

Should Bill 6-09 specify what the payback period should be for specific energy efficiency improvements? Bill 6-09 requires that energy efficiency improvements be cost effective, which would be defined as “the maximum estimated amount of time it takes for an energy efficiency improvement to pay for itself through reduced energy costs . . . as determined by the Department.” Richard Thometz noted that the payback period should follow standard energy rating models, including guidance by EPA’s ENERGY STAR program and those used in the Maryland program. The definition in Bill 6-09 is broad enough to encompass these models, if

the Department determines that they are the appropriate payback periods. **Council staff recommends** retaining the language in Bill 6-09.

By which date should the energy efficiency improvements be made? Bill 6-09 requires that a person who borrows funds install the energy efficiency improvement or renewable energy device within 6 months after receiving the loan (©5, lines 103-104). GCAAR recommended that this timeframe be changed to 12 months to ensure that these improvements can be completed on time. Council staff agrees that there could be extenuating circumstances that lengthen the time that the improvements can be completed. One option for the Committee is to extend this timeframe to 9 months.

Should the definition of energy efficiency improvement include roofing materials? Bill 6-09 includes a broad definition of energy efficiency improvements that qualify for loan funds (©2-3, lines 20-48). GCAAR questioned whether roofing or roofing materials were included in this definition. While roofing and roofing materials are not specified in this particular definition (which is based on the definition in the property tax credit), these would be included under the catch all phrase in the definition in lines 43-48 which allows the DEP Director to identify any other conservation device, renewable energy technology, or specific home improvement that reduces the consumption of energy.

General Program Procedures and Requirements

What should the timeframe for submitting regulations be? Bill 6-09 requires the Executive to submit regulations to implement the Home Energy Loan Program within 3 months after Bill 6-09 is enacted. Stan Edwards, on behalf of the County Executive, argued that this time frame is insufficient, but did not offer an alternative timeframe. **Council staff recommends** discussing this issue with DEP at the worksession.

Should the loan program be limited to owner-occupied single-family houses? Bill 6-09 allows the Director of the Department of Environmental Protection to loan funds to the owner of a single-family home. As written, the program would not be limited to owner-occupied homes. The Greater Capital Area Association of Realtors (GCAAR) questioned whether this program would include non-owner occupied single family homes (©59-60). Council staff believes that this should be clarified.

The environmental benefits of making energy efficiency improvements to a single-family home are substantially similar regardless of whether the owner occupies the home or not. Council staff understands the sponsor's intent to not limit eligibility of the program to owner-occupied homes. If the Committee concurs, an amendment to Bill 6-09 is not required.

Who should be responsible for verifying that improvements have been made or devices installed correctly? Bill 6-09 requires DPS to certify that energy efficiency improvements are made correctly and that renewable energy devices are properly installed (©6, lines 108-114). Washington Gas expressed concerns that this requirement will further delay the permitting process (©72). Council staff notes that this section allows the County Executive to assign this function to another entity, including a third party. **Council staff recommends** retaining this

flexibility in Bill 6-09, but recommends the following amendment to ensure that the entity that is assigned to verify proper installation is not the same entity that installed the device or improvements as follows:

- (c) The Department of Permitting Services must certify that the improvement or device for which the funds were loaned has been properly installed. The Department must accept a certification by another government agency, including a municipality, that the improvement or device has been [[property]] properly installed. The County Executive may assign the responsibility under this subsection to another entity, including a third party. However, the entity responsible for certifying that the improvement or device has been properly installed must not be the entity that installed the improvement or device.

Should the loan term be longer than 15 years? Bill 6-09 sets the loan term at 15 years unless the Director sets a different loan term (©6, lines 115-116). Washington Gas expressed concern about setting a 15 year loan term because renewable energy products tend to be more costly and the payback period of these devices may be beyond the 15 year term (©72). Council staff agrees that some renewable energy devices could have payback periods longer than 15 years. However, Bill 6-09 as introduced allows the Director to set a different loan term. Therefore, **Council staff recommends** retaining the language currently in Bill 6-09.

Who should administer this program? Several speakers, including representatives from Hannon Armstrong (©56-58) and Richard Thometz (©52-55) urged that the Council use a private company to manage certain aspects of the program, including financing, marketing, and inspections. Council staff notes that Bill 6-09 allows, but does not require, the Executive to contract with a non-profit or for-profit organization to implement this program (©10, lines 216-223). Therefore, an amendment to Bill 6-09 is not necessary.

Should the cost of the audit be absorbed by the Program? Bill 6-09 requires a participant to obtain an energy audit and receive recommendations to improve the energy efficiency of their home. CMC Energy Services urged that the audit be free and subsidized through administration funds. **Council staff recommends** the Committee discuss with the Department whether the cost of the audit is a significant barrier and how to minimize the costs of the energy audit.

CMC Energy further urged that the blower-door test be done by a weatherization technician once improvements have begun, rather than included as part of the audit. Bill 6-09 defines home energy audit broadly to include “an evaluation of the energy efficiency of a home which includes any test or diagnostic measurement” that meets certain requirements. The Bill does not specify that a blower door test must be used. **Council staff recommends** retaining the language in Bill 6-09 and encourages the Department to keep CMC Energy Services’ concerns in mind when developing the regulations.

What should the loan amounts and interest rates be? Bill 6-09 allows the Department to loan zero or low-interest loans to install energy efficiency improvements or renewable energy devices. Dr. Leroy Miller suggested certain loan rates and loan amounts (©73-75). **Council**

staff recommends retaining the language in Bill 6-09. This language allows the Department to establish loan amounts and rates that it finds appropriate.

Should residents be able to take advantage of the property tax credits for energy efficiency improvements or renewable energy devices and the program? As introduced, Bill 6-09 allows residents to borrow funds only for net eligible costs of an improvement or device, less any amount received from a public or private program because the improvement or device is or will be made or installed (©6, lines 118-120 and ©7, lines 137-139). Dr. Miller suggested that this requirement may deter homeowners from energy savings investments. Council staff believes that the limit on borrowing funds to net eligible costs is important to ensure that participants do not borrow funds for which they are receiving a tax credit for. **Council staff recommends** retaining the requirement that participants borrow funds only for net eligible costs. However, Council staff recommends amending the definition of “eligible cost” to clarify what is met by net cost (©2, lines 17-19).

Eligible cost means the net cost of buying or installing an energy efficiency improvement or renewable energy device, including any part, component, or accessory necessary to operate the improvement or device, less any amount received from a public or private program because the improvement or device is or will be made or installed.

This language is consistent with the funding eligibility requirement for an energy efficiency improvement (©6, lines 118-120) and a renewable energy device (©7, lines 137-139).

As introduced, Bill 6-09 prohibits a person from participating in both the property tax credit for renewable energy devices and the loan program (©7, lines 140-142). Dr. Miller urged that these programs should not be mutually exclusive. Councilmember Berliner intends to offer an amendment at the worksession to remove lines 140-142.

Technical Amendment.¹ **Council staff recommends** the following technical amendment to Bill 6-09: ©8, lines 174-175: remove references to deferred fees in the provision specifying that the loan constitutes a lien on the property as follows:

- (a) The loan amount and any accrued interest constitute a first lien on the real property to which the loan applies until paid. The loan amount and accrued interest are collectable by suit or tax sale like all other real property taxes, to the extent allowed by State law. [[In the event of a failure to]] If the property owner does not pay the loan and accrued interest as required, the property may be certified to the Department of Finance and the lien may be sold at the tax sale conducted by the County. [[The deferred fees constitute a personal liability of the owner of the property.]]

¹ Council staff has also made technical changes that appear on ©6, lines 112, 115 and 121; and ©8, lines 170-171.

This provision borrowed heavily from the language included in Bills 4-09, Development Impact Tax – Deferral and 5-09, Permit Fees – New Construction – Deferral. The sentence referencing deferred fees is not appropriate for this bill.

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Expedited Bill No. 06-09
Concerning: Home Energy Loan
Program - Establishment
Revised: 2/20/2009 Draft No. 5
Introduced: February 24, 2009
Expires: August 24, 2010
Enacted: _____
Executive: _____
Effective: _____
Sunset Date: _____
Ch. _____, Laws of Mont. Co. _____

COUNTY COUNCIL FOR MONTGOMERY COUNTY, MARYLAND

By: Councilmembers Berliner, Elrich, Ervin, Trachtenberg, Floreen, and Leventhal

AN EXPEDITED ACT to:

- (1) establish a Home Energy Loan Program to assist single-family homeowners to make an energy efficiency improvement or install a renewable energy device;
- (2) establish a revolving loan fund to provide homeowners loans under the Program;
and
- (3) generally amend the environmental sustainability law.

By adding

Montgomery County Code
Chapter 18A, Environmental Sustainability
Article 4, Home Energy Loan Program

Boldface	<i>Heading or defined term.</i>
<u>Underlining</u>	<i>Added to existing law by original bill.</i>
[Single boldface brackets]	<i>Deleted from existing law by original bill.</i>
<u>Double underlining</u>	<i>Added by amendment.</i>
[[Double boldface brackets]]	<i>Deleted from existing law or the bill by amendment.</i>
* * *	<i>Existing law unaffected by bill.</i>

The County Council for Montgomery County, Maryland approves the following Act:

1 Sec. 1. Chapter 18A, Article 4 is added as follows:

2 Chapter 18A. Environmental Sustainability

3 * * *

4 Article 4. Home Energy Loan Program

5 18A-24. Definitions.

6 In this Article, except as provided in Section 18A-30, the following words
7 have the meanings indicated:

8 Certified energy auditor means any individual who:

- 9 (a) is a participating contractor/auditor with the Maryland Home
10 Performance with ENERGY STAR Program; or
11 (b) meets other equivalent requirements approved by the Director.

12 Cost effective means the maximum estimated amount of time it takes for an
13 energy efficiency improvement to pay for itself through reduced energy costs
14 (the “payback” period), as determined by the Department.

15 Department means the Department of Environmental Protection.

16 Director means the Director of the Department or the Director’s designee.

17 Eligible cost means the net cost of buying or installing an energy efficiency
18 improvement or renewable energy device, including any part, component, or
19 accessory necessary to operate the improvement or device.

20 Energy efficiency improvement means a permanent improvement made to an
21 existing single-family home that:

- 22 (a) reduces the consumption of energy in the home, including:
23 (1) caulking and weatherstripping doors and windows;
24 (2) heating and cooling system efficiency modifications, including:
25 (A) replacing a burner, furnace, heat pump, or boiler, or air
26 conditioner with a high efficiency model;

- 27 (B) a device to modify flue openings that increases the energy
28 efficiency of the heating system;
- 29 (C) any electrical or mechanical furnace ignition system which
30 replaces a standing gas pilot light; and
- 31 (D) any tune-up that increases the operating efficiency;
- 32 (3) a programmable thermostat;
- 33 (4) ceiling, attic, wall, or floor insulation;
- 34 (5) whole house air sealing;
- 35 (6) water heater tune-up, water heater insulation, pipe insulation, or
36 charge-out to ENERGY STAR qualified water heater;
- 37 (7) storm windows or doors or ENERGY STAR qualified window or
38 door replacement;
- 39 (8) air distribution system improvements, including duct insulation
40 and air sealing;
- 41 (9) any device which controls demand of appliances and aids load
42 management; and
- 43 (10) any other conservation device, renewable energy technology, and
44 specific home improvement that the Director finds reduces the
45 consumption of energy in the home; and
- 46 (b) meets safety and performance standards set by a nationally recognized
47 testing laboratory for that kind of device, if these standards are
48 available.

49 Energy efficiency improvement does not include a standard household
50 appliance, such as a washing machine or clothes dryer.

51 ENERGY STAR rating means the ENERGY STAR rating developed by the
52 federal Environmental Protection Agency which rates a product's energy
53 efficiency.

54 Home energy audit means an evaluation of the energy efficiency of a home
55 which includes any test or diagnostic measurement that the Department finds
56 necessary to:

- 57 (a) assure that a home's energy efficiency is accurately measured; and
58 (b) identify cost effective steps that can be taken to improve a home's
59 energy efficiency.

60 Home Energy Loan Fund or Fund means the revolving loan fund established
61 under Section 18A-30 to provide funding for the Home Energy Loan Program.

62 Home Energy Loan Program or Program means the program that provides
63 zero or low interest loans to install an energy efficiency improvement or
64 renewable energy device.

65 Home Energy Rating System or HERS means the energy efficiency rating
66 system for residential buildings developed by the Residential Energy Services
67 Network.

68 Low interest loan means a loan with an interest rate below prevailing rates for
69 residential home improvement loans, and which reflects:

- 70 (a) the County's current cost of borrowing funds or the cost, if any, of
71 federal funds made available to the County for this purpose; and
72 (b) the cost of administering the Program.

73 Renewable energy means the following energy sources or technology:

- 74 (a) solar;
75 (b) wind;
76 (c) geothermal; and
77 (d) any other energy source or technology which the Director finds is
78 derived from natural processes that do not involve the consumption of
79 exhaustible resources.

80 Renewable energy device means a device that:

- 81 (a) creates, converts, or actively uses renewable energy;
 82 (b) is permanently installed on the home or property; and
 83 (c) meets safety and performance standards set by a nationally recognized
 84 testing laboratory for that kind of device, if these standards are
 85 available.

86 Single-family home means a single-family detached or attached residential
 87 building. A single-family home includes a condominium.

88 **18A-25. Established; purpose.**

89 The Director must create and administer a Home Energy Loan Program to:

- 90 (a) improve energy efficiency;
 91 (b) promote energy conservation;
 92 (c) reduce greenhouse gas emissions; and
 93 (d) reduce consumption of fossil fuels by County residents.

94 **18A-26. Eligibility; use of funds.**

- 95 (a) The Director may loan funds to an owner of a single-family home to
 96 fund eligible costs to make an energy efficiency improvement that is
 97 projected to be cost effective or install a renewable energy device in the
 98 single-family home, up to the maximum loan amount set by regulation.
 99 (b) To be eligible for a loan under this Program, a property owner must:
 100 (1) have a home energy audit performed on the owner's single-
 101 family home by a certified energy auditor, as required under
 102 Section 18A-27;
 103 (2) have the energy efficiency improvement completed or renewable
 104 energy device installed within 6 months after receiving the loan;
 105 and

- 106 (3) agree to repay the loan amount borrowed through the County tax
 107 bill for that home, as required by Section 18A-28.
- 108 (c) The Department of Permitting Services must certify that the
 109 improvement or device for which the funds were loaned has been
 110 properly installed. The Department must accept a certification by
 111 another government agency, including a municipality, that the
 112 improvement or device has been [[property]] properly installed. The
 113 County Executive may assign the responsibility under this subsection to
 114 another entity, including a third party.
- 115 (d) The term of the loan must be 15 years[[,]] unless the Director sets a
 116 different loan term by regulation.
- 117 (e) Use of funds for an energy efficiency improvement.
- 118 (1) A person may borrow funds for eligible costs to make an energy
 119 efficiency improvement, less any amount received from a public
 120 or private program because the improvement is or will be made.
- 121 (2) Except as provided by subsection [[(f)(2)]] (e)(3), funds must be
 122 loaned only for an energy efficiency improvement that is
 123 projected to be cost effective.
- 124 (3) Funds may be loaned for an energy efficiency improvement that
 125 is not cost effective if that improvement is part of a package of
 126 improvements financed under the Program that cumulatively is
 127 cost effective.
- 128 (f) Use of funds for a renewable energy device.
- 129 (1) A person may borrow funds for eligible costs to install a
 130 renewable energy device only if:
- 131 (A) the single-family home has a HERS score of 100 or below;
 132 or

133 (B) the owner has a home energy audit performed on the
 134 owner's home and, based on the audit recommendations,
 135 makes energy efficiency improvements that result in a 30
 136 percent increase in efficiency.

137 (2) A person may borrow funds for eligible costs to install a
 138 renewable energy device, less any amount received from a public
 139 or private program because the device is or will be installed.

140 (3) A person must not borrow funds to install a renewable energy
 141 device if that person receives a property tax credit for renewable
 142 energy devices under Section 52-18R.

143 **18A-27. Home energy audit.**

144 (a) An applicant for a loan under this Program must have and submit to the
 145 County a home energy audit performed on the owner's home by a
 146 certified energy auditor.

147 (b) The auditor must prepare a written report that:

148 (1) contains findings and recommendations to improve the home's
 149 energy efficiency;

150 (2) identifies those cost effective energy efficiency improvements
 151 which would generate projected annual energy cost savings,
 152 based on projected energy costs set by Method (3) regulation, that
 153 are equal to or more than the estimated cost of the improvements
 154 to be financed under the County Program when the cost of the
 155 improvements are amortized over 15 years; and

156 (3) identifies any public or private financing mechanisms known to
 157 the auditor that could be used to implement energy efficiency
 158 improvements.

159 (c) The cost of the audit may be included in the amount of the loan.

160 **18A-28. Repayment of funds; lien.**

- 161 (a) The owner of single-family home must agree to repay the loan amount
 162 borrowed, amortized over 15 years, through the County property tax bill
 163 for that home.
- 164 (b) If the owner of the single-family home sells the home, the seller must
 165 disclose that the buyer must continue to repay the loan through the
 166 property tax bill.
- 167 (c) The loan amount and any accrued interest constitute a first lien on the
 168 real property to which the loan applies until paid. The loan amount and
 169 accrued interest are collectable by suit or tax sale like all other real
 170 property taxes, to the extent allowed by State law. [[In the event of a
 171 failure to]] If the property owner does not pay the loan and accrued
 172 interest as required, the property may be certified to the Department of
 173 Finance and the lien may be sold at the tax sale conducted by the
 174 County. The deferred fees constitute a personal liability of the owner of
 175 the property.

176 **18A-29. Regulations.**

177 The Executive must adopt regulations under Method (2) to administer the
 178 Program, including:

- 179 (a) lending standards and priorities;
- 180 (b) minimum and maximum loan amounts;
- 181 (c) interest rates, terms, and conditions;
- 182 (d) application procedures, including necessary supporting documentation;
- 183 (e) criteria for adequate security;
- 184 (f) procedures to refer applicants to other sources of funds, and to
 185 cooperate with other public and private sources of funds;

- 186 (g) procedures to ask the Director to reconsider any denial of a loan or any
 187 decision on interest rates, terms, and conditions;
 188 (h) procedures for nonpayment or default;
 189 (i) procedures and requirements for post-installation inspection; and
 190 (j) disclosure requirements for real estate transactions.

191 **18A-30. Revolving loan fund.**

- 192 (1) Definitions. In this Section, the following words have the meanings
 193 indicated:

194 Department means the Department of Finance.

195 Revolving loan fund or Fund means the special, nonlapsing fund to
 196 finance the Home Energy Loan Program established under this Article.

- 197 (b) The Fund consists of:

- 198 (1) money appropriated in the County budget for the Program;
 199 (2) money received from any public or private source;
 200 (3) interest and investment earnings on the Fund;
 201 (4) repayments and prepayments of principal and interest on loans
 202 made from the Fund; and
 203 (5) any other available funds to support the Program.

- 204 (c) The Department must:

- 205 (1) disburse funds and collect payments for a loan made under the
 206 Program; and
 207 (2) maintain loan records and provide an annual report to the
 208 Department of Environmental Protection.

209 **18A-31. Annual report.**

210 Each August 15, the Director must submit a report to the County Executive
 211 and County Council that identifies;

- 212 (a) the number of recipients of loans;

- 213 (b) the amount of funds loaned; and
 214 (c) any activities during the previous fiscal year to market the Program.

215 **18A-32. Third party contract.**

- 216 (a) The County may contract with a non-profit or for-profit organization to
 217 take any action necessary to fulfill the purposes of this Article,
 218 including:
- 219 (1) prepare and review, evaluate, and approve applications;
 - 220 (2) execute loan agreements;
 - 221 (3) secure and service loans;
 - 222 (4) collect loan payments; and
 - 223 (5) conduct collections for defaulted loans.
- 224 (b) The County, or a contractor for the County, may charge an applicant or
 225 borrower usual and customary fees, including:
- 226 (1) application fees;
 - 227 (2) loan origination fees;
 - 228 (3) delinquency fees;
 - 229 (4) costs of collection; and
 - 230 (5) other program fees to support verification of program
 231 requirements.

232 **Sec. 2. Initial regulations.**

233 The County Executive must adopt and submit to the County Council, not later
 234 than (date 3 months after enactment of bill), regulations to implement Article 4 of
 235 Chapter 18A, as added by Section 1 of this Act.

236 **Sec. 3. Expedited Effective Date.**

237 The Council declares that this legislation is necessary for the immediate
238 protection of the public interest. This Act takes effect on the date on which it
239 becomes law.

240

241 *Approved:*

242

Philip M. Andrews, President, County Council

Date

243 *Approved:*

244

Isiah Leggett, County Executive

Date

245 *This is a correct copy of Council action.*

246

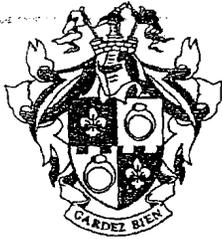
Linda M. Lauer, Clerk of the Council

Date

LEGISLATIVE REQUEST REPORT

Expedited Bill 6-09, *Home Energy Loan Program - Establishment*

DESCRIPTION:	Expedited Bill 6-09 would: (1) establish a Home Energy Loan Program to assist single-family homeowners to make an energy efficiency improvement or install a renewable energy device; and (2) establish a revolving loan fund to provide homeowners loans under the Program.
PROBLEM:	Making energy efficiency improvements to homes is a cost-effective way to reduce greenhouse gas emissions. However, the lack of accessible and low-cost financing options is a barrier to many homeowners and prevent them from making these energy efficiency improvements.
GOALS AND OBJECTIVES:	To establish a program to provide homeowners with a low-cost financing option to make energy efficiency improvements to their homes, thereby reducing energy costs and greenhouse gas emissions.
COORDINATION:	Departments of Environmental Protection, Finance, and Permitting Services.
FISCAL IMPACT:	To be requested.
ECONOMIC IMPACT:	To be requested.
EVALUATION:	To be requested.
EXPERIENCE ELSEWHERE:	To be researched.
SOURCE OF INFORMATION:	Amanda Mihill, Legislative Analyst, (240) 777-7815.
APPLICATION WITHIN MUNICIPALITIES:	To be researched.
PENALTIES:	N/A



Montgomery County Council

From the Office of Councilmember Roger Berliner

January 15, 2009

Contact Councilmember Berliner's Office: 240-777-7828

HELP Is on the Way

County's Sustainability Working Group Report Supports Berliner Home Energy Loan Program (HELP)

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ROCKVILLE, Md., January 15, 2009 – Today the Sustainability Working Group issued its first set of climate change recommendations in response to legislation sponsored by Councilmember Roger Berliner. The SWG report recommends a comprehensive and diverse package of initiatives that will benefit residents and businesses and save them money in the long term by investing in clean energy, green buildings, energy efficiency and mass transportation choices.

"I want to commend the members of the Sustainability Working Group for their dedication and hard work, particularly the public members who generously gave their time and thoughtful ideas," said Montgomery County District 1 Councilmember Roger Berliner (Bethesda, Chevy Chase, Potomac) "This report lays a path for the next generation of Climate Change initiatives. I look forward to working with the Executive to see enactment of those ideas that will help our constituents, our economy and create a sustainable Montgomery County."

Councilmember Berliner is particularly gratified that the Sustainability Working Group endorsed his initiative to create a Home Energy Loan Program (HELP). Councilmember Berliner proposed the establishment of HELP in an Energy and Environment White Paper he co-authored with Ken Brown, executive director of Climate Communities (attached). The white paper was released in December. Since then, Congressman Chris Van Hollen, with the editorial support of the Washington Post, has embraced the proposal and has recommended it to President-elect Obama and Congress for inclusion in the stimulus package.

Under Councilmember Berliner and Congressman Van Hollen's proposal, a property owner would receive a zero interest loan from the proposed Montgomery County Home Energy Loan Program (HELP) to pay for an energy audit and the recommended efficiency improvements. The property owner would repay the loan through a line item on their property tax bill. The advantage of this approach is that the property owners would only have to repay the loan while they owned the property. The new owner

would continue to repay the loan through the property tax bill – and enjoy the lower energy costs – after they acquire the property.

“HELP is on the way,” said Councilmember Berliner. “This proposal, once enacted, will put money in our homeowner’s pockets, reduce greenhouse gas emissions by 20%, and create green jobs in Montgomery County. This is a winning combination whose time has come.”

“Local governments’ ability to tie home energy retrofit loans to the property is a game changer because a key barrier to investments in energy efficiency is the homeowners’ uncertainty about whether they will be in the house long enough to realize the benefits of their investment. Regardless of how long the homeowner stays in a property, the homeowner need only weigh the reduction in their utility bills against the monthly cost of the loan.”

Using this approach, a homeowner is likely to make a larger investment sooner, resulting in greater savings and a more marketable home to sell.

“Today, with current financing options, homeowners often opt for measures with a two to three year payback,” said Councilmember Berliner. “Under this model, measures with seven-year paybacks can be financed under terms that are attractive and more than pay for themselves.” Legislation will be introduced later this month.

The Sustainability Working Group (SWG) is comprised of 26 members representing a broad range of public and private sector interests. It is co-chaired by Montgomery County Department of Environmental Protection (DEP) Director Bob Hoyt and Jane Nishida. Nishida formerly served as the secretary of the Maryland Department of the Environment and currently is the senior environmental institutions specialist at the World Bank.

For more information about the Home Energy Loan Program, call 240-777-7828.

###



**A Federal/Local Government Partnership
that Breaks the Home Energy Retrofit Conundrum**

An Energy & Environment White Paper
The Honorable Roger Berliner and Ken Brown, Executive Director of Climate
Communities

President-elect Obama has pledged to make the development of a green energy economy a hallmark of his Administration and the Democratic Congressional leadership has signaled its own commitment to a green future. Local governments are uniquely positioned to partner with the President-elect and Congress to transform this vision into reality.

Cities and counties across America are the first responders to the challenge of climate change – improving energy efficiency standards for buildings, promoting solar and geothermal projects, improving mass transit systems, and reducing vehicle miles traveled through local land use and smart growth policies.

Local governments can be particularly effective in reducing greenhouse gas (GHG) emissions caused by home energy consumption. This single source contributes almost one-third of our nation's and 10% of the world's GHG emissions. We all know that homes waste energy; last year GHG emissions from the residential sector increased more than any other source.

Every reputable study makes clear that retrofitting our homes with simple things like sealing and caulking, as well as energy-efficient lighting, windows, insulation, and heating and cooling systems, is the single most cost-effective way to reduce GHG emissions. Saving energy from homes is not only inexpensive; it can actually result in a positive cash flow for homeowners. The icing on the cake is that by investing in home energy efficiency we would produce thousands of local green jobs for contractors and builders that have been devastated as the housing market has tanked.

Bottom line: we could put money in people's pockets, stimulate our economy, create new green jobs, reduce our dependence on foreign oil and help

save the planet. So what stands in the way? The lack of an accessible and low-cost financing option that makes sense for homeowners. This remains the principle barrier to plucking the lowest of the low hanging fruit.

Fortunately, the broad parameters of a solution are coming into focus—a combination of energy audits that help owners identify cost-effective efficiency measures; low cost financing; and the unique ability of local governments to tie repayments of the loan to the property through the property tax bill.

Here is how it would work. Suzie and Harry Homeowner receive a \$5,000 loan from the proposed Montgomery County Home Retrofit Revolving Fund to pay for an energy audit and the recommended efficiency improvements. The Homeowner family would repay the loan through a line item on their property tax bill. The advantage of this approach is that the Homeowners would only have to repay the loan while they owned the house. The new owner would continue to repay the loan through the property tax bill – and enjoy the lower energy costs – after they acquire the property.

Local governments' ability to tie home energy retrofit loans to the property is a game changer because a key barrier to investments in energy efficiency is the homeowners' uncertainty about whether they will be in the house long enough to realize the benefits of their investment. Regardless of how long the homeowner stays in a property, the homeowner need only weigh the reduction in her utility bills against the monthly cost of the loan.

Using this approach, a homeowner is likely to make a larger investment sooner, resulting in greater savings and a more marketable home to sell. Today, with current financing options, homeowners often opt for measures with a two to three year payback. Under this model, measures with seven year paybacks can be financed under terms that are attractive and more than pay for themselves.

The County estimates that a \$5,000 package of home retrofit measures under this program will reduce the family's energy consumption and carbon emissions by 20% a year and put a net \$230 a year back into their stressed family budget.

This same model will encourage investment in solar technology. The front-end cost of solar and the timeframe to realize "payback" often acts as a deterrent to purchasing home solar systems. Low-cost financing, solar tax credits, and a repayment plan that is linked to the property make investment in solar energy much more affordable. The combination of robust energy efficiency measures and

solar energy production could easily reduce GHG emissions from our residential building sector by half.

The role of local government is critical to breaking financial the barriers to home energy retrofits. We want a significant percentage of homeowners to invest \$5,000 to improve the energy efficiency of their homes. In order to achieve these goals, we need a robust source of funds. Local governments in this economy are already at the breaking point. We need the assistance of the federal government to make this model work nationwide and to provide the zero interest financing that only the federal government is in a position to provide.

The economic recovery legislation that is being developed by President-elect Obama and Congress should include federal funding to capitalize Local Government Home Retrofit Revolving Funds across the country. Certainly if we can provide trillions for Wall Street with unknown results, we can provide billions for a secure revolving fund that will put people back to work in communities across the country, revitalize our economy, and preserve our planet.

Roger Berliner, an energy lawyer, is Vice President and Lead Member for Energy & Environment on the Montgomery County, Maryland County Council. Ken Brown is a partner at The Ferguson Group and the Executive Director of Climate Communities, a national coalition of cities and counties working to ensure that federal policies empower local climate action.

The Washington Post

AN INDEPENDENT NEWSPAPER

Renewable Idea

Two green stimulus proposals underscore the need to put a higher price on carbon.

REPS. CHRIS Van Hollen (D-Md.) and Zach Wamp (R-Tenn.) have sent a letter to President-elect Barack Obama outlining two promising ideas for inclusion in the stimulus package that would help get renewable energy companies off life support and encourage homeowners to make their dwellings more energy-efficient. Both ideas are worthy — but both also point, once again, to the importance of Congress doing something to raise the cost of using oil, gas and coal, either through a carbon tax or a cap-and-trade system.

The Home Energy Savings Revolving Fund would provide zero-interest loans to help homeowners pay for energy-efficient lighting, windows, doors, insulation and other improvements. The money would be provided by local governments, which would tie repayments to the homeowner's property tax bill. Annual payments on the loans would be lower than the resulting reduction in a home's energy costs, providing an incentive to participate. Unpaid loan balances would convey with the property, so that even a homeowner who expected to move within a couple of years could feel free to invest in long-term improvements. The measure could create jobs in the hard-hit housing and construction industries without adding new homes to a glutted market.

The National Clean Energy Lending Authority, or "green bank," would offer loan guarantees to renewable energy projects that have already attracted private capital but are endangered because of the credit crisis and the drop in oil prices. For instance, Mr. Van Hollen showed us a list of 53 wind energy projects that have been sidelined for a lack of financing. He said that every public dollar could be leveraged into \$10 in private capital. If successful, many of those wind, solar, geothermal and cellulosic-ethanol projects sitting on drawing boards could come to fruition.

Both of these ideas have merit, but they have something else in common: They're needed, in part, because plummeting oil prices have reduced the incentive to invest in conservation and alternative energy. Rather than pick and choose technologies or individual projects to back, as would the green bank, Congress could pass legislation that would guarantee a gradual increase in the price of greenhouse-gas-emitting fuels. Business would get the price signal it needs to invest in clean energy technologies; consumers would change their behavior to make those new businesses viable. And the federal government could get out of the business of picking winners and losers in renewable energy.

curtailment of some loads (e.g., water heaters or air conditioners). The displays can also complement other programs seeking to reduce consumer energy consumption such as weatherization and CFL give-away programs, allowing residents to see the immediate cost savings resulting from energy efficiency improvements.

The County should establish a goal that 10% of County homeowners receive an in-home energy meter by the end of 2010, rising to 50% by 2020 unless superseded by utility supplied programs.

Implementation Steps

- Incorporate information on in-home energy displays into County energy and sustainability educational programs.
- Continue to advocate for utility programs that provide in-home energy displays as part of direct load control and advanced metering programs. Collaborate with utilities in marketing benefits and attributes of the programs.
- Collaborate with electricity and natural gas utilities to develop a pilot to buy-down the initial cost of commercially available in-home energy displays for customers.
- Provide financial incentives, in the absence of utility based programs, to reduce the cost of an in-home energy display by adding the home energy display as a qualifying energy-efficiency device under the County's Energy Conservation Property tax credit.



***EER-4 Recommendation:** Develop a low cost loan program to facilitate residential energy efficiency improvements.*

The technologies needed to make long-term reductions in home energy consumption exist today. While each home's needs are different, a combination of insulation; heating, ventilating, and air conditioning; and lighting properly applied can result in substantial reductions in energy consumption, increase the value of a home, and save money. Implementing energy efficiency improvements can also create green job opportunities and markets for products and services.

Residents are increasingly aware of the need to improve the energy performance of their homes. Two key barriers to undertaking improvements are identifying the actions that will result in real and sustained energy savings, and paying for those actions.

The first barrier – identifying cost-effective energy efficiency improvements – can be addressed by a high-quality energy audit delivered by a trained professional. To help alleviate this issue, the Maryland Energy Administration has sponsored Maryland Home Performance (MDHP), a program that trains and certifies contractors to perform energy audits and in many cases install whole house energy improvements. Certified auditors recommend energy efficiency improvements based on their effectiveness. Where owners adopt recommendations, a follow-up visit verifies the effectiveness of the improvement after it is installed. PEPCO's recently approved programs for energy efficiency and demand side management programs include incentives for MDHP energy audits.

The second barrier, paying for the improvements, must be addressed in order for large numbers of County homeowners to undertake improvements to their homes. Based on audits conducted in 2008, the average MDHP audit identifies opportunities that can reduce household energy consumption, energy costs and emissions by 20%, at an implementation cost of approximately \$5,000, resulting in a payback period of approximately seven years. However, the initial cost is more than the average homeowner can afford, even after applying utility rebates and property tax credits offered by the County. While installer financing is available to homes with high credit ratings, the terms may not be favorable. In addition, the loan is tied to the individual and must be repaid even if the individual moves or sells the house, while the benefits of the energy savings are reaped by the home's next owner.

A solution to this key barrier is for the County to develop a loan program to facilitate financing of effective energy efficiency improvements. The County would facilitate collection of loan repayments via the property tax collection process, a program design that has been implemented or is under development in Berkeley, California, Annapolis, Maryland, and Palm Desert, California.

The framework for this program consists of the following steps:

- An audit by a MDHP certified auditor, or equivalent audit, would be required in order to be eligible for financing. This ensures that cost-effective improvements are identified.
- A MDHP certified auditor, who is also a licensed contractor in Maryland, would then perform the work as a contractor or verify the installation by a homeowner or other contractor.
- Consumers can opt for a low-cost long-term loan through a County supported program, confident that monthly energy savings will be greater than the cost of financing, ensuring positive cash flow for the current and future owners of the home.
- Repayment of the loan balance would be collected annually through the County's property tax bill, giving lenders a greater reassurance of repayment and lessened administrative costs.
- If the homeowner sold the home before the financing was paid in full, the loan balance along with the benefits of the energy-efficiency improvements would transfer to the new owner.

The essential uncertainty that needs to be evaluated is how the financing will be funded and administered. There are three potential options:

Option 1 – Advocate for a federally-sponsored loan program. Under this option the County would advocate for federal funding from economic stimulus or other legislation to establish loan programs with the agreement that the County would administer repayment through the property tax collection process. However, funding is not guaranteed.

Option 2 - Issue a taxable bond to fund loans administered by the County. This allows the County to secure favorable interest rates for a revolving loan. The County would collect funds to repay the bond through the property tax collection process. However,

this implementation mechanism is subject to the County's debt ceiling and risk may be incurred from consumer defaults on loan balances.

Option 3 – Partner with a non-profit or pool of certified lenders to offer financing. Under this option, the County would secure collection of loan repayment via the property tax collection process but financing would be provided by private sector lenders. Under this option the interest rate is uncertain, but would likely be reduced below market due to the County's administering of repayment.

It is recommended that the County immediately begin developing a framework for a residential energy-efficiency loan program based on the most favorable model that can be developed in order to achieve implementation at the earliest possible date.

Implementation Steps

- Advocate for federal funding of a residential revolving loan program.
- Direct the Departments of Finance and Environmental Protection to immediately create a plan for a revolving loan program for residential energy-efficiency improvements in order to achieve implementation at the earliest possible date.
- Identify and develop sources of below market rate financing.
- Establish quality criteria for energy audits, equivalent to those delivered by Maryland Home Performance trained auditors.
- Identify a process to collect loan repayment through the Montgomery County Department of Finance.
- Develop an outreach and marketing campaign, in partnership with utilities and community organizations, to build consumer awareness of the benefits of energy-efficiency and availability of the loan program.
- Evaluate options for expanding the program to renewable energy technologies and the commercial and multi-family sectors.

Recommendation EER-5: Create an effective residential energy education and outreach program with the goal that 50% of Montgomery County homeowners will take steps to reduce the annual consumption of energy in their homes by at least 25% by 2020.

Public education is critically important to achieving the County's goal of reducing GHG emissions by 20% by 2020. In the residential energy sector, much of this reduction will be as a result of voluntary actions by homeowners. Fortunately, there are ample opportunities to achieve substantial reductions in energy use in existing single family homes.

Significant amounts of energy can be saved in the average home through sealing and insulating the building envelope, upgrading HVAC equipment, and replacing old appliances with ENERGY STAR models. For example, the U.S. EPA estimates that homeowners can reduce heating and cooling costs by 20% by air sealing their homes and adding insulation in attics, floors over crawl spaces, and accessible basement rim joists (www.energystar.gov). ENERGY STAR appliances can cut energy costs by as much as 50%.

HOUSE BILL 1567

L6, M3, C5

9lr3103

By: **Delegate Hecht**
Rules suspended
Introduced and read first time: March 16, 2009
Assigned to: Rules and Executive Nominations

A BILL ENTITLED

1 AN ACT concerning

2 **Clean Energy Loan Programs**

3 FOR the purpose of authorizing certain political subdivisions to enact an ordinance or
4 a resolution establishing a Clean Energy Loan Program for a certain purpose;
5 requiring the Program to require a property owner to repay a certain loan
6 through a surcharge on the owner's property tax bill; providing that a person
7 who acquires property subject to a certain surcharge assumes the obligation to
8 pay the surcharge; providing that a certain surcharge constitutes a lien on
9 certain property; requiring a certain local law to provide for certain eligibility
10 requirements for participation in the Program and certain loan terms and
11 conditions; authorizing a political subdivision to issue bonds for a certain
12 purpose; establishing procedures for the issuance of certain bonds; authorizing a
13 certain political subdivision to make certain specifications when issuing certain
14 bonds; stating the intent of the General Assembly; requiring certain bonds to be
15 subject to certain requirements and limitations under certain circumstances;
16 requiring that a certain county may not issue certain bonds unless the amount
17 of the bonds is first authorized by the General Assembly; providing for the
18 terms and conditions of certain bonds; providing for a certain exemption from
19 certain taxes under certain circumstances; providing that a finding by a political
20 subdivision for certain purposes is conclusive as to certain matters under
21 certain circumstances; defining certain terms; and generally relating to the
22 Clean Energy Loan Programs.

23 BY adding to
24 Article 24 – Political Subdivisions – Miscellaneous Provisions
25 Section 9–1501 through 9–1507 to be under the new subtitle “Subtitle 15. Clean
26 Energy Loan Programs”
27 Annotated Code of Maryland
28 (2005 Replacement Volume and 2008 Supplement)

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.

[Brackets] indicate matter deleted from existing law.



1 SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF
2 MARYLAND, That the Laws of Maryland read as follows:

3 **Article 24 - Political Subdivisions - Miscellaneous Provisions**

4 **SUBTITLE 15. CLEAN ENERGY LOAN PROGRAMS.**

5 **9-1501.**

6 (A) IN THIS SUBTITLE THE FOLLOWING WORDS HAVE THE MEANINGS
7 INDICATED.

8 (B) "BOND" MEANS A BOND, NOTE, OR OTHER SIMILAR INSTRUMENT
9 THAT A POLITICAL SUBDIVISION ISSUES UNDER THIS SUBTITLE.

10 (C) "CHIEF EXECUTIVE" MEANS THE PRESIDENT, CHAIR, MAYOR,
11 COUNTY EXECUTIVE, OR ANY OTHER CHIEF EXECUTIVE OFFICER OF A
12 POLITICAL SUBDIVISION.

13 (D) "POLITICAL SUBDIVISION" MEANS A COUNTY OR MUNICIPAL
14 CORPORATION.

15 (E) "PROGRAM" MEANS A CLEAN ENERGY LOAN PROGRAM.

16 **9-1502.**

17 (A) A POLITICAL SUBDIVISION MAY ENACT AN ORDINANCE OR A
18 RESOLUTION ESTABLISHING A CLEAN ENERGY LOAN PROGRAM.

19 (B) THE PURPOSE OF THE PROGRAM IS TO PROVIDE LOANS TO
20 RESIDENTIAL PROPERTY OWNERS FOR THE FINANCING OF ENERGY EFFICIENCY
21 AND RENEWABLE ENERGY PROJECTS.

22 (C) THE PROGRAM SHALL REQUIRE A PROPERTY OWNER TO REPAY A
23 LOAN PROVIDED UNDER THE PROGRAM THROUGH A SURCHARGE ON THE
24 OWNER'S PROPERTY TAX BILL.

25 (D) A PERSON WHO ACQUIRES PROPERTY SUBJECT TO A SURCHARGE
26 UNDER THIS SECTION, WHETHER BY PURCHASE OR OTHER MEANS, ASSUMES
27 THE OBLIGATION TO PAY THE SURCHARGE.

28 (E) A SURCHARGE UNDER THIS SECTION, INCLUDING ANY INTEREST
29 AND PENALTIES, CONSTITUTES A LIEN AGAINST THE PROPERTY.

1 **(F) AN ORDINANCE OR RESOLUTION ENACTED UNDER SUBSECTION (A)**
2 **OF THIS SECTION SHALL PROVIDE FOR:**

3 **(1) ELIGIBILITY REQUIREMENTS FOR PARTICIPATION IN THE**
4 **PROGRAM, INCLUDING ELIGIBILITY REQUIREMENTS FOR:**

5 **(I) ENERGY EFFICIENCY IMPROVEMENTS AND RENEWABLE**
6 **ENERGY DEVICES; AND**

7 **(II) PROPERTY AND PROPERTY OWNERS; AND**

8 **(2) LOAN TERMS AND CONDITIONS.**

9 **9-1503.**

10 **(A) A POLITICAL SUBDIVISION MAY ISSUE BONDS FOR THE PURPOSE OF**
11 **FINANCING LOANS MADE THROUGH THE PROGRAM.**

12 **(B) TO ISSUE A BOND, A POLITICAL SUBDIVISION SHALL ADOPT AN**
13 **ORDINANCE OR A RESOLUTION THAT SPECIFIES THE MAXIMUM PRINCIPAL**
14 **AMOUNT OF THE BOND.**

15 **(C) AS THE POLITICAL SUBDIVISION CONSIDERS APPROPRIATE TO**
16 **EFFECT THE PROGRAM, THE ORDINANCE OR RESOLUTION MAY:**

17 **(1) SPECIFY THE ITEMS LISTED IN SUBSECTION (D) OF THIS**
18 **SECTION;**

19 **(2) AUTHORIZE THE FINANCE BOARD OF THE POLITICAL**
20 **SUBDIVISION TO SPECIFY THOSE ITEMS BY RESOLUTION OR ORDINANCE; OR**

21 **(3) AUTHORIZE THE CHIEF EXECUTIVE OF THE POLITICAL**
22 **SUBDIVISION TO SPECIFY THOSE ITEMS BY EXECUTIVE ORDER.**

23 **(D) FOR EACH ISSUANCE OF A BOND, THE POLITICAL SUBDIVISION MAY**
24 **SPECIFY:**

25 **(1) THE PRINCIPAL AMOUNT;**

26 **(2) THE INTEREST RATE OR, FOR FLOATING OR VARIABLE RATES**
27 **OF INTEREST, THE METHOD TO DETERMINE THE INTEREST RATE;**

28 **(3) THE MANNER AND TERMS OF SALE, INCLUDING WHETHER BY**
29 **COMPETTIVE OR NEGOTIATED SALE;**

1 (4) THE TIME OF EXECUTION, ISSUANCE, AND DELIVERY;

2 (5) THE FORM AND DENOMINATION;

3 (6) THE SOURCE, MANNER, TIMES, AND PLACES TO PAY
4 PRINCIPAL OR INTEREST;

5 (7) CONDITIONS FOR REDEMPTION BEFORE MATURITY;

6 (8) THE PURPOSES FOR WHICH PROCEEDS MAY BE SPENT;

7 (9) THE SOURCE OF SECURITY; AND

8 (10) OTHER PROVISIONS THAT THE GOVERNING BODY OF THE
9 POLITICAL SUBDIVISION DETERMINES ARE NECESSARY OR DESIRABLE TO
10 EFFECT THE PROGRAM.

11 **9-1504.**

12 (A) THE GENERAL ASSEMBLY INTENDS THAT GENERAL OBLIGATION
13 DEBT MAY BE INCURRED BY ISSUING BONDS IF THE PURPOSES FOR THE DEBT
14 INCLUDE THE PURPOSES FOR ISSUING BONDS UNDER THIS SUBTITLE.

15 (B) SUBJECT TO SUBSECTIONS (C) AND (D) OF THIS SECTION, A
16 POLITICAL SUBDIVISION MAY ISSUE BONDS TO FINANCE LOANS MADE UNDER
17 THE PROGRAM IN ACCORDANCE WITH THE PROCEDURES OF THE POLITICAL
18 SUBDIVISION FOR AUTHORIZATION TO SELL AND ISSUE BONDS.

19 (C) A BOND ISSUED IN ACCORDANCE WITH AN ORDINANCE OR A
20 RESOLUTION THAT PLEDGES THE FULL FAITH AND CREDIT OF A POLITICAL
21 SUBDIVISION IS SUBJECT TO:

22 (1) ANY APPLICABLE REQUIREMENTS OF THE MARYLAND
23 CONSTITUTION AND THE POLITICAL SUBDIVISION'S CHARTER AND LAWS ON
24 REFERENDUM FOR THE ISSUANCE OF GENERAL OBLIGATION DEBT; AND

25 (2) EACH LIMITATION IMPOSED BY PUBLIC GENERAL LAW,
26 PUBLIC LOCAL LAW, OR CHARTER ON GENERAL OBLIGATION DEBT OF THE
27 POLITICAL SUBDIVISION.

28 (D) (1) THIS SUBSECTION DOES NOT APPLY TO A COUNTY THAT IS
29 SUBJECT TO ARTICLE 25A OR ARTICLE 25B OF THE CODE.

1 (2) A COUNTY MAY NOT ISSUE BONDS THAT ARE SECURED BY THE
2 FULL FAITH AND CREDIT OF THE COUNTY UNLESS THE AMOUNT OF BONDS TO
3 BE ISSUED BY THE COUNTY UNDER THIS SUBTITLE IS FIRST AUTHORIZED BY
4 THE GENERAL ASSEMBLY.

5 **9-1505.**

6 (A) A BOND:

7 (1) MAY BE IN BEARER FORM;

8 (2) MAY BE REGISTRABLE AS TO PRINCIPAL ALONE OR AS TO
9 BOTH PRINCIPAL AND INTEREST; AND

10 (3) IS A "SECURITY" UNDER § 8-102 OF THE COMMERCIAL LAW
11 ARTICLE, WHETHER OR NOT THE BOND IS ONE OF A CLASS OR SERIES OR IS
12 DIVISIBLE INTO A CLASS OR SERIES OF INSTRUMENTS.

13 (B) (1) A BOND SHALL BE SIGNED MANUALLY OR IN FACSIMILE BY
14 THE CHIEF EXECUTIVE OF THE POLITICAL SUBDIVISION.

15 (2) AN OFFICER'S SIGNATURE OR FACSIMILE SIGNATURE ON A
16 BOND REMAINS VALID EVEN IF THE OFFICER LEAVES OFFICE BEFORE THE BOND
17 IS DELIVERED.

18 (3) THE SEAL OF THE POLITICAL SUBDIVISION SHALL BE AFFIXED
19 TO THE BOND AND ATTESTED BY THE CLERK OR OTHER SIMILAR
20 ADMINISTRATIVE OFFICER OF THE POLITICAL SUBDIVISION.

21 (C) (1) A BOND SHALL MATURE NOT LATER THAN 40 YEARS AFTER
22 THE DATE OF ISSUE.

23 (2) BONDS MAY BE ISSUED AS SERIAL BONDS OR TERM BONDS
24 WITH PROVISIONS FOR A MANDATORY SINKING FUND OR OTHER ANNUAL
25 PRINCIPAL REDEMPTION BEGINNING NOT LATER THAN 3 YEARS AFTER THE
26 DATE OF ISSUE.

27 (D) (1) A BOND SHALL BE SOLD IN THE MANNER, AT PUBLIC OR
28 PRIVATE (NEGOTIATED) SALE, AND ON THE TERMS AT, ABOVE, OR BELOW PAR,
29 AS THE POLITICAL SUBDIVISION CONSIDERS BEST.

30 (2) A BOND IS NOT SUBJECT TO ARTICLE 31, §§ 9, 10, AND 11 OF
31 THE CODE.

1 9-1506.

2 (A) A BOND, THE TRANSFER OF A BOND, THE INTEREST PAYABLE ON A
3 BOND, THE INCOME DERIVED FROM A BOND, AND THE PROFIT REALIZED ON
4 SALE OR EXCHANGE OF A BOND ARE EXEMPT FROM STATE AND LOCAL TAXES.

5 (B) A POLITICAL SUBDIVISION MAY ISSUE BONDS UNDER THIS
6 SUBTITLE WITHOUT REGARD TO THEIR FEDERAL TAX STATUS.

7 9-1507.

8 FOR PURPOSES OF AN ACTION INVOLVING THE VALIDITY OR
9 ENFORCEABILITY OF A BOND OR SECURITY FOR A BOND, A FINDING BY A
10 POLITICAL SUBDIVISION IS CONCLUSIVE AS TO:

11 (1) THE PUBLIC PURPOSE OF AN ACTION TAKEN UNDER THIS
12 SUBTITLE; AND

13 (2) ANY OTHER MATTER RELATING TO THE ISSUANCE OF A BOND.

14 SECTION 2. AND BE IT FURTHER ENACTED, That this Act shall take effect
15 October 1, 2009.

Berkeley FIRST Financing Initiative for Renewable and Solar Technology

Berkeley FIRST is a solar financing program operating in the City of Berkeley. It provides property owners an opportunity to borrow money from the City's Sustainable Energy Financing District to install solar photovoltaic electric systems and allow the cost to be repaid over 20 years through an annual special tax on their property tax bill. The tax will only be paid by Berkeley property owners who voluntarily participate in the Berkeley FIRST program.



Berkeley FIRST is intended to solve many of the financial hurdles facing property owners who want to install solar systems. To calculate the cost benefit of the Berkeley FIRST program for your household energy needs please see the UC Berkeley RAEI [calculator](#) on the UC Berkeley website. The advantages of the Berkeley FIRST program are:

- There is relatively little up-front cost to the property owner.
- The cost for the solar system is paid for through a special tax on the property, and is spread over 20 years.
- The financing costs are comparable to a traditional equity line or mortgage.
- Since the solar system stays with the property, so does the tax obligation—if the property is transferred or sold, the new owners will pay the remaining tax obligation.

Pilot Program

The FIRST program is currently in its pilot phase and the application period is now closed. Thirty-eight solar installation projects, distributed throughout Berkeley, have funding committed by the City of Berkeley. [Renewable Funding LLC](#), the third party administrator for the Berkeley FIRST program, conducted the application process. During this pilot phase the City will evaluate the program and determine whether another round of funding can be made available.

In the meantime, we encourage the installation of solar photovoltaic and solar thermal systems through the available rebates from the California Solar Initiative (CSI- www.gosolarcalifornia.ca.gov) and the Federal Energy Tax Credits (www.irs.gov). For assistance with understanding solar and how it might work for you, call Community Energy Services Corporation, a nonprofit organization partnering with the City for technical advising services. Community Energy Services Corporation can be reached at 510-981-7750.



The Berkeley FIRST program has attracted international and national attention because it dramatically reduces the upfront costs of installing solar photovoltaic systems for residential and commercial property owners without using City funds. All upfront capital costs and most administrative costs for the program are funded with private financing. As of March 2009, two projects have been financed through the Berkeley FIRST program. Current participants have until September 2009 to request funds for completed solar installations.

1st financed installation -Courtesy Sungevity Corp.

Berkeley FIRST Program Frequently Asked Questions

Executive summary

Consensus is growing among scientists, policy makers and business leaders that concerted action will be needed to address rising greenhouse gas (GHG) emissions. The discussion is now turning to the practical challenges of where and how emissions reductions can best be achieved, at what costs, and over what periods of time.

Starting in early 2007, a research team from McKinsey & Company worked with leading companies, industry experts, academics, and environmental NGOs to develop a detailed, consistent fact base estimating costs and potentials of different options to reduce or prevent GHG emissions within the United States over a 25-year period. The team analyzed more than 250 options, encompassing efficiency gains, shifts to lower-carbon energy sources, and expanded carbon sinks.

THE CENTRAL CONCLUSION OF THIS PROJECT

The United States could reduce greenhouse gas emissions in 2030 by 3.0 to 4.5 gigatons of CO₂e using tested approaches and high-potential emerging technologies.¹ These reductions would involve pursuing a wide array of abatement options available at marginal costs less than \$50 per ton, with the average net cost to the economy being far lower if the nation can capture sizable gains from energy efficiency. Achieving these reductions at the lowest cost to the economy, however, will require strong, coordinated, economy-wide action that begins in the near future.

Although our research suggests the net cost of achieving these levels of GHG abatement could be quite low on a societal basis, issues of timing and allocation would likely lead various stakeholders to perceive the costs very differently – particularly during the transition to a lower carbon economy. Costs will tend to concentrate more in some sectors than others, and involve “real” up-front outlays that would be offset by “avoided” future outlays. Given the timing of investments relative to savings, the economy might well encounter periods of significant visible costs, with the costs and benefits shared unequally among stakeholders. Nonetheless, a

1 CO₂e, or “carbon dioxide equivalent,” is a standardized measure of GHG emissions designed to account for the differing global warming potentials of GHGs. Emissions are measured in metric tons CO₂e per year, i.e., millions of tons (megatons) or billions of tons (gigatons). All emissions values in this report are per-year CO₂e amounts, unless specifically noted otherwise. To be consistent with U.S. government forecasts, the team used the 100-year global warming potentials listed in the Intergovernmental Panel on Climate Change’s Second Assessment Report (1995).

concerted, nationwide effort to reduce GHG emissions would almost certainly stimulate economic forces and create business opportunities that we cannot foresee today and that may accelerate the rate of abatement the nation can achieve, thereby reducing the overall cost.

We hope that the fact base provided in this report will help policymakers, business leaders, academics and other interested parties make better informed decisions and develop economically sensible strategies to address the nation's rising GHG emissions.

RISING EMISSIONS POSE AN INCREASING CHALLENGE

Annual GHG emissions in the U.S. are projected to rise from 7.2 gigatons CO₂e in 2005 to 9.7 gigatons in 2030 – an increase of 35 percent – according to an analysis of U.S. government reference forecasts.² The main drivers of projected emissions growth are:

- ¶ Continued expansion of the U.S. economy
- ¶ Rapid growth in the buildings-and-appliances and transportation sectors, driven by a population increase of 70 million and rising personal consumption
- ¶ Increased use of carbon-based power in the electric-power generation portfolio, driven by projected construction of new coal-fired power plants without carbon capture and storage (CCS) technology.

Growth in emissions would be accompanied by a gradual decrease in the absorption of carbon by U.S. forests and agricultural lands. After rising for 50 years, carbon absorption is forecast to decline from 1.1 gigatons in 2005 to 1.0 gigatons in 2030.

On this path – with emissions rising and carbon absorption starting to decline – U.S. emissions in 2030 would exceed GHG reduction targets contained in economy-wide climate-change bills currently before Congress by 3.5 to 5.2 gigatons.³

2 The research team used the "reference" scenario in the U.S. Energy Information Administration's Annual Energy Outlook 2007 report as the foundation of its emissions reference case for emissions through 2030, supplementing that with data from Environmental Protection Agency and Department of Agriculture sources: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005; Global Anthropogenic non-CO₂ Greenhouse Gas Emissions: 1990-2020; Global Mitigation of non-CO₂ Greenhouse Gases; and Forest Service RMRS-GTR-59 (2000). Our analyses excluded HCFCs, which are being retired under the Montreal Protocol.

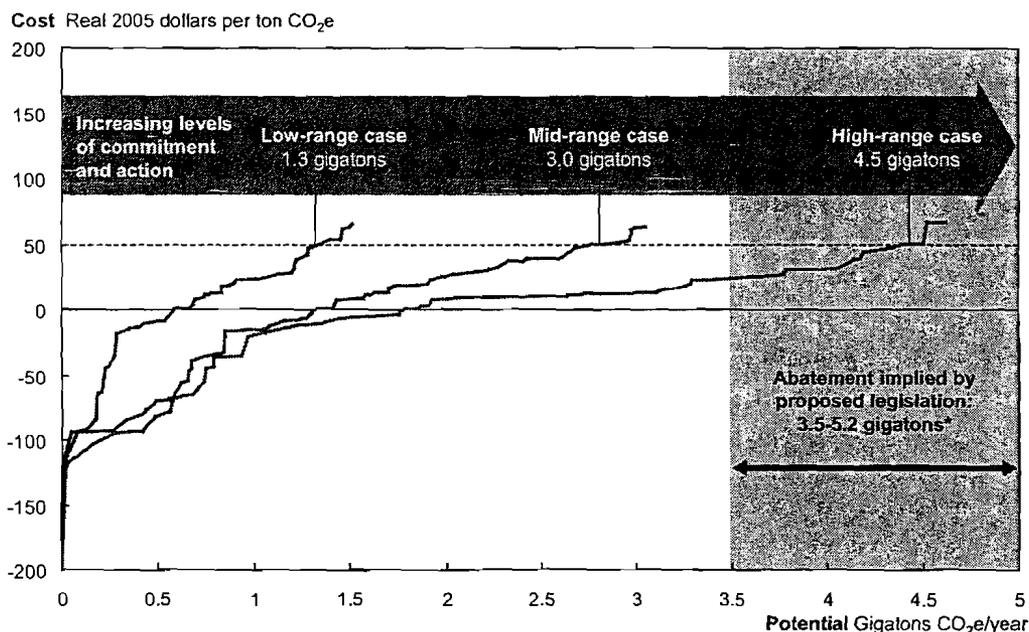
3 The research team defined an illustrative range of GHG reduction targets relative to the emissions reference case using a sampling of legislation that had been introduced in Congress at the time this report was written. The team focused on bills that address global warming and/or climate change on an economy-wide basis and contain quantifiable reduction targets. Use of these possible targets as reference points should not be construed as an endorsement of those targets nor the policy approaches contained in any particular legislative initiative.

SIGNIFICANT POTENTIAL TO REDUCE U.S. EMISSIONS

We analyzed resource costs and abatement potentials for more than 250 opportunities to reduce or prevent GHG emissions.⁴ We projected a range of three outcomes for each option and, for analytical purposes, integrated the values into three abatement supply curves. The supply curves are not optimized scenarios, rather they represent different approximations of national commitment (e.g., degree of incentives, investments, regulatory reforms, and urgency for action) and different rates for innovation, learning, and adoption of various technologies. We have called the three curves “cases”: the low-range case involves incremental departures from current (i.e., reference case) practices; the mid-range case involves concerted action across the economy; and the high-range case involves urgent national mobilization. In this way, the cases illustrate an envelope of abatement potential for the United States by 2030 (Exhibit A).⁵

Exhibit A

U.S. GREENHOUSE GAS ABATEMENT POTENTIALS – 2030



* Based on bills introduced in Congress that address climate change and/or GHG emissions on an economy-wide basis and have quantifiable targets; targets calculated off the 2030 U.S. GHG emissions of 9.7 gigatons CO₂e/year (reference case)

Source: McKinsey analysis

4 The cost of an abatement option reflects its resource (or techno-engineering) costs – i.e., capital, operating, and maintenance costs – offset by any energy savings associated with abating 1 ton of CO₂e per year using this option, with the costs/savings leveled over the lifetime of the option using a 7-percent real discount rate. We excluded transaction costs, communication/information costs, taxes, tariffs, and/or subsidies. We also have not assumed a “price for carbon” (e.g., a carbon cap or tax) that might emerge as a result of legislation, nor any impact on the economy of such a carbon price. Hence, the per-ton abatement cost does not necessarily reflect the total cost of implementing that option.

5 Only the high-range case reaches the target levels of GHG abatement (3.5 to 5.2 gigatons in 2030) suggested by our sampling of proposed federal legislation that addresses climate change on an economy-wide basis. For this reason, we focus most of our abatement analysis on the upper part of the envelope, from 3.0 gigatons (mid-range case) to 4.5 gigatons (high-range case).

Relying on tested approaches and high-potential emerging technologies, the U.S. could reduce annual GHG emissions by as much as 3.0 gigatons in the mid-range case to 4.5 gigatons in the high-range case by 2030. These reductions from reference case projections would bring U.S. emissions down 7 to 28 percent below 2005 levels, and could be made at a marginal cost less than \$50 per ton,⁶ while maintaining comparable levels of consumer utility.⁷

We made no assumptions about specific policy approaches that might be taken – e.g., a carbon cap or tax, mandates, or incentives – nor responses in consumer demand that might result. Nonetheless, unlocking the full abatement potential portrayed in our mid- and high-range curves would require strong stimuli and policy interventions of some sort. *Without a forceful and coordinated set of actions, it is unlikely that even the most economically beneficial options would materialize at the magnitudes and costs estimated here.*

Our analysis also found that:

- ¶ **Abatement opportunities are highly fragmented and widely spread across the economy (Exhibit B).** The largest option (CCS for a coal-fired power plant) offers less than 11 percent of total abatement potential. The largest sector (power generation) only accounts for approximately one-third of total potential.
- ¶ **Almost 40 percent of abatement could be achieved at “negative” marginal costs,** meaning that investing in these options would generate positive economic returns over their lifecycle. The cumulative savings created by these negative-cost options could substantially offset (on a societal basis) the additional spending required for the options with positive marginal costs. Unlocking the negative cost options would require overcoming persistent barriers to market efficiency, such as mismatches between who pays the cost of an option and who gains the benefit (e.g., the homebuilder versus homeowner), lack of information about the impact of individual decisions, and consumer desire for rapid payback (typically 2 to 3 years) when incremental up-front investment is required.
- ¶ **Abatement potentials, costs, and mix vary across geographies.** Total abatement available at less than \$50 per ton ranges from 330 megatons in the Northeast to 1,130 megatons in the South (mid-range case). These potentials are roughly

6 The team set an analytical boundary at \$50 per ton in marginal cost after considering consumer affordability and the estimated long-term cost for adding carbon capture and storage to an existing coal-fired power plant, a solution that, if successfully deployed, would likely set an important benchmark for emission-control costs. Abatement costs are expressed in 2005 real dollars. The team examined a number of options with marginal costs between \$50 and \$100 per ton, but did not attempt a comprehensive survey of options in this range. For simplicity of expression in this report, we refer to the threshold with the phrase “below \$50 per ton.”

7 By “consumer utility” we mean functionality or usefulness for people, including level of comfort; in this context, holding consumer utility constant would imply, e.g., no change in thermostat settings or appliance use; no downsizing of vehicles, homes, or commercial space; traveling the same mileage annually relative to levels assumed in the government reference case. In a strict economic sense, maintaining constant consumer utility assumes a constant economic surplus for the consumer while delivering against a common benefit. We have not attempted to calculate potential changes in utility that might result from energy price changes associated with pursuing the options outlined in our abatement curve.

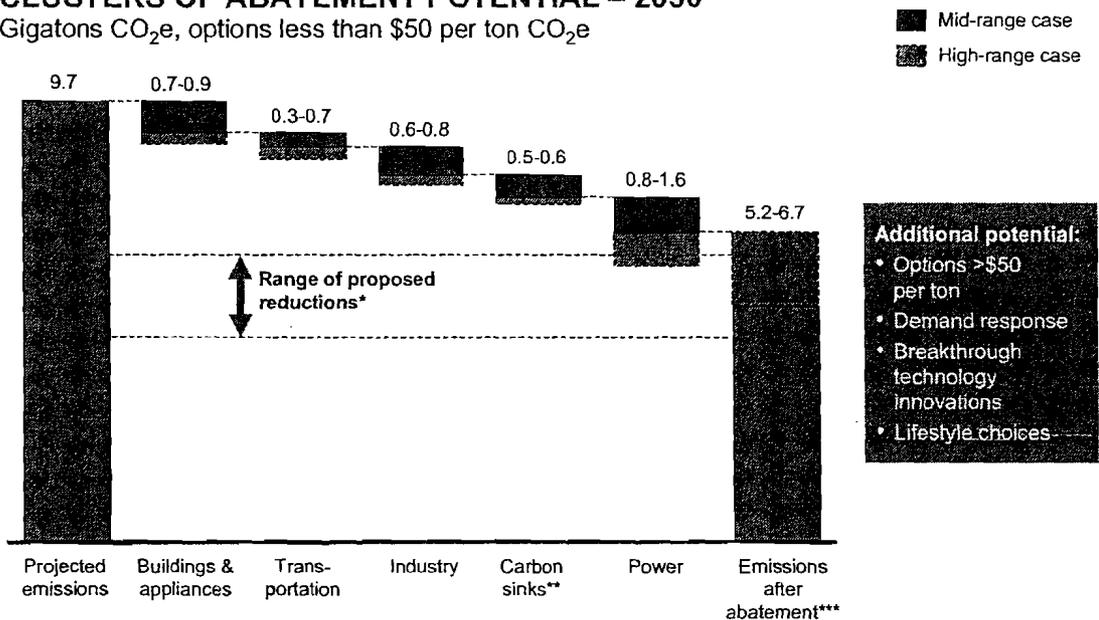
FIVE SECTORS OFFER CLUSTERS OF ABATEMENT POTENTIAL

Five clusters of initiatives, pursued in unison, could create substantial progress – 3.0 gigatons (mid-range case) to 4.5 gigatons (high-range case) of abatement per year – against proposed GHG-reduction targets for 2030 (Exhibit C). We will discuss these clusters in order, from least to highest average cost.

Exhibit C

CLUSTERS OF ABATEMENT POTENTIAL – 2030

Gigatons CO₂e, options less than \$50 per ton CO₂e



* Based on bills introduced in Congress that address climate change and/or GHG emissions on an economy-wide basis and have quantifiable targets; targets calculated off the 2030 U.S. GHG emissions of 9.7 gigatons CO₂e/year (reference case)

** Including abatement in the agriculture sector

*** Adjusted for cumulative rounding errors

Source: U.S. EIA; EPA; USDA; McKinsey analysis

1. Improving energy efficiency in buildings and appliances – 710 megatons (mid-range) to 870 megatons (high-range). This large cluster of negative-cost options includes: lighting retrofits; improved heating, ventilation, air conditioning systems, building envelopes, and building control systems; higher performance for consumer and office electronics and appliances, among other options. While this category of abatement options would cost the least from a societal point of view, persistent barriers to market efficiency will need to be overcome.

2. Increasing fuel efficiency in vehicles and reducing carbon intensity of transportation fuels – 340 megatons to 660 megatons. Improved fuel efficiency could provide 240 megatons to 290 megatons of abatement: much of the benefit would come from fuel

economy packages (e.g., lightweighting, aerodynamics, turbocharging, drive-train efficiency, reductions in rolling resistance) and increased use of diesel for light-duty vehicles. Though the savings from fuel efficiency may offset the incremental cost of the abatement option over a vehicle's 12- to 15-year lifecycle, these options require up-front investment by automakers and thus higher vehicle costs for consumers. Lower-carbon fuels, such as cellulosic biofuels, could abate 100 megatons to 370 megatons of emissions, though this potential is highly dependent on innovation rates and near-term commercialization of these technologies. Plug-in hybrid vehicles offer longer-term potential if vehicle cost/performance improves and the nation moves to a lower-carbon electricity supply.

3. **Pursuing various options across energy-intensive portions of the industrial sector – 620 megatons to 770 megatons.** This potential is in addition to 470 megatons assumed in the government reference case. It involves a multitude of fragmented opportunities within specific industries (e.g., equipment upgrades, process changes) and across the sector (e.g., motor efficiency, combined heat and power applications). Despite offering direct bottom-line benefit, these options must compete for capital and, without clear incentives to control GHG emissions, may not receive funding.
4. **Expanding and enhancing carbon sinks – 440 megatons to 590 megatons.** Increasing forest stocks and improving soil management practices are relatively low-cost options. Capturing them would require linkages to carbon-offset mechanisms to access needed capital, plus improved monitoring and verification.
5. **Reducing the carbon intensity of electric power production – 800 megatons to 1,570 megatons.** This potential derives from a shift toward renewable energy sources (primarily wind and solar), additional nuclear capacity, improved efficiency of power plants, and eventual use of carbon capture and storage (CCS) technologies on coal-fired electricity generation. Options in the power sector were among the most capital-intensive ones evaluated. These options also tend to have the longest lead times, given bottlenecks in permitting, materials and equipment manufacturing, and design, engineering, and construction.

The theme of greater energy productivity pervades these clusters. Improving energy efficiency in the buildings-and-appliances and industrial sectors, for example, could (assuming substantial barriers can be addressed) offset some 85 percent of the projected incremental demand for electricity in 2030, largely negating the need for the incremental coal-fired power plants assumed in the government reference case. Similarly, improved vehicle efficiency could roughly offset the added mobility-related emissions of a growing population, while providing net economic gains.

NEED FOR STRONG, ECONOMY-WIDE APPROACHES

The U.S. will need to develop and implement a strong, coordinated program of economy-wide abatement actions in the near future, if it is to achieve emissions reductions proposed (in bills currently before Congress) for 2030 at the lowest cost to the economy.

We believe a comprehensive abatement program for the U.S. should be built on three principal actions:

1. Stimulate action through a portfolio of strong, coordinated policies to capture GHG reductions efficiently across industry sectors and geographies. These policies would need to support development of:

- Visible, sustained signals to create greater certainty about the price of carbon and/or required emissions reductions; this will help encourage investment in options with long lead times and/or lifecycles
- A coordinated economy-wide abatement program or set of programs. Because abatement options are highly fragmented and widely distributed across sectors and geographies, any approach that does not simultaneously unleash a full range of abatement options risks missing proposed 2030 reduction targets and/or driving up total cost to the economy
- Exchange mechanisms (e.g., trading schemes, offsets, tax credits) to create fungibility across fragmented markets, create greater market transparency, and drive least-cost solutions
- Verification, monitoring, management, and enforcement systems to ensure sustained abatement impact
- Safeguards against “leakage” and transfer of GHG-emitting activities overseas.

2. Pursue energy efficiency and negative-cost options quickly. Many of the most economically attractive abatement options we analyzed are “time perishable”: every year we delay producing energy-efficient commercial buildings, houses, motor vehicles, and so forth, the more negative-cost options we lose. The cost of building energy efficiency into an asset when it is created is typically a fraction of the cost of retrofitting it later, or retiring an asset before its useful life is over. In addition, an aggressive energy efficiency program would reduce demand for fossil fuels and the need for new power plants. These energy efficiency savings are not being captured today, however, suggesting that strong policy support and private sector innovation will be needed to address fundamental market barriers. Policy support might consist of standards, mandates and/or incentives to promote carbon-efficient buildings, appliances, and vehicles. Mechanisms to better align all stakeholders (e.g., end users, manufacturers, utilities, and supporting businesses) should also be considered.

3. Accelerate development of a low-carbon energy infrastructure. Transitioning to a lower-carbon economy will require significant changes in the country's energy infrastructure. To accelerate development of a lower-carbon energy infrastructure, the U.S. would need to:

- **Encourage research and development of promising technologies and stimulate deployment.** Of the options we analyzed, some 25 percent (e.g., solar photovoltaics, plug-in hybrid electric vehicles, cellulosic biofuels, CCS) would require additional R&D investment and/or cost compression to achieve the learning rates and scale required to accelerate widespread adoption. This support might include gap-closing financial incentives (e.g., investment tax credits, feed-in tariffs, or direct subsidies) and/or industry or regulatory standards to help achieve scale economies as soon as possible.
- **Streamline approval and permitting procedures.** Many energy infrastructure investments (e.g., nuclear power, transmission lines, and pipelines) have long lead times and can face substantial delays in getting necessary approvals. Permitting and approval delays can substantially increase the risk and cost to investors and, if not specifically addressed, may inhibit pursuit of these capital-intensive abatement options. Some emerging technologies, such as geologic storage of CO₂, currently have no defined approval and permitting process. Anticipating and addressing potential regulatory hurdles – e.g., siting, liability, and monitoring issues associated with permanently storing large amounts of CO₂ – and developing public and technical review processes to address those issues will be essential to avoid impeding the pursuit of these capital-intensive abatement options.

To address rising GHG emissions comprehensively, the nation would also need to consider abatement options outside the scope of this project. Additional reductions could be achieved by encouraging changes in consumer lifestyles and behaviors (e.g., driving habits, spending decisions) through measures such as price signals or education and awareness campaigns; they could also be achieved by pursuing abatement options with marginal costs greater than \$50 per ton. Finally, we are confident that, in the years ahead, many new ideas and innovations not included in our analysis will emerge. These new technologies, products, processes, and methods could well offer additional abatement potential and lower overall costs.

* * *

This project evaluated the costs and potentials of more than 250 abatement options available in the U.S. We did not examine economy-wide effects associated with abating greenhouse gases, such as shifts in employment, impact on existing or new industries, or changes in the global competitiveness of U.S. businesses. The project did not attempt to assess the benefits to society from reducing global warming. The report also did not attempt to address other societal benefits from abatement efforts, such as improved public health from reducing

atmospheric pollution or improving national energy security. Policymakers would undoubtedly want to weigh these factors – and possibly others – when developing comprehensive approaches for reducing GHG emissions in the U.S.

Creating comprehensive approaches will be challenging: they will need to combine durable policies and a slate of strong near-term actions that mobilize economic sectors and geographies across the U.S. The pursuit of GHG abatement, however, will undoubtedly stimulate new businesses and economic opportunities not covered by our cost-focused analysis.



1

**Testimony of Stan Edwards, Chief
Division of Environmental Policy & Compliance
Department of Environmental Protection
on behalf of County Executive Isiah Leggett
Regarding Expedited Bill 6-09 - Home Energy Loan Program**

March 24, 2009

Good afternoon. My name is Stan Edwards. I am the Chief of the Division of Environmental Policy & Compliance in the Department of Environmental Protection. Thank you for the opportunity to testify on behalf of the County Executive on Expedited Bill 6-09 to establish the Home Energy Loan Program.

In January, the Sustainability Working Group submitted the County's first comprehensive Climate Protection Plan to the County Executive and the County Council. This plan identified 58 different actions that the County could take to meet its aggressive greenhouse gas reduction goals. Among the most prominent of these recommendations was one championed by Councilmember Roger Berliner, the County Council's representative to the Working Group, which called for the establishment of a long-term, low-interest loan program that would facilitate the implementation of energy efficiency measures on existing homes. Expedited Bill 6-09 is the first step toward implementation of this recommendation.

The County Executive strongly supports the principle of this legislation. Improving the energy efficiency of existing homes and other buildings in the County is critically important if we are going to meet our greenhouse gas reduction goals. While there are a broad range of energy efficiency measures that would eventually provide a positive payback to homeowners, the initial cost of many of these measures makes their implementation cost prohibitive to the majority of residents. This program will address that hurdle by advancing funds to homeowners to implement efficiency measures identified through a comprehensive energy audit. The proper application of such measures can result in energy cost savings equal to or even greater than the cost of loan repayments envisioned under this program.

Careful and thoughtful implementation of the Home Energy Loan Program will ultimately be the key to its success. The Department of Environmental Protection and the Department of Finance have already begun to identify some of the issues that must be resolved to achieve this. Among these are:

- The process for identifying and certifying firms capable of performing energy audits, energy efficiency improvements, and post installation verification
- The loan application process and the disbursement of funds
- The parameters of the loans, including minimum and maximum loan amounts, and loan terms and conditions
- The source of funding for the program

We are in the process of contacting other jurisdictions around the country that have implemented, or are in the process of implementing, a similar program. The experiences of these jurisdictions should help guide Montgomery County as we implement our program. As we conclude this research, we will be in a better position to suggest an appropriate timeframe for the development of Executive Regulations implementing the bill. The County Executive believes the three month timeframe currently specified in the legislation is insufficient to adequately address the issues identified above.

In addition, it will be important to identify staffing needs that will be necessary to successfully carry out the program. The level of staff required will depend on a number of factors, including the degree of oversight the County wishes to have on the program. This in turn will have an impact on the administrative costs that must be borne by homeowners receiving a loan, which will ultimately impact the penetration rate of the program.

The County Executive looks forward to working with the Transportation & Environment Committee as this legislation is finalized. I would be happy to address any questions the Council may have.

Thank you.

3

Montgomery County Bill 06-09
Home Energy Loan Program - Establishment

Testimony Submitted by:

Gary Skulnik
President
Clean Currents, LLC
155 Gibbs Street, Suite 425
Rockville, MD 20850
301-754-0430 x701
gskulnik@cleancurrents.com

I want to commend Councilmember Berliner and the other Councilmembers for supporting this innovative and extremely exciting bill. On behalf of Clean Currents, a Rockville based green energy solutions company, I am pleased to offer my support for the bill, with a couple of important amendments.

Clean Currents is a total green energy solutions company. We help businesses and residents switch to green power through their utility, or with on-site solar installations. We have signed up more than 250 area businesses for green power, including Fitzgerald Auto Mall, Black's Restaurant Group, MOM's - My Organic Market, Honest Tea, Lebanese Taverna, and the Rockville Volunteer Fire Department.

This bill would establish a loan program that will enable Montgomery County homeowners to dramatically cut their energy use by implementing energy efficiency measures or installing renewable energy. It will result in a much wider adoption of clean energy by Montgomery County homeowners. This in turn will help the environment by reducing the greenhouse gas emissions that cause climate change, and by also reducing other emissions that cause smog or acid rain.

The bill will spark the green sector in the county, leading to new job growth at a time when that is desperately needed.

The one part of the bill that needs changing the most is the renewable energy requirements. Currently, the bill requires a homeowner to either have a HERS score of 100 or below, or do energy efficiency improvements that result in a 30% or greater improvement in order to qualify for a loan for renewable energy installations. These requirements are far too draconian and put major obstacles in the way for solar or other clean energy installations.

Instead, clean energy should be given a level playing field. It is ok to require a homeowner to get an energy audit within six months of installing a solar system, but major energy efficiency improvements like the bill calls for do not work. For one, it puts

a big obstacle in the way of solar installations. It will discourage solar installations by putting added costs, and perhaps even worse, added time in front of a prospective buyer. Secondly, energy efficiency experts will tell you that achieving a 30% reduction in energy at a home is no easy task. Also, energy efficiency does not need extra help to compete with solar. It is typically a lower cost investment for a homeowner to do an energy efficiency upgrade than it is to install a solar system.

The other part of the bill that needs more clarity is the source of funding for the loans. I strongly believe the County should allow private banks to fund this program. This will open up the program to more people and allow more clean energy to be deployed.

Right now, there is a lot of tax incentive and grant money at the state and federal level for solar energy. Montgomery County should be leveraging that money to bring solar installations here in the county. Opening up this fabulous loan program for solar in a way that works will do just that.

Amendments.

Amendment #1

Strike lines 131-136. Replace with:

THE PERSON AGREES TO HAVE A HOME ENERGY AUDIT DONE WITHIN SIX MONTHS OF THE RENEWABLE ENERGY DEVICE INSTALLATION, OR CAN DEMONSTRATE THAT A HOME ENERGY AUDIT HAS ALREADY BEEN PERFORMED WITHIN THE LAST FIVE YEARS.

Rationale: It is good for a person to have an energy audit, especially when installing a solar energy system, but they should not be required to invest in energy efficiency improvements if he would rather invest in clean energy.

Amendment #2

Add language to line 102

Section 18A-27 OR BE ABLE TO DEMONSTRATE THAT HE HAS HAD AN ENERGY AUDIT WITHIN THE PAST FIVE YEARS.

Rationale: Do not punish people who have actually already had energy audits done. If they have had them done, and still want to do more energy efficiency improvements, they should be encouraged to do so, not discouraged.



Maryland, District of Columbia, Virginia Solar Energy Industries Association (MDV SEIA)

Montgomery County Bill 06-09
Home Energy Loan Program - Establishment

Testimony Submitted by:

Maryland District of Columbia and Virginia
Solar Energy Industries Association
March 24, 2009

Peter Lowenthal
Executive Director
MDV-SEIA
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Bethesda, MD 20814
301-806-0920
Director@mdv-seia.org

MDV-SEIA is the local state chapter of the national Solar Energy Industries Association and as a result of the local state and federal incentives we are a growing industry providing green jobs economic development and clean energy for our counties needs.

As a representative of the solar energy industry I want to congratulate Councilmember Berliner and all the Council members for supporting this innovative and extremely exciting bill. The Solar Energy industry has grown considerably as a result of the counties clean energy programs and more businesses are opening and offering solar technology to their clients. There are 66 solar members in Maryland and 30% are in Montgomery County. State wide there are 725 people employed in the solar industry to day and this number will increase as a result of this bill We are pleased to offer our support for the bill, with a couple of minor amendments.

This bill would establish a loan program that will enable Montgomery County homeowners to dramatically cut their energy use by implementing energy efficiency measures or installing renewable energy. It will result in a much wider adoption of clean energy by Montgomery County homeowners. This in turn will help the environment by reducing the greenhouse gas emissions that cause climate change, and by also reducing other emissions that cause smog or acid rain.

The bill will provide a mechanism for the long term financing of energy improvements which will make the property more valuable. The law of diminishing returns works against us as we make our homes more energy efficient and when we get to the final savings the improvements get more costly since there is less savings to be had. This mechanism helps to defray the costs by providing a longer term financing mechanism.

However, there is one part of the bill that needs changing the most is the renewable energy requirements. Currently, the bill requires a homeowner to either have a HERS score of 100 or below, or do energy efficiency improvements that result in a 30% or

greater improvement in order to qualify for a loan for renewable energy installations. These requirements are far too draconian. They put major obstacles in the way for solar or other clean energy installations. Fact is we need to save energy and we need clean energy equally. Some homes need new windows or furnaces, or insulation, other homes have new windows have insulation and are facing south with sunshine for harnessing. Both these activities have merit.

It is feasible to require a homeowner to get an energy audit within six months of installing a solar system, but excluding homes unless they have had a major energy efficiency improvements like the bill calls for do not work for our industry. For one, it puts a big obstacle in the marketing of solar installations. It will discourage solar installations by putting added costs, and perhaps even worse, added time in front of a prospective buyer. Secondly, energy efficiency experts will tell you that achieving a 30% reduction in energy is no easy task, in particular, in the more modern homes built today.

The other part of the bill that needs more clarity is the source of funding for the loans. I strongly believe the County should allow private banks to fund this program use stimulus funds to buy down the credit while they are available and or bonds which ever is most expedient. In other jurisdictions the delay caused by bond issues has caused further market droughts and floods. Using both mechanisms will allow the program to be continuous avoiding the mad rush to get in the program while funding remains. The start and stop nature of many incentives are very painful to small business who have to carry employees while they wait for the incentives to take effect.

Right now, there is a lot of tax incentive and grant money at the state and federal level for solar energy that will end in FY 2010. Montgomery County should be leveraging that money to bring solar installations here in the county but preparing for a financing mechanism that will cushion the blow when the short lived stimulus funding is history. Opening up this fabulous loan program for solar in a way that works can do just that.

Amendments as per Gary Sklunik's testimony

Amendment #1

Strike lines 131-136. Replace with:

THE PERSON AGREES TO HAVE A HOME ENERGY AUDIT DONE WITHIN SIX MONTHS OF THE RENEWABLE ENERGY DEVICE INSTALLATION, OR CAN DEMONSTRATE THAT A HOME ENERGY AUDIT HAS ALREADY BEEN PERFORMED WITHIN THE LAST FIVE YEARS.

Rationale: It is good for a person to have an energy audit, especially when installing a solar energy system, but they should not be required to invest in energy efficiency improvements if he would rather invest in clean energy.

Amendment #2

Add language to line 102

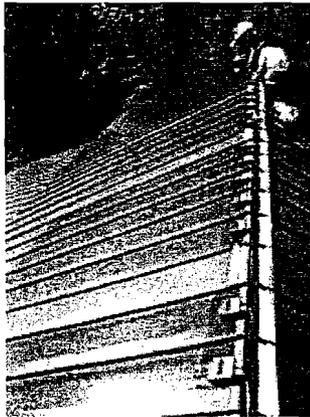
Section 18A-27 OR BE ABLE TO DEMONSTRATE THAT HE HAS HAD AN ENERGY AUDIT WITHIN THE PAST FIVE YEARS.

Rationale: Do not punish people who have actually already had energy audits done. If they have had them done, and still want to do more energy efficiency improvements, they should be encouraged to do so, not discouraged.

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Figure 1: Standing Seam Solar Roof in Bowie, MD In 1996 the National Association of Home Builders (NAHB) Research Center, Inc. built this group of four 21st Century Townhouses to test, demonstrate, gain experience, and disseminate information about innovative home building products, systems, and technologies. The townhouse on the right has a standing seam roof that produces electricity from the sun.



Crews of trained solar technicians install and connect solar laminates before installing the ridge cap on this roof shielding the interconnections from the elements.

Uni-Solar laminates generate electric power in sunlight and recently has signed a contract with SunEdison, Beltsville, MD for 5 MW of power. Sun Edison has agreed to install solar systems on MCPS schools and sell power for \$0.09 for 20 years.

Roofing materials can also made to be slate like and include solar cells on each slate to generate power from the roof below.

The roofing material used in Figure 3 is SunSlates™

Fig 2. Installation Detail

Manufactured by Atlantis Energy Systems, Inc

BP Solar leading US based manufacturer is expanding their manufacturing plant that produces solar modules in Frederick, MD. Cells are created from Ingots of raw silicon to finished and tested products to be shipped all over the world. Our hope is to keep some of the new capacity from the plant to deliver that clean energy to buildings in Maryland.

Fig 3. SunSlates,

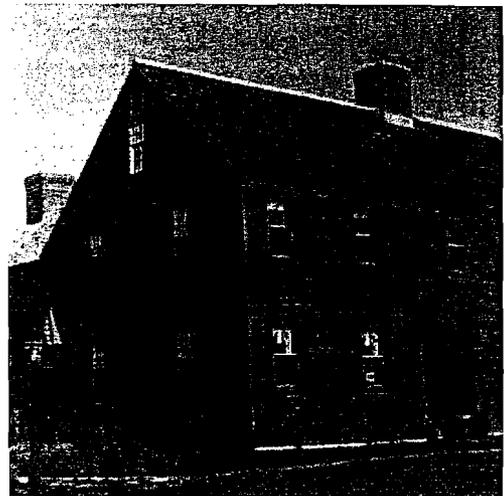




Fig 4 Made in Maryland for Maryland's Home and Building owners

Grid Connected Photovoltaic can help our Electrical grid at its weakest points

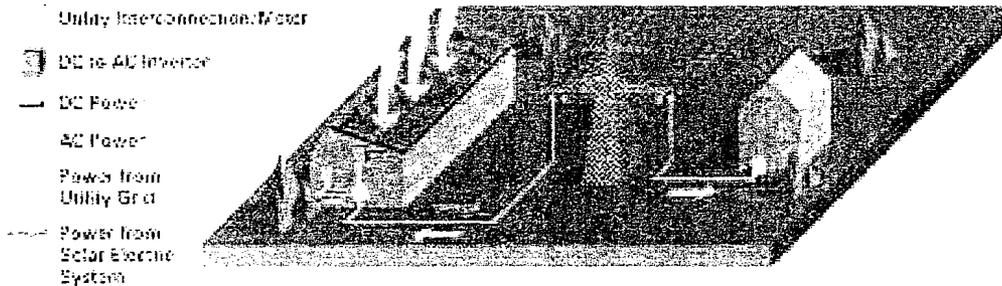


Fig 5. Commercial system supports electrical grid

While one might think that new large suburban homes would be the most likely candidates for solar homes in many cases it is the simple homes and hard working people that seek to stabilize there energy expenses and do the right thing by investing in their own energy production. The home in Crofton, MD below produces 30% of their own power needs.



Figure 6: Solar systems are wanted not going on "McMansions" Crofton, MD

While reducing energy needs are also extremely important, older urban homes can

benefit buy displacing some of the energy they require by producing their own. In some older homes it is difficult to improve their efficiency like a new home built with today's materials.

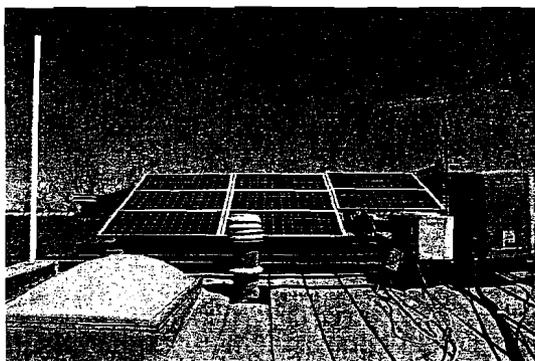


Fig 7. Baltimore row house in get solar and new High efficiency AC

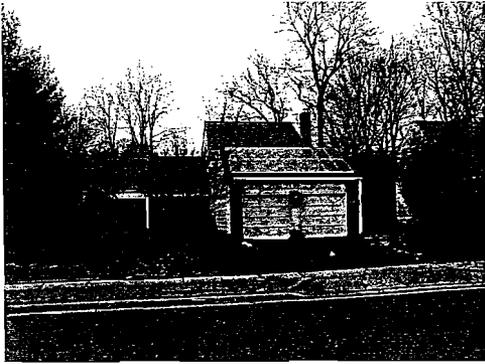
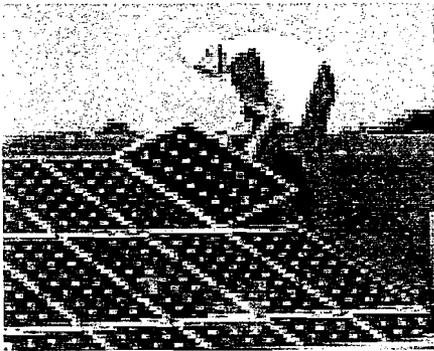


Figure 8: Garages are a fine location for Solar Modules



Trained technicians are needed today as we are creating strong demand for skilled employees now and for the foreseeable future. Frostburg State University is offering training as is the National Joint Apprenticeship Center and other schools including MDV-SEIA will be training in conjunction with the Maryland Clean Energy Center.

Fig 9 Solar Installation can be a rewarding career

This picture below shows a solar roof shingle being installed on a south facing roof. Shingles have solar cells imbedded in the base material which is made of 100% recycled material manufactured by Integrated Solar Corp

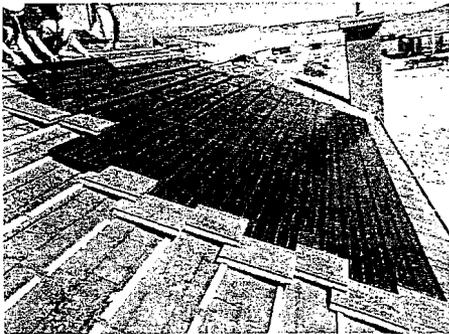


Fig 10. Detail of roofing slates installation

The MD-DC-VA encourages the Council members to approve this bill with amendments and we thank the sponsor and co-sponsors for proposing this valuable and timely bill.

Thank you for your service and consideration

Peter Lowenthal
Executive Director
MDV-SEIA
March 23, 2009

March 24, 2009

Statement of
Jim Pierobon, Vice President & Chief Marketing Officer,
Standard Solar, Inc. Gaithersburg, MD
before the
County Council for Montgomery County, Maryland

On behalf of Gaithersburg-based Standard Solar and its 50+ employees, this statement is submitted in support of the Home Energy Loan Program (HELP) proposed by Councilmembers Roger Berliner, Mark Elrich, Duchy Trachtenberg and Nancy Floreen.

We at Standard Solar and our more than 100 customers (on this date) throughout Montgomery County are living proof of the exciting potential for clean energy investments by our residents and the multiplier effect it is having on the sustainability of our economy and our workforce. Drawing on what we know to be working at the local level, heeding the concerns of our fellow residents and grasping the economic challenges we all face, we congratulate Councilmember Berliner and the other Councilmembers for demonstrating leadership in a manner that makes economically for both the county and its homeowner constituents.

Among the more compelling arguments for Bill No. 06-09 are the long-term funding mechanism and common sense approach to improving the home itself regardless of who lives in it and for how long. Given the already numerous obstacles inhibiting more solar and other clean energy applications, we argue strongly for changing two elements of the Bill:

- (1) Remove the requirement that a homeowner have a HERS score of 100 or below; and,
- (2) Do not require energy efficiency upgrades that result in a 30% or greater improvement.

We support the two amendments as proposed by the Maryland-District of Columbia-Virginia chapter of the Solar Energy Industries Association (MDV-SEIA), of which we are a Board-level member, working with Executive Director Peter Lowenthal. They include:

Amendment #1

Strike lines 131-136. Replace with:

THE PERSON AGREES TO HAVE A HOME ENERGY AUDIT DONE WITHIN SIX MONTHS OF THE RENEWABLE ENERGY DEVICE INSTALLATION, OR CAN DEMONSTRATE THAT A HOME ENERGY AUDIT HAS ALREADY BEEN PERFORMED WITHIN THE LAST FIVE YEARS.

As a company that urges prospective customers to have an energy audit performed on their homes in conjunction with investing in a solar electric system and as a homeowner myself who paid for an energy audit earlier on my Silver Spring home this year, homeowners should not be required to invest in energy efficiency improvements if they know a clean energy system will benefit them.

Amendment #2

Add language to line 102

Section 18A-27 OR BE ABLE TO DEMONSTRATE THAT HE HAS HAD AN ENERGY AUDIT WITHIN THE PAST FIVE YEARS.

Rather than punish people who have actually already had energy audits done, including people heeding our advice to perform audits, permit them – and me – to demonstrate we had the foresight to do this within the past five years. We all should be encouraged – not discouraged – to do so.

We also support, in principle, allowing private banks to fund this program. Enabling additional sources of funding fosters the continuation of this program and can take the pressure off of getting in on a program like this while the resources are available.

Thank you for your time and attention to this very important ordinance. We look forward to helping promote this program and scaling up the County's commitment to a cleaner and more sustainable energy future.

Jim Pierobon, jim.pierobon@standardsolar.com; 301-944-5133



202 Perry Parkway, #7, Gaithersburg, MD 20877; www.standardsolar.com



March 20, 2009

TO: The Honorable Phil Andrews, President
Montgomery County Council
100 Maryland Avenue
Rockville, MD 20850

FR: Doris Iklé, President
CMC Energy Services
7010 Glenbrook Road
Bethesda, MD 20814

RE: Montgomery County's Expedited Bill # 6-09, Home Energy Loan Program Establishment

HELP: the financing that makes energy efficiency improvements affordable

CMC Energy enthusiastically supports Councilmember Roger Berliner's Home Energy Loan Program (HELP) bill. The legislation expertly addresses the largest hurdle that homeowners face when considering energy efficiency improvements, namely "How will I pay for them?" The answer is in section 18A-27, which states that the home energy audit report will:

"Identify those cost effective energy efficiency improvements which would generate projected annual energy cost savings...that are equal to or more than the estimated cost of the improvements to be financed under the County Program, when the cost of the improvements are amortized over 15 years;"

This is a "no-money-down, save as you pay" loan - a loan that everyone can afford.

CMC's home energy audit, Home Tune-uP®, is the only audit that works with loan programs such as HELP to go beyond reporting improvement costs, savings and payback years. Home Tune-uP's software uses the terms of the loan to calculate the unique group of improvements in each home that will: (1) save more each year in energy bills than they cost when financed; and (2) maximize energy savings while taking account of the interrelationship between improvements. Thus Home Tune-uP is tailor-made for Montgomery County's HELP program.

The difference between the HELP program and others is that HELP looks at energy savings from the homeowner's point of view, whereas other programs look at financing from the utility or public's viewpoint: what will be the rate of return; will it cost more to invest in efficiency or to build a new plant? The HELP loan, by contrast, motivates the homeowner to switch to

efficiency by making efficiency improvements less expensive than the cost of the energy they save.

Free audits, the least expensive way to attract customers

To encourage wide participation in the HELP program, CMC recommends that the cost of the audit be free to the customer and subsidized through administration funds. Charging for the audit is the single greatest barrier to customer participation. To keep the cost of the audit low, we recommend that the blower-door test be done by a weatherization technician once improvements commence, rather than included as part of the audit.

Some argue that if the program does not charge for the audit, people might ask for an audit who are not seriously interested in improving the house. While this may be a small factor, the major boost free audits brings to EE implementation rates makes it a negligible one. CMC's hugely successful 2008 pilot program for the Tennessee Valley Authority demonstrates the point: the program offered free audits, and targeted 1,000 homes to be audited within 6 months -- we reached 1,175. Of those, 50 percent implemented the audit report's recommendations at an average cost of \$4,929 per home. This implementation rate is more than twice that of Home Performance with Energy Star programs. The only marketing for the program was bill stuffers in customer utility bills.

While we are encouraged that Montgomery County's HELP legislation proposes folding the cost of the audit into the loan, even a \$15 cost for an audit was found to drive away more than half of potential audit customers for the government mandated program during the 80's, and was consequently dropped.

CMC has had a long and productive relationship with Montgomery County, and looks forward to offering whatever help we can to the County's HELP program.

Home Energy Loan Program Legislation, Montgomery County

Testimony of Richard Thometz, Manager, Efficient Home
A Maryland Home Performance with ENERGY STAR Contractor

March 23, 2009

We support the proposed HELP legislation.

Hello, my name is Rich Thometz. I co-own and operate an energy efficiency services firm, Efficient Home, located in Burtonsville in Montgomery County. We founded Efficient Home in 2007, as a business that is devoted to helping homeowners cut their energy bills and energy consumption, by utilizing our partners' experience in homebuilding, building performance, construction management and environmental remediation. Our firm is focused on finding cost effective ways for homeowners to cut their power consumption and power bills. We use a whole house approach to energy efficiency, in which we conduct a comprehensive energy audit, diagnosing how the house is using the energy it is consuming, to then develop a business plan of cost effective energy efficiency improvements for the homeowner to implement.

Efficient Home is a certified Maryland Home Performance with ENERGY STAR contractor. What this means is that our energy analysts are specially trained in a program sponsored by the Maryland Energy Administration and administered by Sentech, based in Bethesda. This successful program has created a base of qualified home performance contractors, both energy auditors and those who also perform home energy efficiency improvements. We at Efficient Home do both energy audits and the actual energy efficiency improvements, if desired by our customers.

Efficient Home serves all segments of households and residents in Montgomery County, from the wealthiest to those with moderate and lower incomes. No one has escaped the pain caused by higher energy prices, particularly those with more modest incomes. Efficient Home participates in the Assisted Home Performance program with MEA, targeted to providing energy efficiency improvements to households of moderate incomes. We also provide weatherization assistance program work for lower income households, through weatherization assistance program administrators in Maryland. Both of those programs are based on similar cost-benefit analyses, as is the HELP program model.

Recently, a "perfect storm" of energy driven misfortune has slammed county residents and households over the past 18 months. Higher energy bills would likely have driven more county residents to implement energy efficiency measures for their homes over the past year, since the payback periods have correspondingly decreased. Unfortunately, this same period of time has witnessed an almost complete disintegration of the financing market for minor home improvements covering most energy efficiency measures. Home equity lines and other traditional sources of minor, low cost financing have vanished, leaving cash strapped county residents with no viable way to finance and implement cost-effective energy efficiency measures. The tragedy is that the energy efficiency measures,

if installed, will act to improve the monthly financial picture of residents who undertake those measures, because the monthly cost of the improvements (when financed at lower interest rates) would be lower than the cost savings resulting from their reduced power bills. Senior citizens and others on fixed incomes in the county are hit particularly hard by this dilemma.

The best answer to higher utility bills is simple – lower cost, high benefit energy efficiency retrofits for existing Montgomery County households.

The barrier? The lack of a stable source of lower interest financing for energy efficiency improvements.

The solution? Energy efficiency financing, through programs like HELP. HELP provides the bridge for county residents to implement energy efficiency improvements, in a structure that is fiscally sound and fiscally prudent. HELP requires that the bundle of energy efficiency measures must be “cost-effective” meaning that the measures would return their cost via savings to the homeowner’s power bills, within a prescribed period of time. HELP will help to promote sound investments in energy efficiency, on a large scale in the county. This is an investment that will permanently pay back a return to the county and its residents, because of the increased purchasing power that will accrue to county residents who implement and finance energy efficiency measures under HELP.

Broadening energy efficiency improvements throughout the existing housing stock in Montgomery County will also increase the value of that same housing stock. An energy efficient home leaves the homeowner with more to spend on other monthly costs. Buyers are increasingly educated regarding the true costs of owning a particular home, including monthly utility bill costs. An energy efficient home will be permanently positioned as a more economically sustainable (and thus more valuable) home in the long term.

Finally, I must mention the obvious and fundamental benefits to our local workforce that will result from increased home energy efficiency work arising out of the HELP legislation. As a member of the building industry, I have watched our industry and its hard working employees suffer decimating job losses and business failures, with huge ripple effects through the rest of our local and regional economy. I strongly feel that it makes great sense to redeploy some of those idle and talented resources within the building industry, whether HVAC, insulation, window and door contractors, and builders and remodelers, to be redirected to help homeowners make their homes more energy efficient. Matching up building industry expertise, talent and resources, with helping Montgomery households lower their power bills, seems to make basic, fundamental economic sense. The missing link? Financing.

I have spent the past one and one-half years since the founding of Efficient Home, pressing state and local government agencies and officials, lenders, the PSC, and others to consider how we can best create financing vehicles for energy-efficiency measures that pay for themselves over time. I have researched most financing alternatives that have been tried and implemented in other jurisdictions throughout the country, from utility

sponsored financing programs like those run by Progress Energy and other utilities, to state sponsored programs like Pennsylvania's Keystone HELP program.

We have pushed the financing component, because we have seen on a daily and weekly basis, the impact that a lack of financing is having on households who want to take action to lower their energy bills, but do not have the upfront cash to fund the measures. From the teacher who couldn't afford an energy audit because his family's winter heating bill was \$900, to seniors on fixed incomes with no way to keep paying several hundred dollar increases to their monthly winter heating bill, to a young divorced mother with two jobs trying to catch up on her power bill in arrears, it's a bleak picture for many of our residents right now, absent a vehicle to finance energy efficiency measures.

We have provided some specific comments and suggestions regarding the proposed legislation on an attached sheet.

HELP represents fiscal prudence and sound investment in Montgomery County and its residents. It will help to transform Montgomery County's energy consumption to a more economically and environmentally sustainable level of energy use via mass implementation of energy efficiency improvements in households countywide. It will have the additional benefit of helping to transform some of our skilled trades and building workforce into greentech jobs over time. We at Efficient Home strongly urge your support of the HELP legislation. Thank you for your consideration.

Specific Comments, HELP legislation

March 24, 2009

1. Consider bundling the audit, improvements services and test-out certification with the same energy efficiency firm. Other jurisdictional programs (like PA's Keystone HELP) allow certified home performance firms and HVAC firms to serve as a one-stop shop, as a more efficient and cost effective way of delivering energy efficiency improvements. There does not appear to be a good reason to create an inspection program within DPS for this function, when expertise already exists with firms in the private sector that are typically contracted to do this kind of inspection and certification work on behalf of state and local government and nonprofit agencies and utilities. Independent QA/QC inspections on a fixed percentage of the homes with installed energy efficiency improvements would provide sufficient safeguards to ensure program integrity.
2. One lead government agency with expertise in energy efficiency audit testing and performance analysis (DEP?) should manage QA/QC for a percentage of the installed improvements. The QA/QC work should be contracted by DEP out to 3rd party firms (independent of firms who would be performing energy efficiency audits and improvements) who already have this level of expertise in the industry, ranging from energy efficiency program implementers to independent home performance audit firms.
3. The "payback period" should follow payback period energy rating models used as standard models in the home performance industry, including guidance by EPA's ENERGY STAR program, and modeling developed by MEA for use with the Assisted Home Performance program in Maryland.

Homeowners look for ways to reduce energy costs

Number of people needing utility assistance is up this year, officials say

BY BRADFORD PEARSON | STAFF WRITER

In the 15 years Bruce and Shannon Russell have lived in their Bethesda home, their second-floor bedroom has always been too hot in the summer and too cold in the winter.

Some parts of the 52-year-old Cape Cod are drafty, and the ceiling to the attic isn't insulated as well as it should be. And with winter — and high gas bills — around the corner, the Russells thought it was time to do something.

Throughout the county, economic hardships and climbing energy rates have placed a considerable strain on family utility bills. Residents at all income levels are looking for different ways to deal with high energy costs, from making their homes more energy efficient to finding help covering bills.

County and area nonprofit representatives said they have seen an upswing in families asking for utility assistance this year, some just needing a few dollars to avoid having the lights or stove shut off.

While the Russells aren't necessarily in that group — their house is valued at \$1 million according to Maryland tax records — they were still concerned enough to take part in a "home energy audit," performed by Efficient Home, a Burtonsville business that assesses what homeowners can do to make their homes more energy-efficient. The audit is a home-wide inspection, highlighting trouble spots where heat could escape, decreasing the efficiency of one's home.

With gas bills climbing over \$200 in the winter months, the Russells said enough



BRIAN LEWIS/THE GAZETTE

Tony Crane (left) of Efficient Homes uses an infrared camera to show Bethesda resident Shannon Russell where heat is escaping from her home. With energy prices climbing and many budgets tightening, many households are trying to find new ways to offset the costs.

is enough. Efficient Homes surveyed their house, running pressure fans and infrared cameras to search for leaking heat, and checking doorways and windows to make sure they're tight.

While still awaiting the final results from the Thursday audit, Shannon Russell said the family is going to insulate the attic better, and add flashing around some of the older door frames.

"This is probably cheaper than a marriage counselor, so I think we'll go for it," she said after the inspection.

For some Montgomery County families, however, the work done on a home can mean the difference between living comfortably and losing a house.

Eddie Pennyman, one of the Efficient Homes contractors who performed the Russell's home audit, said some houses have so little insulation that residents lose 30 to 40 percent of their heat through the walls.

"It could cost them \$1,500 to insulate their home better, and the payback on that investment is in two to three years," he said. "But some don't want to do it, or don't even know it could help."

Susan Kirk, executive director of Bethesda Cares, a nonprofit aimed at helping homeless and low-income residents, said the slumping economy has brought more people to her group seeking utility assistance.

"We've seen a huge upswing in the past year, more than I can remember in the past," she said.

From April to August this year, Bethesda Cares offered utility assistance to 112 households, totaling \$9,834. During the same time period last year, the group assisted 73 households, costing \$5,659.

Most of the funds in the summer go to electric bills, which soar due to air conditioning costs, according to the group's records. Pennyman said poorly-insulated houses are just as likely to let heat in during the summer as they are to lose heat in the winter.

"We usually see a spike in requests during the winter months, because of heating costs, but this year they kept coming throughout the summer, too," Kirk said.

Countywide numbers are up as well, according to Kelly Oland, a lead case worker for the county's energy and rental assistance program, through the Department of Health and Human Services.

Since July 1, more than 6,000 Montgomery households have received utility assistance, up from 5,500 last year from July through October. The program is a state and federally-funded program and has doled out more than \$628,000 since the beginning of July, Oland said. Average assistance ranges from \$50 to \$1,500, per household she said.

"Energy assistance statewide has gone up," she said. "We have just seen an increase in need from some sectors we haven't had in the past."

To qualify for state assistance, salary requirements begin at \$18,000 per year and climb \$6,000 per additional member of the household.

"We do think it's a very important problem to try and fix from an environmental standpoint," said Bruce Russell about his family's energy usage and leakage, "but it would be nice to save some money, too."

TO GET HELP

If you need help paying for utilities, contact the Office of Home Energy Programs at 240-777-4450, or visit www.montgomerycountymd.gov/hhs. You can download the OHEP application at the Web site and mail it to 1301 Piccard Drive, 4th Floor, Rockville, MD, 20850. Walk-ins are welcome.

ENERGY SAVING TIPS

- Many in the county are feeling the pinch of rising energy costs and the slumping economy. To help lower your own energy costs, try:
 - Setting your thermostat between 65 and 70 degrees during the day and at 58-60 degrees at night or when away from home for more than a few hours
 - Insulating your attic, outer walls, and basement
 - Closing doors and windows to rooms in the house that aren't used often
 - Using compact fluorescent light bulbs, which use up to 80 percent less electricity than regular bulbs
 - Closing the fireplace damper when not in use

SOURCE: MARYLAND DEPARTMENT OF HUMAN RESOURCES

WHAT TO EXPECT FROM



Maryland Home Performance with ENERGY STAR®

The Maryland Home Performance Program is the best way for you to significantly reduce your energy bills while improving comfort and decreasing your home's contribution to climate change. A participating contractor with the Maryland Home Performance with ENERGY STAR Program is trained and certified to diagnose your home for issues such as drafty rooms, hot or cold rooms, mold and moisture problems, and other hidden causes for high energy bills.

This "What to Expect" brochure, along with the website, www.mdhomeperformance.org, will guide you through the Maryland Home Performance with ENERGY STAR process from the contractor's initial visit to your home, installation of energy efficiency improvements through to project completion. It will outline what you can expect from your certified Home Performance Contractor, your responsibilities as a customer, and how to get additional information.

STEP
1

FIND YOUR CONTRACTOR

The Maryland Home Performance with ENERGY STAR Program has created a network of **independent** home improvement contractors who have been trained and certified by the Building Performance Institute (BPI). BPI is a national non-profit that credentials individuals and organizations who assess and improve the energy performance and health and safety of homes. Your contractor, through participation in Maryland's Program, has been trained to take a 'whole-house' approach when evaluating your home and identifying energy efficiency improvements. Maryland Home Performance has a rigorous quality assurance protocol in place so you can rest assured that your certified contractor will help solve your home's energy and comfort issues. For a list of participating contractors, please visit www.mdhomeperformance.org and click on "Find a Contractor."

Program Sponsor:

Maryland Energy
ADMINISTRATION
Powering Maryland's Future

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MARYLAND



HOME
PERFORMANCE
WITH
ENERGY STAR

Last Updated: 06/04/2008

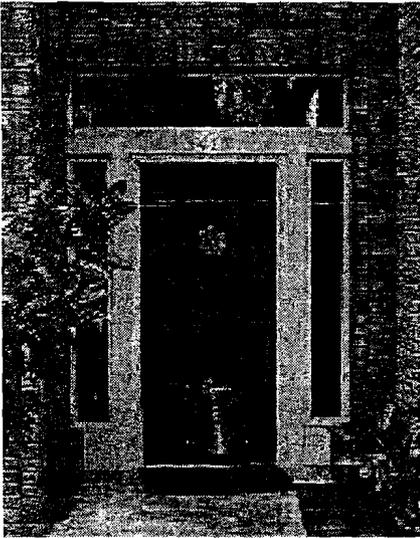
STEP 2

THE HOME PERFORMANCE ENERGY AUDIT

Once you have selected a certified Home Performance Contractor, they will perform a Home Performance Energy Audit, which generally lasts two to three hours. The audit will provide you with valuable information regarding the existing condition of your home, and identify areas where energy efficiency, comfort and health/safety improvements can be made.

Before the audit, the contractor will ask to see at least one year's worth of your utility bills. Please have this information readily available. In addition, you should let your contractor know any issues or concerns you have about your home. You are encouraged to accompany the contractor as they perform the audit. During the audit, the contractor completes a visual inspection of the living space, attic, basement (or crawl spaces), and performs a number of tests using special diagnostic equipment. This equipment includes a blower door, which helps the contractor measure how much, and where, air is leaking from your home. Most importantly, your contractor will perform essential health and safety tests to determine whether the major combustion appliances (furnace, boiler, hot water tank, stove, etc.) in your home are operating safely. *Please note:*

according to BPI health and safety standards, if these tests identify any potential threats in the home, the recommended health and safety repairs must be included in any work scope you choose to implement.



Blower Door Test

The Home Performance Audit Report

When the energy audit is complete you will receive a Home Performance Audit Report from your certified contractor. The report will explain what improvements can be made and the associated costs and benefits. In addition to estimates of fuel and energy bill savings, the report will include information on the payback that can be expected from the project. The report will also include information on the non-energy benefits of the home improvements, including draft reduction and other health and comfort improvements.

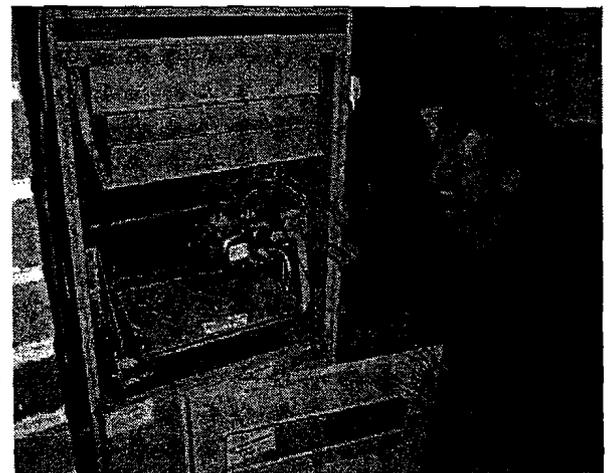
Paying for the Work

The certified Maryland Home Performance Contractor typically will charge a fee between roughly \$250 and \$600 for the energy audit. The fee varies depending on the contractor, the region, and the size of the house. The certified contractor may deduct the fee from the cost of installing energy-efficient upgrades. When talking to a participating contractor, be sure to ask about the fee and whether or not it is deductible from the contracted work.

Homeowners are responsible for the full payment of upgrades. Please see www.mdhomeperformance.org for a list of lenders in Maryland that handle loans and lines of credit. Please note that Maryland Home Performance does not endorse any financial institutions, their services or their products. Maryland Home Performance highly suggests comparing the various rates and terms.

Which Home Performance Contractor should I hire?

Find a list of contractors doing work in your area by visiting www.mdhomeperformance.org and click on **Find a Contractor**. Research the list of contractors by visiting their website, contacting the company, and even asking for referrals! Note that some contractors perform the energy audit and the recommended work. Others only perform the energy audit and may refer you to other contractors to perform the work. The services listed for each company will aid you in choosing the contractor that is right for you.



Inspecting an HVAC Unit

STEP 3

THE CUSTOMER CONTRACT

When you have decided on the improvements you want, you will be presented with a written contract to review and sign.

Check this contract carefully.

- Make sure that all the work you want done is detailed, that everything you want to have installed is in the contract, and that there is nothing that you do not want, or do not understand, in the contract.
- In general, the price offered should be a fixed price that cannot be changed without your written permission (see section on "Change Orders"). Be sure the contract clearly states whether it is a fixed-price contract or an estimate.
- The contract should cover payment terms, such as a down payment, installment payments and when the final payment is due.
- The program only recognizes contracts between a customer and certified Maryland Home Performance Contractors.

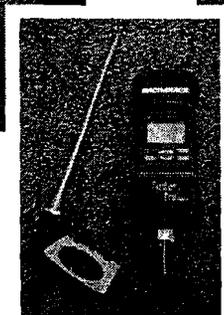
Your contractor may subcontract work to other companies as they put together a comprehensive set of energy efficiency and health and safety measures. You may not be in the position to make ALL the recommended investments in your home at one time. Therefore, you may work with a Maryland Home Performance contractor multiple times.



Testing for Gas Leaks



Performing
the Audit



Combustion
Analyzer

STEP 4

SIGNING THE CONTRACT

When you have reviewed the contract document and are satisfied, sign the contract and make a copy for your records.

At this time, you should also discuss with your contractor the expected start and completion dates of the project.

Change Orders

The work scope may change during the course of the job. Some causes of these changes include the following:

- You decide to add or remove something from the work scope.
- The contractor discovers a problem (e.g. roof damage, leaks, etc.).
- An opportunity for additional improvements presents itself during construction or installation.

For example, your insulation contractor may discover damage to the roof structure while insulating and air sealing an attic, or the heating contractor may find a pipe leak while replacing your boiler. Changes in the work scope are called a "Change Order." The contractor will give you a signed copy of the change order and provide the program with a copy. Be sure you fully understand the impacts before you agree to the change. The program requires that, unless warranted by special circumstances such as health and safety or lack of heat during winter, change orders be signed, dated and submitted to the homeowner before the new measures are installed.

STEP 5

INSTALLATION OF YOUR ENERGY EFFICIENCY IMPROVEMENTS

At the time you sign your contract, you and your contractor should arrange a time for work to begin and estimate the date it will be completed. It is strongly recommended that, at a minimum, you arrange to meet with the contractor at the beginning of each day before work begins, and at the end of the day to review work progress to ensure that all terms of the contract are being fulfilled. These meetings will allow you to follow the work progress and help you better understand the impact the work will have on your home. Being involved is particularly important if a heating or cooling system is being installed. This will give you the opportunity to see how the system operates, and to learn what type of maintenance is recommended. Be aware that as the work is being performed, the normal routine of your household may be disrupted. Also, it is recommended that cleanup of work areas be included in the contract.

CLOSING OUT THE JOB

STEP 6

FINAL HOME EVALUATION

The energy efficiency work performed on your home will often result in your home being more airtight. To ensure that the increased air tightness does not cause air quality or combustion health and safety problems, your contractor is required to repeat the tests performed during the Home Performance Energy Audit. This process is referred to as Pre- and Post-Testing or "Test-In/Test-Out." It is a requirement of the program that these tests be completed and strongly recommended that you be present during the tests. On rare occasions, this test process will reveal conditions that do not meet the program's health, safety, and technical requirements. Should this be the case, your Home Performance Contractor will recommend modifications to bring your home into compliance with program standards. Final tests are an added layer of quality control so you can be assured that all work was done properly.

STEP 7

HOME PERFORMANCE CERTIFICATE

When all of the work in the original scope of work is complete, your contractor will prepare a Job Completion Report on your behalf and signature. The Report includes a list of completed upgrades and final total installed cost, predicted energy savings, and additional on-site benefits such as predicted carbon dioxide savings, comfort, and health improvements. Your contractor will submit a copy of this signed report to Maryland Home Performance with ENERGY STAR. In order to receive a Home Performance Certificate you must have at least three qualified energy improvements for energy savings of 10% or more. If your home achieves these energy savings, Maryland Home Performance will send you a Home Performance Certificate in the mail. This certificate will reveal your home's annual carbon dioxide emissions reduction due to your new energy efficient improvements.

STEP 8

QUALITY ASSURANCE

After completion of all energy efficiency improvements you will be asked about your satisfaction with the contractor and to add any suggestions for improving the Program. These comments will not be seen by your Home Performance Contractor and will be considered seriously in order to enhance the Program.

In addition to this survey, you may be contacted by a Maryland Home Performance Administrator to have your home inspected by the Program to verify the contractor's work. This added layer of quality assurance ensures that contractors maintain high levels of professionalism in their work.



Home Performance Glossary

Blower Door measures the airtightness of a home and is used to locate air leaks. This special fan can ensure that air sealing work is effective.

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy that helps businesses and individuals save money and protect the environment through energy efficient products and practices.



Thermography Reading

R-value refers to how effective insulation is at blocking the transfer of heat and maintaining temperatures within the home. The higher the R-value, the more effective the insulation.

Thermography is the use of thermal infrared imaging in order to detect where and how much energy is leaking from a home.

The "Whole House" Approach to energy auditing looks at your home as an integrated system. Certified Maryland Home Performance Contractors use this approach in order to give comprehensive improvements that yield the best results.



**Testimony of Claire Broido Johnson
Senior Advisor, Hannon Armstrong**

Expedited Bill 6-09
**Home Energy Loan Program
Establishment**
Sec. 1. Chapter 18A, Article 4

Councilmembers, thank you for the opportunity to speak with you today regarding Chapter 18A, Article 4 for the establishment of the Montgomery County Home Energy Loan Program (HELP). I commend you, and particularly Councilmember Berliner, for your leadership in developing new financing structures to promote energy efficiency and renewable energy. You have created a very creative and important program and I am very much in favor of this initiative.

The HELP program is something that I and Hannon Armstrong, fully support and would like to do anything we can to ensure that it succeeds. These recommendations I am about to provide are intended to only improve the chances of this much needed program's success.

As one of the founders of SunEdison, North America's largest solar energy services provider, which provides solar-generated energy at or below current retail utility rates to a broad client base, I fully understand how important it is to promote renewable energy through improved financial structures. I believe property tax municipal financing is an excellent way to support energy efficiency and renewable energy and will enable property owners to do their part to address global warming.

I will provide the perspective of Hannon Armstrong, a firm that has pioneered the aggregation of small, clean energy investments into a multi-billion dollar securitization program. Hannon Armstrong is also a firm that I would describe as a Clean Energy Investment Bank; we are a 28 year old investment bank focused on financing the projects that advance the US energy system by increasing energy productivity and the domestic supply of energy, while reducing the impact of greenhouse gas emissions. Recent examples of our activity include:

- \$1.5 billion in energy efficiency investments under the Federal Energy Savings Performance Contracts (“ESPC”) and Utility Energy Savings Contracts (“UESC”) programs
- Commencement of the first large scale geothermal drilling program in the Salton Sea area of California in over 20 years that will result in over \$1 billion of new geothermal power production in the next 5 years.

We are very proud of our activities in the clean energy area and yet are fully aware that so much more must be done, on a scale much grander than can be addressed by conventional project finance.

We would like to re-iterate our support for the HELP program, and would like to be involved in some way to make the HELP program a reality. Our interest is with respect to the creation of funds for the program. We would like to add these suggestions to make the HELP program a success:

1. **Use a private company to market, manage and finance the HELP program.** As proposed, an infrastructure will be required within the County to administer the program. This is a cost the county need not absorb if it would instead partner with the private sector for the marketing, management and financing of the program. This will minimize transaction costs to the County
2. **Use private financing, and leverage any public dollars made available to HELP with private financing to maximize the impact of HELP on energy efficiency and renewable energy.**
 - a. By using private financing, the County does not need to use its own dollars to finance HELP, does not need to issue a bond, and does not need to impact its own debt ceiling.
 - b. A private financing program will create jobs with almost no budget impact to Montgomery County and will require no extra subsidies and will reduce energy use at Property Owner sites.

- c. Private financing will enable the implementation of more EE/RE. We believe and trust that demand for HELP financing will far outstrip supply of financing. If 5000 homes per year sign up for HELP and we assume that the average spend on energy efficiency is \$4700/home, that is \$23.5 MM needed for EE financing per year. Even if Montgomery County is anticipating getting public funding from the American Recovery and Reinvestment Act package or other resources, we do not believe that public funding will be enough to keep up with demand.
 - d. Private financing increases the number of jobs created by HELP
3. The focus should not be on **“lowering interest rates”** but rather how to **ensure that monthly payments on loans will be lower than the resulting reduction in a home’s energy costs**. The key is not the interest rate but providing an incentive for property owners to participate
- a. It is impossible to get 0% financing via a Bond issuance. No one will buy bonds if they are not receiving any return.
 - b. Based on the 2007 McKinsey study “Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost”, many energy efficiency improvements have a negative cost meaning that they generate positive economic returns over their lifecycle.¹ The County does not need to use its precious resources to subsidize energy efficiency – it merely needs to use its property tax authority to enable property owners to finance their energy efficiency improvements privately.

I truly appreciate your time and wish you all of the best of success with this innovative, much needed, and very valuable program.

Note: I can be reached at clairebjohnson@gmail.com, cjohnson@hannonarmstrong.com or 443 226 0273.

¹ See: <http://www.mckinsey.com/clientservice/ccsi/greenhousegas.asp>, and http://www.mckinsey.com/clientservice/ccsi/pdf/Greenhouse_Gas_Emissions_Executive_Summary.pdf



**TESTIMONY OF THE GREATER CAPITAL AREA ASSOCIATION OF REALTORS®
BEFORE THE MONTGOMERY COUNTY COUNCIL REGARDING
“EXPEDITED BILL 6-09, HOME ENERGY LOAN PROGRAM - ESTABLISHMENT”**

March 24, 2009

Council President Andrews and members of the council, my name is Joe Himali and I am the 2009 President for the Greater Capital Area Association of REALTORS® (GCAAR) – the voice of close to 8,000 REALTORS® and other real estate professionals in Montgomery County and the District of Columbia.

GCAAR strongly supports energy efficiency measures and we believe that the real estate market has been and continues to demand that homes move in that direction. REALTORS® see energy efficiency, conservation and the environment as very important issues that are not only important to us as REALTORS®, but as citizens and neighbors. Back in 2008, GCAAR testified before the County Council on Bill 31-07 with many concerns about a mandatory requirement of home energy audits at the time of sale or as part of the home inspection. And we are happy to say that working directly with Councilmember Berliner we were able to find a good compromise that now requires sellers to provide potential buyers with a utility disclosure. Further, we encouraged the county to look at policies that instead provide more market-based solutions on a voluntary basis instead of mandates that are triggered by or hinder consumer decisions to buy or sell a home or building.

HELP is on the Way

REALTORS® understand first hand that reducing one’s utility bills and developing more sources of renewable energy, is critical in helping to preserve our environment. Therefore, GCAAR strongly supports Bill 6-09, which will provide for the establishment of the Home Energy Loan Program (HELP). We see the HELP program as a way to provide a huge incentive for homeowners on a voluntary basis to take advantage of a cost-effective way for them to make energy efficiency improvements to their home. We believe this legislation is extremely important because it will not only benefit the homeowners by being able to reduce their utility costs, but more importantly it will increase the number of resale homes in Montgomery County that can be seen as energy efficient. As REALTORS® we also feel that this will make it easier for agents and buyers to better identify energy efficient resale homes.

Suggested Amendments and Clarifications

GCAAR would also like to make some suggested amendments and clarifications regarding Bill 6-09. First, under the definitions section 18A-24, the bill does not specifically mention roof or roofing materials as one of the “Energy Efficiency Improvements.” Would these items fall and fit under subsection (10) lines 43-44 “other” category? Or would this be something that could fit under subsection (2) line 24, the “heating and cooling system energy efficiency modifications?”



Second, we wanted to make sure that the definition of "*Single-family home*" was clear enough with how it should be applied based on the intent of the legislation. Our read of the legislation is that a single-family home means a detached or attached residential building, which includes condominiums. So it is our understanding that this means single-family homes, townhomes, condos and townhome condos. But the law will not apply to multi-family units unless they are condominium ownership buildings? Also, does the law apply only to owner-occupied homes or does it apply to property owners who many rent out their homes?

Third and final, under section 18A-26 subsection (2) line 104, we are requesting that the 6 months be changed to 12 months. GCAAR has a concern that although most energy efficient improvements can probably be completed within the 6 month timeframe after receiving the loan, some may not be able to be completed or installed within 6 months. For example, if there are extenuating circumstances like an issue with a contractor or if there is weather related issues that prevent an improvement from being completed. So we would just ask that an amendment be made to extend the timeframe to 12 months to allow greater flexibility for improvements to be completed.

Again, we would like to thank Councilmember Berliner and the entire council for the vision in addressing this very important issue. GCAAR looks forward to continuing to work on this issue to find the best way to encourage all homeowners to improve the energy efficiency of their homes. Thank you for your consideration of GCAAR's perspective and we look forward to attending the committee worksessions for further discussions.

Testimony to the Montgomery County Council
 Homeowner Energy Loan Program
 Janice Meier on 24 March 2009

My name is Janice Meier. I'm not a climate scientist or a policy wonk. I'm a concerned citizen who has followed the news on climate change. I'd like to speak from that perspective in support of the HELP legislation.

We heard from the experts in 2007 that the earth is experiencing human-caused warming that is changing our climate in many detrimental ways [1]. But, we also heard that making changes to our collective behavior **can** make a dramatic difference in how much climate disruption we'll experience. According to these experts, we could expect about 3 degrees Fahrenheit of temperature rise and 7 inches of sea level rise in a "better" scenario compared to 11 degrees Fahrenheit and almost 2 feet of sea level rise in a "worse" scenario [2].

Earlier this month a group of more than 2000 climate scientists issued a warning that we are, in fact, on a trajectory that is at least as bad as the experts' worst scenario, and that we're could see sea level rise between roughly 3 and 6 feet this century [3].

How would this impact us here in Maryland, where land subsidence meets high water in the Chesapeake Bay? Well, EPA says that sea levels are rising almost twice as fast here as in most of the world [4]. Which means that we could see 12 feet of sea level rise this century.

And our local action is critical to global action. A "better" scenario assumes global cooperation in addressing climate change. That cooperation won't happen if the US doesn't have credible climate action at home.

The HELP legislation could provide a model for quick legislation all around the country just in time to help our administration to take global leadership this year at the successor to the Kyoto conference, the UN conference in Copenhagen.

Montgomery County needs this legislation to help our country lead in solutions to climate change and as an important step toward the "better" scenario.

 [1] . IPCC, 2007: Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. See red box p. 5.

[2] IPCC, 2007: Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the*

Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. See Table SPM.3. Projected global average surface warming and sea level rise at the end of the 21st century, p13. Units converted from metric, and global average temperatures and sea level rise compared to the 1980-1999 average.

[3]. "**Climate scenarios 'being realised'**," Matt McGrath, BBC environment reporter, Copenhagen, BBC News online, 12 March 2009.

<http://news.bbc.co.uk/2/hi/science/nature/7940532.stm>

This information is based on evidence that has not gone through the rigorous vetting process that the IPCC requires.

[4] "**Eco-Bills Come Due at Bay's Beaches,**" David A Fahrenholdt, Staff Writer, The Washington Post print edition online, 19 March 2009.

<http://www.washingtonpost.com/wp-dyn/content/article/2009/03/18/AR2009031804178.html>

Testimony in Support of Bill # 06-09 Home Energy Loan Program (HELP)
Submitted on behalf of the Jewish Community Relations Council of Greater Washington
March 24, 2009

The Jewish Community Relations Council of Greater Washington (JCRC) is the public affairs and community relations arm of the Jewish community representing 210 Jewish organizations and synagogues throughout DC, Maryland, and Virginia. The JCRC focuses on government relations, Israel advocacy, inter-group relations, and social justice.

There is broad scientific consensus that human activity, and in particular the increased consumption of carbon-based fossil fuels to produce energy, is accelerating climate change and threatening the survival of some species, as well as the economic and physical well-being of human populations throughout the planet. If left unchecked, human economic activity and activity by polluting industries also pose significant risks to health, safety, and ecological balance through despoiling of our air and water and contamination of the land. Damage to the unique resources of the Chesapeake Bay watershed, for example, is a particular concern to our region. Humankind has the capacity to transform the natural world, but with that capacity comes the responsibility both to safeguard ecological systems so that the diversity of life can thrive and to conserve resources so that they are available for future generations.

We appreciate the opportunity to submit testimony in support of bill #06-09 —Home Energy Loan Program. Per Councilmember Berliner's memo on the bill, this legislation will simultaneously (1) significantly reduce greenhouse gas emissions; (2) put money into constituent's pockets through savings on their utility bills, and (3) promote a Montgomery County green economy by funding the net costs of energy improvements.

The Jewish community strongly supports this legislation, particularly if the County can make use of stimulus monies and private funding for the program. To the extent that this program furthers the goals of protecting the environment, lessening the community's dependence on fossil fuels and in particular foreign oil, and saving the community money, we find it to be a worthwhile and important program.

It is our responsibility to do our part to protect that which God has created. For that reason, we urge a favorable report on "HELP," bill #06-09.

Marcia F. Marks
5317 Cardinal Ct.
Bethesda, MD 20816
fragermark@mindspring.com

In Support of Bill No. 06-09
Home Energy Loan Program
March 24, 2009

I strongly support this bill as a beginning step to reduce the production of coal, oil and natural gas.

It is these fossil fuels that are contributing to the endocrine disrupting chemicals. They are adding to the pandemic of attention deficit disorders, intelligence and behavioral problems, diabetes, obesity, cancers and Parkinson and Alzheimer's diseases. Attached is a copy of the website from Dr. Theo Colborn. Please read her web site carefully to learn of the causes of so many health problems in our society.

Please also consider adopting a companion bill.

As people seal their homes and offices tightly, it will be important to remove toxic chemicals from the indoor environments, or people will become very sick just as they started doing during the first oil crises in the early 1970's.

Attached you will find a copy of how Canada has banned certain pesticides that cause harm. The general public has little knowledge about the harm that pesticides can cause. Furthermore, they do not realize that pesticides used outdoors enter homes on their feet, their pets feet, through the windows and other ways. We are fortunate that Mr. Leggett has appointed Bob Hoyt to head the Department of Environmental Protection. He understands these issues.

I would be happy to help with drafting this companion bill.

Endocrine Disruption

The Fossil Fuel Connection

FUEL FOR THOUGHT AND MOTIVATION

In 1991, an international group of experts stated, with confidence, that **“Unless the environmental load of synthetic hormone disruptors is abated and controlled, large scale dysfunction at the population level is possible.”**¹ They could not perceive that within only ten years, a pandemic of endocrine-driven disorders would begin to emerge and increase rapidly across the northern hemisphere. Today,



less than two decades later, hardly a family has not been touched by Attention Deficit Hyperactivity Disorder, autism, intelligence and behavioral problems, diabetes, obesity, childhood, pubertal and adult cancers, abnormal genitalia, infertility, Parkinson's or Alzheimer's Diseases. TEDX's findings confirm that each of these disorders could in part be the result of prenatal exposure to chemicals called endocrine disruptors. TEDX has also confirmed that the feed stocks for most endocrine disrupting chemicals are derived from the production of coal, oil, and natural gas. It is clear that endocrine disruption, like climate change, is a spin-off of society's addiction to fossil fuels. Setting aside the effects of endocrine disruptors on infertility, and just considering their influence on intelligence and behavior alone, it is possible that *hormone disruption could pose a more imminent threat to humankind than climate change*. The urgency of the above conclusions provided the incentive for much of the work described on this website.

1. From the Wingspread Consensus Statement, as published in Colborn and Clement (1992). *Chemically Induced Alterations in Sexual and Functional Development: The Wildlife/Human Connection*. Princeton Scientific Publishing, Princeton, NJ. pp493.

Pesticides

Introduction

Search

Most people are not aware of the thousands of pesticides and their formulations that are in use today, some of them in huge volumes and on huge acreages worldwide. They comprise acaricides, algicides, antifoulants, avicides, bactericides, herbicides, insecticides, fungicides, molluscicides, nematocides, piscicides, rodenticides, virucides, and the related plant and insect growth regulators; chemosterilants; bird, mammal and insect repellents, insect pheromones and other attractants. Product formulations may contain more than one active ingredient, as well as synergists, "safeners", and other ingredients formerly known as "inerts".

Our particular concern about pesticides is that they have been *designed* to disrupt biological systems, causing death to target organisms, such as insects or plants. Some actually work by acting on the endocrine systems of insects. The problem is that the biochemistry of most living things is similar enough that humans, wildlife and plants can also be adversely affected by pesticides.

In the past, much of the human and wildlife health-related research on pesticides has dealt with more or less immediate toxicity at relatively high doses, or has been concerned only with the primary mode of action of a single active ingredient in the pesticide product. In recent years, these concerns have broadened to include other possible actions of the ingredients, and testing at exposure levels more relevant to what may be in the environment.

TEDX is following the literature that explores the adverse effects of pesticides, as well as the adverse health effects of their metabolites and formulations. Effects may happen at extremely low doses; they may affect multiple signaling systems that control function and development; they may be subtle, long-term and/or delayed; and through parental exposure they may even affect subsequent generations.

[Click here to see our resources and links related to pesticides.](#)

New Canadian Regulations Prohibit 85 Lawn and Garden Pesticides

(*Beyond Pesticides*, March 4, 2009) The Ontario government is set to announce sweeping new regulations that will prohibit the use of 85 chemical substances, found in roughly 250 lawn and garden products, from use on neighborhood lawns. Once approved, products containing these chemicals would be barred from sale and use for cosmetic purposes.

On November 7, 2008, the Ontario government released a proposed new regulation containing the specifics of the **Cosmetic Pesticides Ban Act, passed last June**. Then, Ontario joined Quebec in restricting the sale and cosmetic use of pesticides but environmental and public health advocates said then that the new law preempted local by-laws and actually weakens protections in some municipalities with stronger local protections. There are over 55 municipalities in Canada where the residential use, but not sale, of pesticides is banned. The prohibition of these 85 substances is the latest step in this Act. The proposal contains:

- List of pesticides (ingredients in pesticide products) to be banned for cosmetic use
- List of pesticide products to be banned for sale
- List of domestic pesticide products to be restricted for sale. Restricted sale products include those with cosmetic and non-cosmetic uses (i.e., a product that's allowed to be used inside the house but not for exterior cosmetic use), and would not be available self-serve.

The 85 chemicals to be prohibited are listed under "**Proposed Class 9 Pesticides**" of the Act. Among the 85 pesticides banned for cosmetic use include commonly used lawn chemicals: **2,4-D** (Later's Weed-Stop Lawn Weedkiller), **clopyralid**, **glyphosate** (Roundup Lawn & Weed Control Concentrate), **imidacloprid**, **permethrin** (Later's Multi-Purpose Yard & Garden Insect Control), **pyrethrins** (Raid Caterpillar & Gypsy Moth Killer), and **triclopyr**.

However, golf courses and sports fields remain exempt. The use of pesticides for public health safety (e.g. mosquito control) is also exempt. The proposed regulation would also allow for the use of new 'notice' signs to make the public aware when low risk alternatives to conventional pesticides are used by licensed exterminators, such as the use of corn gluten meal to suppress weed germination in lawns.

The prohibition, once passed, would likely take effect in mid-April. Stores would be forced to remove banned products from their shelves or inform

customers that the use of others is restricted to certain purposes. Residents must then dispose of banned products through municipal hazardous waste collection, and use restricted products for only prescribed purposes. Errant users would first receive a warning, but fines would later be introduced. By 2011, stores will be required to limit access to the pesticides, keeping them locked behind glass or cages and ensuring that customers are aware of limitations on use before taking them home.

In light on impending legislation to restrict pesticide use, the Canadian division of Home Depot **announced** on April 22, 2008 that it will stop selling traditional pesticides in its stores across Canada by the end of 2008 and will increase its selection of environmentally friendly alternatives. Other garden supply and grocery stores have already stopped selling certain pesticides in Ontario.

This proposed prohibition would have the most impact on 2,4-D, the most popular and widely used lawn chemical. 2,4-D, which kills broad leaf weeds like dandelions, is an endocrine disruptor with predicted human health risks ranging from changes in estrogen and testosterone levels, thyroid problems, prostate cancer and reproductive abnormalities. **A recent petition** filed with the U.S. Environmental Protection Agency and supported by Beyond Pesticides calls for the cancellation of 2,4-D, its products and its tolerances in the U.S.

Other lawn chemicals like glyphosate (Round-up) and permethrin have also been linked to serious adverse chronic effects in humans. Imidacloprid, another pesticide growing in popularity, has been implicated in bee toxicity and the recent Colony Collapse Disorder (CCD) phenomena. The health effects of the **30 most commonly used lawn pesticides** show that: 14 are probable or possible carcinogens, 15 are linked with birth defects, 21 with reproductive effects, 24 with neurotoxicity, 22 with liver or kidney damage, and 34 are sensitizers and/or irritants.

Sources: The Star Ontario, The Ontario Ministry of the Environment

Marin, Sandra

From: Andrews' Office, Councilmember
Sent: Wednesday, March 04, 2009 3:13 PM
To: Montgomery County Council
Subject: FW: pass the Home Energy Loan Program Bill

040833



04/05/09 5:00 PM
MONTGOMERY COUNTY
COUNCIL

-----Original Message-----

From: sat jiwan ikle-khalsa [mailto:satjiwan_khalsa@hotmail.com]
Sent: Wednesday, March 04, 2009 2:55 PM
To: Andrews' Office, Councilmember
Subject: pass the Home Energy Loan Program Bill

Dear County Council,
Please expeditiously pass the Home Energy Loan Program bill introduced by Roger Berliner and sponsored by Elrich, Ervin, Trachtenberg, and Floreen. So maybe it's Councilmembers Leventhal, Knapp and Andrews who need the most encouragement.

This bill is a fantastic way to get energy efficiency into homes, saving money, saving resources and reducing green house gas emissions. This innovative way to finance the cost of improvements so home owners can save more on utilities than the amount of the loan payment is just what we need.

I'm also excited that after prioritizing efficiency, renewables can also be financed through the program.

Thanks for working on this important legislation that can also help develop our green jobs economy to help move us out of our current economic recession.
I'll be pleased to learn more about the specific regulations after the bill is passed.

Sincerely,
Sat Jiwan Ikle-Khalsa
Takoma Park, MD

~ ~ ~ ~ please use my permanent email address: satjiwan@alumni.brandeis.edu ~ ~ ~ ~

Some of my recent projects: SEE: <http://www.Truthful-Living.com> (website updated 2/09)
Green Building Consulting Services - Green Homes Tour - (and free green home building resource and energy guide)
Annotated green house renovation photos - Save Our Sky - corn stove cooperative - Takoma Park Green Building Group

 **EMAILING FOR THE GREATER GOOD**
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2

Testimony of the Sierra Club, Montgomery County Group on Bill 06-09 (Home Energy Loan Program)

March 24, 2009

My name is David Hauck and I am the chair of the Sierra Club's Montgomery County Group. I am pleased to offer our strong support to this bill that would establish a Home Energy Loan Program for Montgomery County home owners.

A similar program was launched in the Fall of 2008 by the town of Babylon on Long Island. Babylon's 220,000 residents can now finance up to \$12,000 worth of energy efficiency improvements through the town and repay it through a monthly benefit assessment fee. As of January, 57 homeowners had borrowed an average of \$6,800 to make energy efficient retrofits projected to save an average of \$900 a year in utility bills.

There are several features of the HELP bill the Sierra Club feels are critical to the success of the program.

- The requirement that a ***home energy audit be conducted by a certified auditor*** before loan funds are disbursed makes sense. A properly done audit identifies specific energy efficiency measures that most homeowners overlook (such as air leakage) and suggests cost-effective ways to correct them. It also gives the homeowner an estimate of how much energy (and therefore how much money) the package of retrofit actions is likely to save.
- We also support ***rolling the cost of the audit into the loan amount that pays for the energy efficiency retrofits***. This does two things: it provides an incentive to actually do the retrofits identified by the audit and, it spreads the \$400 to \$600 cost of the energy audit over the 15-year life of the loan.
- The bill's requirement that the Department of Permitting Services, or an entity it chooses, ***certify that all improvements and devices have been installed properly*** is important for reasons that go beyond preventing fraud. It will help to ensure that contractors don't cut corners, but more importantly, it will ensure that homeowners actually get the energy savings they expect. The worst thing that could happen to this loan program would be if participants do not get significant energy savings because the energy efficiency retrofits were done poorly.
- Finally, ***HELP properly requires homeowners to tackle energy efficiency first, before adding renewable energy devices***, like solar panels, to their homes. Dollar-for-dollar, investments in energy efficiency in existing homes result in greater reductions of greenhouse gas emissions than comparable investments in renewable energy devices.



Regional Public Policy
101 Constitution Avenue, N.W.
Washington, DC 20080

March 24, 2009

The Honorable Phil Andrews
Council President
Montgomery County Council
100 Maryland Avenue
Rockville, MD 20850

CORRECTED VERSION

RE: Washington Gas Comments on Expedited Bill No. 06-09
Concerning *Home Energy Loan Program-Establishment*

Dear President Andrews:

Washington Gas generally supports the intent of Bill No. 06-09 *Home Energy Loan Program-Establishment* to assist single-family homeowners in making energy efficiency improvements. However, we are concerned that the bill, as written, would measure energy efficiency based on how much energy an appliance uses at its point of use (site). This "site based" energy analysis is misleading because it does not account for the energy consumed in the production, generation, transmission and distribution of the energy that is consumed at the site. To best address the goals of improving energy efficiency and reducing emissions, especially when tax dollars are being used to fund efficiency improvement programs, a more accurate measurement that accounts for energy used or consumed in necessary. This is known as total energy efficiency, source-based or full life-cycle energy analysis.

Additionally, measurement using the total energy cycle broadens customers' energy source options and during these challenging economic times, customer choice is an essential consideration in all energy efficiency initiatives.

Washington Gas offers the following amendments to address its concerns:

1. Add 18A-24. Definitions:

***Certified energy auditor* means any individual who:**

(b) certifies that he or she has no biases with a regulated energy utility to promote fair and unbiased recommendations; or

(c) meets other equivalent requirements approved by the Director.

***Total Energy Cycle* means the measurement of energy efficiency from the point of energy generation to the end use in the home.**

Home Energy Audit* means an evaluation of the energy efficiency of a home [which] to include **measurement of the total energy cycle for*

the home and any test or diagnostic measurement that the Department finds necessary to:

- (a) assure that a home's energy efficiency is accurately measured; and
- (b) identify cost effective steps **for each possible energy source** that can be taken to improve a home's energy efficiency.

Energy efficiency improvement does not include **small** standard household appliances [such as a washing machine or clothes dryer].

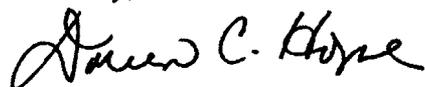
- 2. Section 18A-26(c) requires an additional responsibility to the already overburdened Department of Permitting Services. Washington Gas is concerned this requirement will further delay the permitting process for larger, infrastructure-related company projects.
- 3. Section 18A-26(d) sets the loan term at 15 years. However, this term limit may disincite some or all renewable energy products which tend to be more costly. For example, the American Solar Energy Society model shows that the payback period or cost effectiveness of solar is estimated to be about 23 years. Therefore, the customer would not realize an economic benefit until eight years after the loan term.
- 4. Section 18A-27(b):

The auditor must prepare a written report that:

- (1) contains findings and recommendations to improve the home's energy efficiency **based on total energy efficiency measurement;**

Natural gas is a customer choice and not a required source of energy for homeowners. It is the cleanest fossil fuel and it is three time more efficient than electricity when delivered to the home. Therefore, based on this and the foregoing reasons, Washington Gas can only support Bill No 06-09 with the above noted amendments. Should you have any questions or require additional information, please do not hesitate to contact me at (202) 624-6033.

Sincerely,



Doreen Hope
Regional Manager
Government & Business Relations

Bolded print indicated new proposed language.
Brackets indicated proposed language to be deleted.

*PUBLIC HEARING -Expedited Bill 6-09, Home Energy Loan Program - Establishment
March 24, 2009*

Written Testimony of
Dr. Leroy Miller
The American University and
International Business Strategies
13111 Moran Ct
Gaithersburg, MD 20878
Tel: 301-990-8514
Cell: 240-355-4874
Fax: 240-597-0794
Email: lmiller@leroymiller.com
Website: www.internationalbusinessstrategies.com

Good afternoon. I would like to express my full and complete support in favor of the Home Energy Program in Expedited Bill 6-09.

Over the past two years our household in North Potomac has implemented a rigorous investment plan of energy efficiency investments including a home energy audit, air sealing and two new energy star appliances. We have cut our electricity usage by 50% and our fuel oil consumption by 20%. The payback period for our investment of \$4,000 has been 12 months. We have a plan for additional investments in energy efficiency, renewable energy and a plug in hybrid over the next 5 years which will reduce our net energy usage for our house and our car to zero.

The Home Energy Loan Program can play a key role in financing and accelerating our plan for ongoing household energy efficiency and renewable energy investments. These investments include additional air sealing and insulation, variable speed pool and well pumps, duct sealing, a solar hot water system, geothermal heat pumps and finally photovoltaic solar panels.

Our goal as a County of reducing our greenhouse gas emissions by 80% by 2050 is incredibly ambitious but achievable if we move beyond talking and begin to act now. Reducing residential energy consumption, which is the source of one third of our greenhouse gas emissions in Montgomery County is a good place to start.

How can we assure that the Home Energy Loan Program will have maximum impact in supporting our efforts to achieve our goal?

1. Zero is good

While the current version of the bill refers to zero or low interest loans, zero is clearly better and easier to communicate than a low interest loan. In the current and perhaps ongoing environment of debt and risk aversion and mistrust, offering any kind of loan will be a challenge. Moreover, most people are not yet even convinced that significant energy efficiency investments have a payback. Given this hesitancy, it is better to cap the dollar amount of individual loans at \$3,000 per household for the first year of the program and keep the interest rate at zero percent than it is to attach any interest rate to the loan program. Keep it simple, zero is good. If we were to sacrifice simplicity, then create a tiered system of loans up to \$3,000 at 0% and loan amounts over \$3,000 at 5%. But zero and simplicity is best.

While on the topic of zero and simplicity: Lines 118 to 120, and lines 137 to 142 of the bill seem to imply that a homeowner may not borrow funds that may be reimbursed by a public or private credit or rebate. This adds complexity which may deter a homeowner from an energy savings investment. At least a bridge loan may be necessary in order for the homeowner to make timely payment to the contractor as rebates and credits are not always swiftly paid by public or private entities. Also, lines 140 to 142 seem to imply that a homeowner must choose between a property tax credit or the loan program for a renewable energy device. As the cost of such a device may easily exceed the property tax credit it is not clear why the two programs are mutually exclusive.

2. Consistency and predictability are good.

There is a significant lag time for most consumers between becoming aware of the benefits and efficacy of reducing energy usage, and ultimately making the decision to invest in energy efficiency or renewable energy. So we must avoid changing the rules of the loan program once the program is launched and made public. The program must be consistently available and the terms of the loan program should only be improved once the program is announced. No bait and switch, or waiting lists.

3. Marketing and sales efforts are essential to the success of the program

Early adopters and other energy fanatics like myself may be willing to ferret out and understand the details of the program. In fact, there may possibly be an initial flurry of loan applications at the beginning of the program to serve that group. However, if we are going to make a substantial dent in energizing the 250,000 to 300,000 owner occupied homes in Montgomery County and reaching our goal of 80% reduction by 2050, a well thought out and well funded marketing plan and organization is essential. Today, fewer than 1,000 homeowners in Montgomery County have had an energy audit, and that is probably a generous estimate. Getting people to put down \$300 to \$600 for a home audit, the first step in the process of actually applying for a home energy loan, a step which may or may not have an immediate payback, will require a monumental marketing effort. Line 213 of the bill alludes to activities to market the program. It is strongly urged that this part of the program be allocated sufficient funding in the execution of the program. Otherwise we might build it, and they might not come.