



ENERGY/AIR QUALITY ADVISORY COMMITTEE

June 9th, 2009

The Honorable
Isiah Leggett
County Executive
Office of the County Executive
101 Monroe Street,
2nd Floor
Rockville, MD 20850

The Honorable
Philip M. Andrews
Council President
Montgomery County Council
Stella B. Werner Building
100 Maryland Avenue
Rockville, MD 20850

Dear Mr. Leggett and Mr. Andrews,

The Montgomery County Energy and Air Quality Advisory Committee (EAQAC) has studied the new County law, Bill 06-09 that establishes a home energy loan program. This program has the potential to be extraordinarily useful and is a dramatic step towards implementing the Montgomery County Climate Action Plan (Climate Action Plan), submitted to you only a few months ago. We write to you because, after study and group deliberation, we have concluded that Bill 06-09 inadvertently incorporated a serious flaw that needs **legislative** correction. We believe that the law establishes an eligibility requirement that may prevent the loan program from being used for one of the single most important residential energy equipment purchases.

We describe in detail the improvements that we think are needed.

Summary:

The new home energy loan program has the potential to enable homeowners to finance the single most important purchase that will increase home energy efficiency. We refer to high efficiency heat pumps, air conditioners and furnaces. Such units usually have lifetimes of 18-20 years. During the next ten years, we estimate that half of county homeowners will purchase replacement units. Heating and air conditioning equipment is expensive; the new loan program could go a long way towards assisting homeowners to purchase high efficiency equipment.

But, the normal situation is that homeowners buy such equipment under exigent circumstances, typically in the one or two days after unexpected equipment failure. If this occurs during a cold winter period, the purchase decision is urgent. There is no time for

such homeowners to become eligible for the loan program because the new law seems to require that the homeowner first obtain a home energy audit to become eligible.

We recommend that the council modify the new law to permit homeowners who are purchasing under urgent conditions to become eligible in a rapid manner. We have identified various means by which this could be done. Time is important in this regard. The new law gives the Department of Environmental Protection until October 14th of this year to have drafted and put into effect the implementing regulations. The rulemaking schedule means that this department needs legislative flexibility in this matter soon.

Importance of Home Energy Loan Program to County's Objectives:

To put matters in perspective, according to the Climate Action Plan, one third of all county greenhouse gas emissions derive from residential energy use. Approximately 50% of this sector's energy is used to heat and cool our homes. Therefore, the single biggest energy reduction step that County residents can make in their homes during the next decade is to improve the energy efficiency of their heating and air conditioning equipment. All other steps, such as increasing insulation and weatherization are collectively not nearly as important.

The next ten years is crucial. The Climate Action Plan calls for a 20% reduction in overall greenhouse gas reduction by the year 2020. This goal is widely recognized and is based on the need to arrest or slow down carbon emissions before climate warming becomes irreversible.

Increasing heating/cooling efficiency in their homes is also the single most expensive action that homeowners can take in reducing home energy demand, with the possible exception of full window replacement. Our collective hope is that the new loan program can go a very long way towards permitting the energy efficiency improvements that the County Climate Action Plan recommends in this category.

Within the residential sector, single family homes and townhouses comprise approximately 75% of residential energy use. There are roughly 240,000 such units in our county. In the next decade we estimate that approximately half of these homes will experience a heating/cooling unit failure, as equipment purchased in the 1980s and 1990s fail. This means that approximately 12,000 units will be replaced annually, or 1,000 each month, during the next decade.

Current Homeowner Choices:

Currently, the lion's share of current replacements is in the minimum available energy efficiency category. Information available to us suggests that only perhaps 15-20% of replacement space conditioning equipment is now in Energy Star-grade. Federally required minimum furnace efficiencies have not been increased for 18 years and are not scheduled to be increased until January 2016. Air conditioning requirements were increased modestly four years ago.

Not surprisingly, this buying behavior is primarily due to the higher initial costs of Energy Star equipment. Broadly, the incremental price to a homeowner for purchasing high efficiency heating and cooling equipment is \$4,000, compared to the price of legally available minimum efficiency equipment. It is true that Energy Star equipment will produce multiyear utility bill savings that over time will exceed the increased initial equipment cost. It is also true that until the end of 2010 homeowners who are not subject to the AMT may obtain a \$1,500 federal tax credit. But generally, homeowners buy on initial pricing and not on lifecycle costs.

Most purchases of furnaces and air conditioners come during urgent conditions, as when a furnace fails to produce heat during the winter or when an AC unit stops cooling in July. Heating and cooling equipment purchases are largely unplanned. Because furnace failures are rare events for any single family, the actual price of even minimum allowed equipment comes as a 'sticker shock' to many people. This is particularly true in the current economy.

In summary, homeowners are generally buying on first costs and they are buying at allowed minimum efficiencies. Mainly, they are buying during urgencies and are making purchase decisions within one or two days. Mechanical contractors do not profit from selling higher efficiency equipment much. The business is competitive and contractors fear a loss of a sale more than any modest marginal profits from selling Energy Star equipment. The contractor sales force works on commission and a loss of a sale is acutely feared by the folks.

True Benefit of Home Energy Loan Program:

The loan program can substantially reverse the point-of-sale economics. Here is a striking example, which comes from our committee's professional experience, knowledge, and research. A minimum efficiency replacement gas furnace/air conditioning system for a modest-sized single family home may cost \$6,500. The comparable Energy Star unit would cost \$10,500. If there were no loan program, the homeowner would have to pay the entire higher cost, less a tax credit, or between \$9,000 and \$10,500. First cost decision-making clearly favors the less efficient system. If the homeowner can borrow only \$4,000 over a low interest 15-year period, first costs for the Energy Star system would be \$5,000 with the tax credit. This is actually less expensive on a first cost basis than the less efficient system.

This example demonstrates the deep significance of the new home energy loan program. But, the program can only be effective if it can work quickly during the equipment failure urgency scenario that dominates replacement equipment sales.

Problem That Needs to be Rectified:

Bill 06-09 now contains this language (in Section 18A-27, *et sec.*)

“18A-27. Home energy audit

(a) An applicant for a loan under this Program **must have and submit** to the County a home energy audit performed on the owner’s home by (Maryland) certified energy auditor.”

Home energy audits are a good idea. They assist homeowners in determining out rational steps that can improve energy efficiency. But audits take time for homeowners to arrange, conduct, and to receive reports. Time is simply not available to most homeowners who are buying on conditions under urgent conditions.

The legislation that was signed on April 14, 2009 gives the Department of Environmental Protection six months to issue regulations to implement the loan program. The language cited above appears to mean that these regulations will have to include a home energy audit to have been done prior to the homeowner being able to become eligible for a loan.

A straightforward reading of the language seems to our committee to mean that the audit must occur before a homeowner can apply for a loan. This construction means that homeowners buying during exigent circumstances would need to have anticipated the timing of an inherently unpredictable equipment failure.

We also observe that under the cited language, the Department of Environmental Protection may not have the regulatory authority to remove this undesirable anomaly. We think a legislative correction is needed.

Recommended Correction:

The goal of our recommendations is to permit the new loan program to work effectively in the heating/cooling equipment arena. Please keep in mind that we find this arena to be the single most important component of the residential energy efficiency sector. Many tens of thousands of homeowner decisions over the next decade depends upon an effective loan program.

To be effective, the loan program must be able to be implemented rapidly during emergency circumstances. Here are alternate recommendations that would permit the program to be truly effective under conditions:

(1) The Council could amend the eligibility requirement to provide a 90-day period to obtain the home energy audit, after the date of the purchase of an existing home **replacement** furnace, heat pump, or air conditioner with an Energy Star unit. This provision would be available to those homeowners who replaced their system during emergency conditions. If the County were to loan the homeowner funds under the home energy loan program, the loan could be made contingent on the submission of such an audit.

(2) The Council could amend Bill 06-09 to provide the Department of Environmental Protection the explicit authority to write regulations with this provision in mind.

(3) The Council could simply define the purchase of replacement heating and cooling equipment of Energy Star-grade as a satisfaction of the requirements of the home energy audit requirement.

In closing, we stand ready to assist you in your consideration of this matter. Our committee has established a subcommittee on residential energy efficiency whose members include citizens with technical, legal, and other relevant skills.

Sincerely,

A handwritten signature in cursive script that reads "David Faerberg".

David Faerberg, Chair
Energy and Air Quality Committee

CC:

Councilmember Roger Berliner
Councilmember Mark Elrich
Councilmember Valerie Ervin
Councilmember Nancy Floreen
Councilmember Michael Knapp
Councilmember George Leventhal
Councilmember Nancy Navarro
Councilmember Duchy Trachtenberg
Keith Levchenko, Council Staff
Robert Hoyt, Department of Environmental Protection
Eric R. Coffman, Department of Environmental Protection

