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Public Service Commission of the District of Columbia
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September 23, 2009

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DISTRICT OF COLUMBIA
PUBLIC SERVICE COMMISSION

VIA HAND DELIVERY

Cynthia Brock-Smith
Secretary to the Council
Council of the District of Columbia
1350 Pennsylvania Avenue, NW
Washington, D.C. 20004

Re: Report on Solar, Renewable and Home Improvement Financing

Dear Ms. Brock-Smith:

Attached is the Public Service Commission of the District of Columbia's ("Commission") Report on Solar, Renewable and Home Improvement Financing ("Report"), which is filed in accordance with Section 213 of the District of Columbia's Clean and Affordable Energy Act of 2008. Specifically, this section requires the Commission to file a report with the Council on the feasibility of implementing mechanisms to make long-term affordable financing available to energy consumers to purchase: a) renewable energy generating systems; and b) home and business improvements that increase the energy efficiency of buildings. In addition, the Report should also examine how the electric and gas companies' billing systems can be used to collect payments from individuals that purchase renewable generation or energy efficiency systems.

Thank you. If you have any questions, please do not hesitate to contact me.

Sincerely,

Betty Ann Kane
Chairman

Attachment (1)

cc: The Honorable Richard E. Morgan, Commissioner, Public Service Commission
The Honorable Lori Murphy Lee, Commissioner, Public Service Commission
The Honorable Vincent C. Gray, Chairman, Council of the District of Columbia
The Honorable Kwame R. Brown At-Large Councilmember
The Honorable Michael A. Brown, At- Large Councilmember
The Honorable David Catania, At-Large Councilmember
The Honorable Phil Mendelson At-Large Councilmember
The Honorable Jim Graham, Councilmember Ward1
The Honorable Jack Evans, Councilmember Ward 2
The Honorable Mary M. Cheh, Councilmember Ward 3
The Honorable Muriel Bowser, Councilmember Ward 4
The Honorable Harry Thomas, Jr., Councilmember Ward 5
The Honorable Tommy Wells, Councilmember Ward 6
The Honorable Yvette Alexander, Councilmember Ward 7
The Honorable Marion Barry, Councilmember Ward 8
Dorothy Wideman, Commission Secretary

Public Service Commission

of the

District of Columbia

Report on Solar, Renewable and Home Improvement Financing

September 23, 2009

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EXECUTIVE SUMMARY

Section 213 of the Clean and Affordable Energy Act of 2008 ("CAEA" or "Act") requires the Commission: 1) to investigate mechanisms that would make long-term affordable financing available to District customers that purchase renewable energy generating systems or home and business improvements that increase energy efficiency; and 2) to examine how the electric and gas companies' billing systems can be used to collect payments from individuals that purchase renewable generating or energy efficiency systems. The CAEA also requires the Commission to issue a report, including findings, on the feasibility of implementing the proposals specified in the Act. The Commission submits this Report on Solar, Renewable and Home Improvement Financing ("Report'), in fulfillment of that directive.

On December 24, 2008, the Commission issued Order No. 15148, which opened Formal Case No. 1068 for the purpose of investigating consumers' potential long-term financing options. Order No. 15148 also directed PEPCO, Washington Gas Light Company ("WGL") and the Office of Public Counsel ("OPC") (along with other interested parties) to file comments or responses to twenty-two (22) issues in the form of "Directed Questions" to the parties. The parties' comments cover a range of issues involving three (3) central components of any financing program: 1) the funding source(s); 2) the structure of the financing program or mechanism; and 3) the appropriate administrative agent. Parties' comments also include references to plans and practices in several states and jurisdictions.

Section I of this Report provides background information concerning the Commission's investigation in Formal Case No. 1068. Section II examines the parties' positions with respect to funding sources. Section III discusses potential types of financing programs or mechanisms. Section IV reviews the parties' comments with respect to potential administrative agents. Finally, Section V presents the Commission's major findings with respect to each of the above areas, and offers two (2) straw-man proposals involving alternative financing approaches for the Council's consideration:

Option A: An Interest-Rate Buy-Down on Third-party Bank Loans; and
Option B: A Low-Interest Loan Program Originating with Public Funds.

Under Option A, DDOE and banks would work together to provide lower interest loans to residential and small commercial customers. Under Option B, loan repayments are tied to the owners' property taxes. Specifically, loans would be paid back over 15 years through an increase in the owners' property taxes. Option A does not include this type of loan payback mechanism. Initially, American Recovery and Reinvestment Act of 2009 ("ARRA") funds would be used to finance all program costs in either option. The Commission will pursue any follow-up actions as directed by the Council after its review of this Report.

I. Introduction

Section 213 of the Clean and Affordable Energy Act of 2008 ("CAEA" or "Act") requires the Commission to open an investigation into mechanisms that would make long-term affordable financing available to District customers that purchase (1) renewable energy generating systems, including solar thermal and solar photovoltaic panels and geothermal heating and cooling systems; and (2) home and business improvements that increase energy efficiency of buildings, including weatherizing, adequate insulation, efficient doors and windows, and central air conditioning.[1] The CAEA also requires the Commission to examine how the electric and gas companies' billing systems can be used to collect payments from individuals that purchase renewable generating or energy efficiency systems. The CAEA further indicates that within 60 days after the close of the record of the investigation, the Commission shall issue a report, including findings, on the feasibility of implementing the proposals specified in the Act. While the Commission has not yet decided to close the record in this investigation, we believe an informational report should be submitted to the Council at this time.

On December 24, 2008, the Commission issued Order No. 15148, which opened a formal investigation with respect to consumers' long-term financing options, consistent with the CAEA. Order No. 15148 also directed PEPCO, WGL and OPC (along with other interested parties) to file comments/responses to twenty-two (22) issues in the form of "Directed Questions" to the parties.[2] Subsequently, OPC filed a motion[3] seeking an extension of time to file comments, which the Commission granted in Order No. 15195 (issued on February 20, 2009).[4] PEPCO, WGL and OPC were the only parties to file comments.[5]

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1 The Clean and Affordable Energy Act of 2008, D.C. Law 17-250, § 213 (2008).

2 *Formal Case No. 1068, In the Matter of the Investigation into Long-Term Financing Mechanisms for Consumers to Purchase Renewable and Solar Energy Systems in Accordance with the Clean and Affordable Energy Act of 2008;* and *Formal Case No. 945, In the Matter of the Investigation into Electric Service Market Competition and Regulatory Practices* ("*Formal Case No. 1068*"), Order No. 15148, rel. December 24, 2008.

3 *Formal Case No 1068*, Motion of the Office of the People's Counsel for Extension of Time to File Comments, filed February 11, 2009.

4 *Formal Case No. 1068*, Order No. 15195, rel. February 20, 2009.

5 *See Formal Case No. 1068*, Response of the Potomac Electric Power Company to the Issues Set Forth in Commission Order No. 15148, Issued on December 24, 2008, Concerning Affordable Financing Options for Consumer Purchase of Renewable Energy Generating Systems and Energy Efficiency Improvements, filed February 23, 2009 ("PEPCO's Comments"); Comments of the Office of the People's Counsel, filed March 25, 2009 ("OPC's Comments"); and Comments of Washington Gas Light Company, filed March 25, 2009 ("WGL's Comments").

Prior to the deadline for reply comments, the District Department of the Environment ("DDOE") filed a motion for an extension of time to file reply comments.[6] The Commission granted the motion in Order No. 15268 dated May 18, 2009.[7] Reply comments were filed by OPC and DDOE.[8]

In Sections II through IV, we summarize parties' comments and reply comments involving three (3) primary subjects: (1) Funding Sources; (2) Programs/Mechanisms; and (3) Administrative Agent.[9] We also include our findings and observations on each of these subjects, within the applicable section. Section V concludes the report by presenting two (2) straw-man proposals for the Council's consideration. The Commission will pursue follow-up actions as directed by the Council.

II. Funding Sources

This section reviews the parties' comments with respect to potential funding sources that could make long-term affordable financing available to District customers.

A. PEPCO's Comments

PEPCO states affordable financing should be defined as "the availability of financing at reasonable terms to credit worthy consumers." The District should subsidize financing rates for residential/small commercial installations, either in the form of rebates or low(er) cost loans. Loan programs for larger commercial customers are more problematic in nature and, in any event, larger customers usually have a greater ability to borrow funds at more attractive interest rates. Loans should originate with third party banks. Alternatively, the District could provide capital through available Sustainable Energy Trust Fund ("SETF") funds, but PEPCO advocates that banks be relied upon to handle all loan transactions. SETF funding should be used to cover interest rate subsidies, and might also be used to cover a portion of bank-related administration expense. Utility borrowing costs are typically lower than the rates available to residential and small commercial consumers. If utility financing were to be employed, any resulting interest costs, administrative fees, etc. would have to be recovered through a distribution surcharge and/or base rates. Bad debt expense should be assigned to the entity responsible for determining credit eligibility.

PEPCO states that renewable energy credits ("RECs") might be used as a potential financing option. However, PEPCO does not currently recommend this method

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6 *Formal Case No. 1068*, District Department of the Environment's Motion for Enlargement of Time to File Reply Comments, filed April 22, 2009.

7 *Formal Case No. 1068*, Order No. 15268, rel. May 18, 2009.

8 *Formal Case No. 1068*, Reply Comments of the Office of the People's Counsel, filed April 24, 2009 ("OPC's Reply"), and the District Department of the Environment's Reply Comments in Response to Order No. 15148, filed May 26, 2008 ("DDOE's Reply").

9 The parties' detailed comments are presented in Attachment A to this Report.

due to the difficulty of projecting forward REC prices. The program(s) in other jurisdictions that is most applicable to the District is likely to be one based on proposals in other PHI jurisdictions, notably Maryland. In Maryland, the program consists of the following: 1) an interest buy down to homeowners and small commercial customers on loans of up to fifteen years; 2) optional REC aggregation; and 3) a long-term renewable generator maintenance contract. Banks would typically provide the necessary capital, originate loans and process loan payments. The cost of the interest rate buy down would be funded via the existing SETF surcharge, another distribution bill assessment, or District general funds.

PEPCO claims that the 30% federal tax credit may increase the penetration rate of photovoltaics (among more affluent homeowners), but it does not completely address the need of long-term financing. The situation may change when the demand for corporate tax incentives increase, since leasing would likely become a more attractive/widely available option.

B. WGL's Comments

WGL claims that the definition of "affordable" varies with each potential borrower, depending on the customer's individual circumstances. WGL argues that a subsidized financing rate should only be provided in situations where an improvement makes economic sense, but the homeowner is financially unable to go forward with the improvement at the prevailing market rate. If a subsidized financing program is implemented, DDOE should qualify customers for the program. The SETF and EATF would be appropriate vehicles to fund the program. While the EATF was established to fund existing low-income programs, WGL alleges that the CAEA "authorizes the Commission to issue rules to modify the programs funded by the EATF."

Whether or not the cost of borrowing for utilities is cheaper than the rate available to consumers depends on the individual customer's credit profile. Moreover, the ratings impact on WGL's securities from financing renewable energy projects would depend on: a) the regulatory treatment of the outstanding loan balances; b) penalties for late payments; and c) other costs associated with consumer debt delinquency. If such costs were to become part of rate base and earn the same return as any other regulatory asset (without regulatory lag), there should be no theoretical impact on WGL's perceived creditworthiness. On the other hand, placing WGL at risk for exposure to consumer debt arising from customers' defaults could be detrimental to its ratings, and could raise WGL's cost of capital and thereby the cost of gas utility service to all customers.

While markets exist for the purchase/sale of RECs, WGL is unaware of any financial institutions that accept RECs as partial payment for loan or lease payments. In regard to the impact of the 30% federal tax credit, the Solar Energy Industries Association ("SEIA") forecasts that an extension of the Investment Tax Credit ("ITC") (for all customer segments) would promote a steep escalation in PV installations through 2016. However, typical residential PV installations in the District range from $20,000 to $40,000, and WGL states that it is not clear how such systems are paid for (e.g., out-of-

pocket, bank loan, home equity loans, etc.). Coupling the above with the effect of the current economic downturn, WGL concludes that it is not possible to discern what effect the tax credit will have on the need for long-term financing for residential PV systems.

C. OPC's Comments

OPC notes that since the Commission issued Order No. 15148, Congress passed the ARRA.[10] The ARRA provides many significant incentives to invest in renewable energy and energy efficiency, and the District's share of ARRA funding (in excess of $42.0 million) should be the initial starting point in the development and implementation of the District's renewable energy and energy efficiency financing mechanisms. In other words, ratepayer funding should not be used for this purpose at this time. However, OPC recognizes that the ARRA stimulus measures are designed to be temporary, and that long-term financing methods will need to be established in the District.

OPC cites two (2) other potential federal funding sources for financing mechanisms included in separate bills introduced by Congressman Chris Van Hollen of Maryland's 8th District:

- National Home Energy Savings Revolving Fund Act, which would provide funding to local governments to offer no-interest loans to homeowners to make energy efficiency improvements; and
- Green Bank Act of 2009, which would create an independent lending authority to provide a comprehensive range of financing support to qualified clean energy and energy efficiency projects within the territorial United States.

OPC also notes that the primary funding of Sustainable Energy Utility ("SEU") activities under the CAEA is the SETF. DDOE should consider using bond financing to fund certain SEU programs, with ARRA funds used, in part, to securitize the bonds.

D. DDOE's Comments

DDOE agrees with PEPCO that low-cost financing or rebates should be provided to District customers and that third-party financial institutions be responsible for all aspects of loan transactions, including any associated bad debt expense. DDOE has no specific objection to PEPCO's suggestion that SETF funds be used to cover interest buy down costs or a portion of bank-related administrative expense. However, DDOE notes that the SEU has final decision on how SETF funds will be used.

DDOE takes exception to WGL's view that *both* SETF and Energy Assistance Trust Fund ("EATF") funds should be considered for subsidizing financing rates. DDOE argues that the CAEA requires that the EATF be used solely to fund existing low-income and Residential Aid Discount programs. Any diversion of EATF funds for other

[10] The American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009).

purposes would require: a) an increase in the overall EATF assessment level; and b) an amendment to the CAEA to permit alternative uses of such funding.

E. Commission Remarks

The CAEA assigns the Commission the task of investigating mechanisms that would make long-term affordable financing available to District customers that purchase renewable energy generating systems or home and business improvements that increase energy efficiency. The Commission decided to include investigating the funding instrument(s) that might be available to make long-term financing "affordable." The responding parties have identified a number of theoretical funding sources, including: a) the SETF; b) the EATF; c) ARRA monies; d) utility debt financing; and e) bond financing via the SEU. The Commission would add two (2) others: f) a utility distribution surcharge; and g) the alternative compliance payments ("ACPs") submitted by load serving entities ("LSEs") to meet the District's annual Renewable Energy Portfolio Standards ("RPS") requirements.[11][12]

In our view, the EATF and distribution surcharge options should be dismissed out of hand. As previously noted, the EATF is presently restricted to specific low-income and RAD discount programs. Without an amendment to the CAEA, the EATF would appear to be a non-starter. Creating a special distribution surcharge to enable long-term affordable financing is also unattractive, since it would raise questions with ratepayers about the central purpose of the SETF. In other words, ratepayers are likely to ask why they are being required to pay a new distribution surcharge for renewable energy and energy efficiency purposes when they are already subject to the SETF surcharge.

According to PEPCO, utility debt financing is a possible source of lower cost financing for residential and small commercial customers, but not larger entities. WGL suggests any utility debt financing should be treated as a regulatory asset in order to protect the utility's financial standing. Doing so would entail providing the utility with a return equal to its *overall cost of capital* on the newly allowed regulatory asset. Since a utility's overall cost of capital includes an allowed return on equity, it is doubtful whether utility debt financing would remain a realistic source of "lower" cost financing if such debt financing were to be approved as regulatory asset. Leaving this issue aside, if utility debt financing were to be pursued, another funding source would have to be developed to serve the large commercial/municipal/public authority sector.

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[11] The Renewable Energy Portfolio Standard Act of 2004, D.C. Law 15-340, D.C. Code § 34-1431 *et. seq.* (2008 Supp.).

[12] The Renewable Energy Portfolio Standard Act of 2004, D.C. Code § 34-1436 (c) (2008 Supp.), requires that the "Renewable Energy Development Fund ("REDF"), be used solely for the purpose of making loans and grants to support the creation of new solar energy sources in the District of Columbia and for otherwise administering the Fund." According to our informal source, DDOE has not yet spent any REDF funding. The ACPs are a major source of REDF funding, and would certainly appear to be a legitimate source for funding for the affordable financing program.

As OPC emphasizes, ARRA funding constitutes a logical and appropriate source of affordable long-term financing for renewable energy and energy efficiency investments. Indeed, in some cases, federal funding awards are *conditional* upon the funds being used for such measures. The major drawback to ARRA funding is that such federal assistance will not be available year after year. In that regard, the Energy Programs Consortium ("EPC") recently issued a report calling on the federal government to support an ongoing national program to increase (residential) energy efficiency across the nation.[13] The EPC's report finds that a federal investment averaging $1,500 per unit could leverage 3.75 to 15 times its value in private capital to fund a national retrofit program. Furthermore, the value of energy savings when applied to an energy loan would result in a net savings to the borrower as well as pay the full cost of the measures installed. For a middle-income family, the annual savings would be $56 for an energy efficiency loan and $262 for a mortgage loan.

With this note, OPC has identified approximately $24.0 million of ARRA funding that might be used to provide long-term affordable financing in the District. [14] If such "seed" money were to be deposited in a revolving fund, the District would be well on its way toward ensuring that affordable long-term financing is available to District consumers.

Because ARRA funding is short-term in nature, an additional source(s) of funding will be needed over time. Given the legislative purpose of the SETF, the SETF surcharge is the obvious choice to supplement ARRA funding. To the extent that SETF funding would require a long-term affordable financing program(s) to compete with other SETF funded programs, we would view such competition as a positive development. As we previously mentioned, affordable long-term financing is just one of many types of subsidies that the SEU will have at its disposal to promote renewable energy and energy efficiency investments. In our view, affordable long-term financing programs *should* be expected to compete with other programs for scarce SETF surcharge dollars.

The SETF surcharge need not be the only vehicle used to supplement ARRA funding. The Commission finds that the District's ACP revenue stream would also be an appropriate source of funding, since it is derived from the inability of LSEs to meet the District's annual RPS requirements. To the extent that ACP revenues help to facilitate greater investment in District renewable energy facilities (via lower long-term financing rates), LSEs should find solar renewable energy credits ("SRECs") to be more plentiful in the District (which will help LSEs to meet their future RPS requirements). Based on the Commission's records, we estimate that District ACP revenues were roughly $200,000 for the 2007 compliance year, and $398,000 for the 2008 compliance year. All else equal, these amounts may be expected to increase over time as RPS requirements become more stringent.

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13 The EPC's press release concerning its report is provided in Attachment B to this Report.

14 OPC flags $22.1 million in State Energy Program funding.

OPC mentions the possibility of utilizing SEU-sponsored bond financing to facilitate long-term affordable financing needs.[15] We agree with OPC that the primary advantage of such bond financing would be to make a large pool of initial funding available. However, to the extent that the SETF would be required to underwrite such bonds, the District might find ever increasing portions of its future SETF revenue stream committed to servicing (previous) bond obligations. This outcome could severely constrain the ability of the SETF to provide a sustained level "new" financing in future years (depending on the rate at which old loans were repaid).

III. Programs and/or Mechanisms

This section reviews the parties' comments with respect to potential financing programs or mechanisms.

A. PEPCO's Comments

At present, various district entities offer home equity loans and unsecured consumer loans that might be used to finance renewable energy or energy efficiency projects. However, loans are not readily available in today's economic climate, and many residential customers find it difficult to finance installation through home equity loans. The availability of dealer-financed installment plans varies significantly between installers. PEPCO is unaware of any energy efficiency mortgages being available in the District at this time.

The availability of low cost capital will differ across entities, with larger commercial property owners typically having access to lower cost capital. Greater access to lower cost capital may be expected to increase the willingness of homeowners and small business to install energy efficiency measures. On the other hand, even if lower cost capital were to be made available, landlords may have relatively little interest in energy efficiency upgrades or renewable generators if their tenants are individually metered. Among homeowners and small commercial customers, the greatest need is financing to cover the installation of renewable generators and energy efficiency measures costing $5,000 or more (e.g., HVAC equipment).

PEPCO recommends that interest rates for residential and small commercial customers be set approximately 2 to 4 percent below market rates, with the minimum loan set at approximately $5,000 and the maximum at $50,000. Actual minimums should be established after discussions with potential lenders. Consumers should be required to use loan funds for approved energy efficiency, conservation and renewable applications. Loan durations would normally range from three to fifteen years (with longer terms possible). Loans should originate with third party banks that would be responsible for providing capital, verifying credit eligibility, processing loans, statements and payments, and shouldering bad debt expense. Alternatively, the District could provide capital through available SETF funds, but PEPCO advocates that banks be relied upon to handle

[15] OPC's assumption is that the SEU could borrow at more favorable rates that most District entities.

all loan transactions. Subsidized financing should be permitted for leased facilities, if third parties would offer both leasing and financing. A maintenance contract covering the life of the loan or lease should be a requirement for participation in any renewable generation program to ensure the continuing operation of the generator.

B. WGL's Comments

Financing needs differ according to which entity reaps the renewable system's benefits, and who bears the associated costs. For homeowners, reductions in energy bills can be directly applied to paying down loans, but lenders tend to charge higher rates for small loans. Landlords with individually metered tenants would see no savings from renewable system installations. Group metered landlords may not charge tenants more than the total amount of the bill, so they generally cannot recover the costs of any renewable financing.[16] Finally, owners that occupy "owned space" are similar to homeowners with respect to incurring cost and realizing savings, while owners who rent office space are more like landlords (i.e., little or no incentive to invest in energy efficiency).

According to the Energy Solutions Center ("ESC"), the need for long-term financing is directly related to the expense and lifetime of the related investment.[17] ESC contends that, in today's marketplace, rebates are more prevalent than financing, with the greatest energy savings come from heating, cooling or power generating equipment. WGL goes on to illustrate the "unique characteristics that natural gas possesses that allow it to meet the environmental and energy efficiency improvements being sought by the Commission while doing so in a cost-effective manner."

WGL argues that even with affordable financing, the high cost of renewable technologies will put such facilities beyond the reach of most District residents. WGL recommends that the District provide incentives for both renewable technologies and natural gas appliances/systems that demonstrate efficiency and environmental quality improvements. Consumers should be afforded the opportunity to choose the technology most suited to their homes and budgets. The SEU should determine whether solar or renewable energy systems are worthy of support, either through incentives or financing subsidies. While not specific, WGL suggests that the maximum financing term should always be less than the useful life of the related equipment (typically three to five years for residential energy efficiency equipment). The overall availability of financing should be based on the programs under consideration and the accessibility of SETF and EATF funding. Subsidized financing should be permitted for leased facilities, but WGL finds few (if any) companies currently offering financing on leased equipment. Also, the District "should carefully review contract options available to consumers to ensure that

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[16] Possible exceptions that would permit such landlords to recover costs include: a) government sponsored programs (including tax breaks); and b) the potential to increase rents to live in a "green" building.

[17] ESC is a natural gas technology commercialization and market development organization representing utilities, municipal energy authorities and equipment manufacturers/vendors.

they contain an option for a maintenance agreement or warranty for the system." If further assurances with regard to operability are required, the District "may have to regulate the individual operators of the systems."

C. OPC's Comments

After reviewing the goals and objectives of the CAEA, OPC argues that the "single most daunting barrier to the creation of a sustainable energy infrastructure, both in the District of Columbia and the world at large, is the up-front cost." Mitigating the high up-front costs of renewable technologies and certain energy efficiency measures will enable greater access to such technologies, and mechanisms that provide consumers with access to financing on reasonable terms are a necessary component for achieving the long-term sustainable energy goals outlined in the CAEA. OPC states that of the $42.0 million in ARRA funding that the District is expected to receive for energy projects, the $22.1 million allocated for the State Energy Program appears to provide the most flexibility to improve or expand the District's current renewable energy and energy efficiency incentive programs.

OPC claims that prior to the recent banking/financial crisis, "private financing had made some headway in overcoming the barrier of high up-front costs, mostly for large renewable energy and energy efficiency projects for commercial customers." However, OPC argues that "little headway" has been made in overcoming the barrier of high up-front costs for residential and small commercial energy projects.

OPC states that available financing options are evolving and that no single option will satisfy all financing needs. OPC reviews a number of existing financing mechanisms that may be appropriate for the District.

Green Energy Loan Program

Known as the Berkeley or "FIRST" model, the program allows property owners to pay for the up-front costs of a project over 20 years as a line item on their property tax bills. If the property is sold, any remaining repayment obligation transfers to the new owner. The program is intended to have no direct cost for participating municipalities since program costs are included in the financing package. The County Council of Montgomery County, Maryland approved legislation on April 14, 2009 that created the Home Energy Loan Program ("HELP"), which is based on the Berkeley model.

OPC states that the District might consider a variation of the Berkeley model with the following components: a) DDOE establishes a loan program for renewable energy and energy efficiency projects targeted toward residential and small commercial customers; b) eligible customers could include solar cooperatives and multi-family properties; c) DDOE deposits ARRA funding in a community bank; d) the bank provides low-cost loans above the IRS minimum (perhaps 4.7% to 5.0%); e) loan terms between five (5) and twenty (20) years.

Community Renewable Energy

Many District residents are unable to use on-site renewable energy technologies due to roof shading, roof configuration, historic district restrictions, or because they are renters/condominium owners. In such circumstances, the **Community Solar** concept allows a consumer to own a virtual share of a large solar energy installation in the District that is, perhaps, located on a "brownfield" or other under-utilized parcel of land. Because of the economies of scale associated with a large solar facility, a customer-owner could see a positive return in just a few years that would continue for the 20-year+ life of the project. **Virtual net metering** ("VNM") is a similar concept that allows the electricity produced by a single solar installation to be credited to the benefit of multiple residences/businesses in a single building or "neighborhood" (as defined in the program). However, under VNM, the energy produced from the single solar facility would directly offset consumption on an electric bill(s), with credits allocated to all units' electric bills in a predetermined proportion.

Bond Financing via the SEU

DDOE should consider using bond financing to fund certain SEU programs. The primary benefit of bond financing is "to spread out the dollars so that more funds are made available for programs." The initial target for SEU bond financing would likely be large projects in the municipal government, university, schools and hospital markets. However, bond-financing models targeting smaller customers are also under development.

D. DDOE's Comments

DDOE states that it is important for financing to be available and accessible to qualified customers that seek to install renewable energy systems. DDOE notes that it established the Renewable Energy Incentive Program ("REIP") on February 23, 2009, pursuant to the CAEA. The REIP program provides incentives to District residents to purchase renewable energy equipment. Despite current economic conditions and with minimal advertising, demand for REIP funding has exceeded the current funding level of $2.0 million per year. From this, DDOE concludes that "affordable financing mechanisms should be pursued to defray the initial capital outlay and encourage maximum participation in renewables by District residents."

DDOE believes some financing mechanisms adopted by other states could compliment the REIP in making additional funding accessible to district residents. Some viable models examined include: a) State Loan Programs; b) Local Government/Municipal Loans; c) Renewable Energy Vendor Loans; and d) Power Purchase Agreements ("PPAs").

Oregon State Loan Program

Oregon's Small-Scale Energy Loan Program is administered by the Oregon Department of Energy. It offers the state's homeowners low-interest loans for upgrades using renewable energy, including passive solar, solar electric, and solar thermal projects. There is no maximum loan amount. Thus far, nearly 800 loans have been administered, totaling over $420 million.

New York Energy Smart Loan Fund

This is administered through the New York State Energy and Research Development Authority (NYSERDA), and offers loans up to $20,000 for 1-4 family homes. Interest rates for these loans will be up to 4 percent below the lender rate for 10 years. This approach results in an interest-rate discount.

Berkeley FIRST

Home-owners can apply for a municipal loan to install a solar power system with very little up-front costs to the home-owner. The loan is paid back through a voluntary increase in property taxes for 20 years. The FIRST program is currently in its pilot phase.

Renewable Energy Credit (RECs) Trading

Homeowners who create their own energy can sell RECs to the highest bidder (viewable via an online auction site). Atlantic City Electric offers to finance a solar project through a long-term contract to purchase the homeowner's RECs at a fixed price achieved through a competitive bidding process. This program will be in its pilot phase for three years.

SunPower Corp. Smart Financing

This financing mechanism does not have set rates like most state programs. SunPower will match a financing program to the property owner's specific situation and terms may be up to 25 years, allowing for fixed energy costs. Some local companies are entering into relationships with banks like SunTrust to finance the systems through a number of different means.

Power Purchase Agreements (PPA)

PPAs are financial instruments in which renewable energy generating systems are owned, operated and installed on the residential owner's property, and financed by the provider. No capital investment is required of the homeowner. This arrangement significantly reduces the up-front costs associated with installation of renewable systems. The generated energy is then sold back to the homeowner at

a much lower rate (for example, Washington Gas Energy Services solar photovoltaic PPAs).

DDOE states that most of the above programs are in their infancy. Thus, it is difficult to predict which of these may prove successful over the long-term.

E. Commission Remarks

The parties reviewed a number of programs and/or mechanisms that might provide affordable long-term financing to District customers, including the following:

1. An interest buy down to homeowners and small commercial customers (coupled with optional REC aggregation and a long-term renewable generator maintenance contract);
2. Berkeley-type HELP program;
3. Community Solar and/or VNM program;
4. State loan program;
5. REC trading program; and
6. Vendor-sponsored financing and/or PPA program.

Item No. 1 (from PEPCO) is simply a generic version of Item Nos. 2 and 4, in that all three mechanisms are designed to provide below-market financing rates to consumers. Of course, the larger the interest rate buy down, the greater the cost of the program.

Item No. 3 (from OPC) constitutes a "non-monetary" approach to reducing the upfront cost of renewable energy and energy efficiency investments, where large upfront costs are spread over a number of investors rather than a single entity. Item Nos. 5 and 6 are also non-monetary in nature, in that neither would depend upon a publicly funded subsidy. In general, the Commission views these non-monetary mechanisms as potential complementary programs to whatever form of interest rate buy down program the District may consider appropriate.

Within the interest buy down category of programs, we view the Berkeley-type model as perhaps offering the greatest potential (at this time) for reducing long-term financing costs in the District. As OPC mentions, a variant of the Berkeley HELP program was recently approved for Montgomery County ("MC"), Maryland.[18] The HELP program utilizes a revolving fund, consisting of federal stimulus and other federal monies. A HELP homeowner is required to obtain an energy audit that identifies feasible energy efficiency and renewable energy measures prior to applying to MC for a zero- or low-interest loan. The load is repaid by a special assessment on the homeowner's property tax bill over 15 years, with the assessment remaining on the property tax bill if the property is sold before the loan is repaid.

[18] *See* Attachment C for a copy of Montgomery County's enabling legislation and program summary.

As applied to the District, the Berkeley model might work as follows. Low-cost loans would be available to both residential and commercial customers. Rather than relying on an energy audit, eligible measures could be tied to those residential and commercial measures that currently qualify for federal tax credits. [19] Like MC, the District could deposit ARRA funding in a revolving account as seed money for initial loans. Repayment would be tied to property tax assessments. As loans are repaid, funding for new loans would become available.

The degree to which supplemental funding (i.e., beyond ARRA seed money) would become necessary would depend upon such factors as: a) the original account balance; b) the demand for loans; c) consumer default rates; and d) administrative costs. Supplemental funding, when necessary, would have to be obtained from one (or more) of the previously discussed funding sources. [20]

IV. Administrative Agent

This section reviews the parties' comments with respect to potential administrative agents.

A. PEPCO's Comments

Apart from a utility-based financing arrangement, PEPCO indicates that third party bank financing should be considered, along with establishing a capital fund using SETF resources that would be administered by a third party entity.

At this time, PEPCO's billing system can accommodate only a limited number of line item charges on customers' bill, which argues against establishing the utility as the administrative agent for a District loan program. Moreover, the accounting aspects associated with a *combined* loan and utility payment can be complicated, and "specific rules regarding partial bill payments would need to be established."[21] Also, billing changes could require significant programming hours. PEPCO recommends that all billing for loans/leases be handled by a third (i.e., non-utility) party billing system and that customer rebates be paid via the issuance of checks to participants. A separate data tracking system would be needed to assure that rebates are paid in an efficient manner.

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19 *See* Attachment D for a summary of qualifying measures.

20 The Commission would recommend that the ARRA, SETF and ACP be used for this purpose.

21 For example, suppose a customer makes a partial payment toward a combined bill that includes monthly electric charges and the monthly charges associated with an energy efficiency related loan. Accounting rules would be needed to determine the charge(s) to which the partial payment would be applied.

B. WGL's Comments

The primary alternatives to a utility-based program are SETF and/or EATF financing. If a utility-based system were to be adopted, WGL's billing system (and associated procedures and internal controls) would require significant modifications in order to be able to manage loan payments.[22] However, in no instance should the utility bear any risk of default on loan payments.

C. OPC's Comments

OPC suggests that DDOE could administer a loan program, and that bond financing might be undertaken by the SEU.

D. DDOE's Comments

DDOE reiterates that a third party financial institution should manage all loan transactions. DDOE disagrees with PEPCO that the District Government should assume any resulting bad debt expense. DDOE argues that the process of qualifying, issuing and processing loans is "very complex and should not become part of the core business of the District Government." In addition, DDOE points out that such action on the part of the District Government could violate the District's Anti-Deficiency Act, which prohibits the District's obligations from exceeding the amounts available in a specific fund.

E. Commission Remarks

Based on the parties' comments, the list of potential agents to administer a loan program include: a) PEPCO and WGL; b) DDOE; c) SEU; and d) community bank(s).

PEPCO and WGL make it clear that their billing systems, as currently configured, are incapable of processing consumer loans. As a result, there would likely be significant billing-system-related costs associated with assigning the utilities the task of administering a long-term financing program. In addition, neither utility has admitted to any experience in evaluating customer-specific credit risks or processing consumer loans. Taken together, these facts suggest that PEPCO and WGL are not the optimal entities to administer a loan program.

DDOE, like the utilities, professes zero interest in administering a prospective loan program. However, based on the Commission's review of the DDOE's operation of the C-6 loan program, DDOE has at least some experience working with community partners in administering a loan program.[23]

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[22] See Attachment A, Directed Question No. 13 for a detailed summary of the necessary billing system changes.

[23] *See* Attachment A, Commission's Remarks with respect to Directed Question No. 15.

OPC suggests that the SEU might issue bonds to finance the District's affordable financing program, but it is not clear to the Commission whether the SEU would be capable of running a loan program. If the SEU were to be involved, we believe that it would be in the same type of partnership role (with third party banks) that DDOE has fulfilled in the past.

Community banks/financial institutions are in the best position to administer a District loan program. If such institutions were to issue/administer loans from public sources of funding (like the hybrid Berkeley model discussed above), the banks would have no internal cost of funds to be recovered from consumers, i.e., they would be serving a purely administrative role. In that scenario, the District's administrative costs could be minimized by soliciting bids for the right to administer the District's loan program.

Of the above, the Commission finds that a third party bank(s) may provide the best choice for administrative agent, in partnership with DDOE or the SEU.

V. Conclusions – Two Straw-Man Proposals

As we indicated in Section I, the CAEA requires the Commission to examine how the electric and gas companies' billing systems can be used to collect payments from individuals that purchase renewable generating or energy efficiency systems. No parties have suggested that the utilities' billing system: a) should be modified to accommodate long-term loan payments; or b) could be easily modified to collect loan payments. However, in the case of *rebates* involving energy efficiency and renewable programs, both PEPCO and WGL have previously accommodated rebate programs (treating the rebate as a one-time credit on a customer's bill). In other words, PEPCO has not addressed any specific concerns regarding the handling of rebates. In that respect, if ARRA funding were to be used to provide rebates (in lieu of low cost financing) to District customers, such subsidies could be provided on customers' bills without the need to modify the utility's billing system.

Consistent with the above comments and discussion, we find that the best candidates at this time for a long-term affordable **financing program** are: 1) a general interest rate buy-down program; or 2) a modified Berkeley-type loan program as described in Section III. The key differences between the two (2) approaches involve: a) the role played by third-party banks (i.e., lenders versus administrators); and b) the Berkeley model's use of property tax assessments to repay subsidized loans. A straw-man proposal involving each of these options is presented below.

Among the **funding sources** that might be employed to finance either of the above programs, the Commission finds that the best options include: a) ARRA monies; b) the SETF surcharge; and c) ACP revenues. As a practical matter, some combination of these funding sources will probably be necessary.

To fulfill the role of an **administrator**, we believe the viable choices include: 1) the SEU; 2) DDOE; or 3) third party financial institutions. Given its history, at least initially, DDOE may be the leading candidate to act as administrator, in partnership with a third party bank(s).

Option A: An Interest-Rate Buy-Down Program Sponsored by Select Third-Party Banks and DDOE

In this model, the District would establish low-cost financing to support residential/small commercial installations of energy efficiency, conservation measures and renewable generators. DDOE argues that the process of qualifying, issuing and processing loans is "very complex and should not become part of the core business of the District Government." DDOE's "complexity" argument might also suggest that the process of qualifying, issuing and processing loans should also not become part of the core business of the District's electric and natural gas distribution utilities. Accordingly, third-party banks may provide the best choice for administrative agent, in partnership with DDOE (or the SEU).

DDOE would select the bank(s) for providing loans to consumers. Initially, DDOE would need to establish funding through the ARRA[24]. Later on, DDOE could consider using bond financing to fund certain SEU programs, with ARRA funds used, in part, to securitize the bonds.

Loans would originate with third-party banks that would be responsible for providing capital, verifying credit eligibility, processing loans, statements and payments, setting penalties for late payments, and shouldering a portion of bad debt expense. In other words, banks would be relied upon to handle all loan-related transactions. ARRA funding could pay for part of the administrative fees associated with managing loans and bad debt expenses. Such funding could also cover any interest rate subsidies.

Depending on the scope of ARRA funding, the initial loan applications might have to be restricted to electric energy efficiency and renewable resource programs. However, specific gas energy efficiency programs (such as weatherization and appliance replacement programs) could still qualify for ARRA-related subsidized financing.[25]

Program Advantages:

1. It is straight forward and can be implemented quickly, e.g., it does not require changes to the utilities' billing systems;

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[24] As DDOE indicates, it is well aware of the funding opportunities made available through the ARRA, particularly the State Energy Program ("SEP"), the Weatherization Assistance Program ("WAP") and the Energy Efficiency and Conservation Block Grant ("EECBG") funds. Moreover, DDOE indicates that it has met all the requirements for receiving available funds.

[25] To the extent that certain gas energy efficiency programs were not eligible for ARRA funding, SETF funding would be needed for the gas side of the loan program. Our understanding is that for WAP and appliance replacement programs, ARRA funding is available for gas applications.

2. ARRA funding will be available;
3. Banks will handle the loan applications; and
4. DDOE has implemented a loan-related RETF Program, i.e., the Energy Efficiency Mortgages and Loans Promotion Program (Program C-6); thus, DDOE has some experience working with banks in administering a loan program.

Potential Concerns:

1. There may be a significant delay in DDOE initiating such a program (due to DDOE's other tasks and additional work involving ARRA application/implementation); specific Council action involving timelines/deadlines may be necessary;
2. DDOE indicates that if SETF funding needs to be used, the SEU should make all decision regarding such a program. This would suggest that no final decisions can be made at this time. However, the SEU Advisory Board has just started to meet and it may take time before the SEU is selected;
3. DDOE has not volunteered to initiate such a program, and a high degree of cooperation among DDOE, the SEU and participating banking institutions will be necessary for success;
4. The success of the program will also depend upon the active participation of banking institutions, whose interest in participating in the lending program is, at this time, uncertain; and
5. The method used for selecting banks must be well-defined and offer a level playing field for all applicants.

Summary

The Option A straw-man proposal would consist of the following components:

- DDOE establishes initial ARRA funding for the program, and an initial program budget;
- DDOE establishes the exact role of the banks vs. DDOE in offering the program (e.g., which entity will do marketing, promotions, customer education etc.);
- Major funding source will be ARRA[26];
- Supplemental funding will be the SETF and ACP[27];
- Qualified customers would include both residential and small commercial customers;

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[26] OPC points out there are $22.1 million allocated for State Energy Program funding purpose. It should be noted the SEP funding is for electric programs only (not gas).

[27] ARRA funding will be focused on Electric programs. Some specific gas programs such as WAP and appliance replacement programs can also qualify for ARRA funding. SETF funding can be used to supplement the gas programs, if necessary.

- The interest rates for residential and small commercial customers would be set approximately 2 to 4 percent below market rates, with the minimum loan set at $5,000 and the maximum at $50,000; (DDOE, of course, can propose alternative levels);
- Eligible customers could include solar cooperatives and multi-family properties;
- Consumers would be required to use loan funds for approved energy efficiency, conservation and renewable applications;
- Loan duration will be three to 15 years or shorter, as defined by DDOE and the third party banks;
- Loans should originate with third party banks that would be responsible for verifying credit eligibility, processing loans, issuing statements and collecting payments, and shouldering bad debt expense (DDOE can consider providing partial bad debt expense reimbursement, if appropriate);
- A maintenance contract covering the life of the loan or lease should be a requirement for participation in any renewable generation program to ensure the continuing operation of the generator;
- Consumer education regarding how to obtain financing should be conducted;
- Purpose of the loan includes gas[28] and electric energy efficiency programs and renewable resource programs (purchases and leasing);
- To be consistent with CAEA, the renewable applications should include passive solar, solar electric and solar thermal projects; other qualified renewable resources as defined in CAEA are also eligible;
- Initially, DDOE would be the formal administer of the program,[29] pending selection of the SEU; and
- Rather than relying on energy audits, eligible measures could be tied to those residential and commercial measures[30] that currently qualify for federal tax credits. (See Attachment D.)

Option B: Low-Interest Loan Program such as Implemented in Montgomery County ("MC"), Maryland

As previously discussed, this model utilizes a revolving fund, consisting of federal stimulus funding. The MC program is restricted to homeowners, and the applicant is required to obtain an energy audit that identifies feasible energy efficiency and renewable energy measures prior to applying for a zero-interest or low-interest loan. A homeowner voluntarily obtains a home energy audit from a certified auditor to identify the universe of cost effective energy efficient and renewable energy measures. The homeowner then takes the results of the audit to the County, which would provide a zero-

[28] ARRA can finance specific gas programs, such as appliance replacement and weatherization programs, and SETF can be used for other loans related to gas energy efficiency measures/programs.

[29] This was suggested by OPC.

[30] As required by CAEA, solar thermal system and weatherization measures are qualified as well.

interest or low-interest loan, including the cost of the audit. The loan is repaid by a special assessment on the homeowner's property tax bill over 15 years, with the assessment remaining on the property tax bill if the property is sold before the loan is repaid. Therefore, the loan is secured through a lien on the homeowner's property. The County may contract with a non-profit or for-profit organization to take any action necessary to comply with the legislation. Such actions include:

a. Prepare and review, evaluate, and approve applications;
b. Execute loan agreements;
c. Secure and service loans;
d. Collect loan payments; and
e. Conduct collections for defaulted loans.

As applied to the District, applicants would not be required to obtain an energy audit in order to receive low-cost financing. Instead, any renewable or energy efficiency investment that qualifies for a federal tax credit would be eligible for financing. Foregoing the energy audit step would streamline the loan application process, shorten the lead time necessary to make the program operational and save program resources (making more funding available for actual low-cost loans.) Energy audits could be reconsidered once the SEU is selected and other programs are in place.

DDOE would deposit ARRA "seed money" in a revolving fund, from which loans would be made to qualified applicants. DDOE would issue an RFP to banks interested in administering the District's loan program.[31] Banks would qualify all applicants for loans, acting purely as an administrative agent. As loans were repaid, new loans could be made.

In summary, the District's version of the MC model would include the following (major) components:

- DDOE issues an RFP to third-party banks for administrative services;
- DDOE establishes initial ARRA funding for the program, and an initial program budget;
- Major funding source will be ARRA monies, which would be deposited in a revolving fund;
- Supplemental funding will be provided by the SETF and ACP;
- Qualified customers would include both residential and commercial customers;
- Loans would be processed by third party banks that would be responsible for verifying credit eligibility;
- A maintenance contract covering the life of the loan or lease would be a requirement for participation in any renewable generation program to ensure the continuing operation of the generator;

[31] Ideally, third-party banks would be selected via a competitive bidding process in order to minimize administrative expenses. Alternatively, if DDOE's previous RETF-related working relationship with select banks proved to be beneficial, DDOE could contract with select banks directly.

- Rather than relying on energy audits, eligible measures could be tied to those residential and commercial measures[32] that currently qualify for federal tax credits (See Attachment D);
- Loan would be repaid by a special assessment on the homeowner's property tax bill over 15 years (with the assessment remaining on the property tax bill if a loan balance remains when the property is sold); and
- Loan payments would be deposited into a revolving account; as loans are repaid, new loans would be available.

Program Advantages:

1. Given the existence of the special property tax assessment, loan defaults should be minimized;
2. Property owners do not have to be concerned with payback periods when evaluating energy efficiency or renewable investments, since any remaining loan balance would revert to the (new) property owner; and
3. The administrative costs associated with the loan program should be minimized.

Potential Concerns:

1. New legislation would be necessary to enable the required special property tax assessment; other government agencies (such as the D.C. Office of Tax and Revenue) would need to be involved, and certain coordination would be necessary;
2. Since the frequency of loan payments would be limited to one payment per year, the cash flow generated by repayments would be lower than under a conventional loan program; this might initially restrict the potential to make new loans from the revolving account;
3. Special loan parameters may be necessary to accommodate the size of large commercial projects; and
4. Linking loan repayments to property taxes would limit/restrict the direct benefits of the program to the subset of District consumers that own property.

As we previously indicated, the Commission has not yet closed FC 1068. Therefore, the Commission will pursue any necessary follow-up actions concerning affordable financing, as directed by the Council.

[32] Solar thermal systems and weatherization measures are qualified as well.

ATTACHMENT A

ATTACHMENT A

Parties' Responses to the Commission's Directed Questions in Order No. 15148

1. How should "affordable financing" be defined/determined?

PEPCO

The term should be defined as "the availability of financing at reasonable terms to credit worthy consumers."

WGL

CAEA does not define the term. The definition of affordable varies with each potential borrower, depending on the customer's individual circumstances. Affordability will also be affected by the specific subsidies, tax incentives, etc. that are part of a renewable energy program. In short, affordability is a relative term. However, WGL states "the Commission may examine mechanisms that make long-term financing available under the best possible terms for energy consumers." Even in that event, however, the high cost of renewable technologies will put such facilities beyond the reach of most District residents. Instead, the Commission should include more affordable high efficiency natural gas appliances and technologies in any incentive plan.

2. Should financing rates be subsidized? If so, describe in detail.

PEPCO

Yes. The District should establish low cost financing to support residential/small commercial installations of energy efficiency, conservation measures and renewable generators. Such customers should be given a choice between rebates and a low(er) cost loan. Loan programs for larger commercial customers are allegedly more difficult to establish, require greater capital, and entail more significant default risk. In any event, such larger customers usually have a greater ability to borrow funds at more attractive interest rates. PEPCO recommends that interest rates for residential and small commercial customers "be set approximately 2 to 4 percent below market rates and minimum loan amounts set at approximately $5,000." Loan durations would normally range from three to fifteen years (with longer terms possible). Loans should originate with third party banks that would be responsible for providing capital, verifying credit eligibility, processing loans, statements and payments, and shouldering bad debt expense. Alternatively, the District could provide capital through available SETF funds, but PEPCO advocates that banks be

relied upon to handle all loan transactions. SETF funding should be used to cover interest rate subsidies, and might also be used to cover a portion of bank-related administration expense. Importantly, the Company claims that bad debt expense should be assigned to the entity responsible for determining credit eligibility.

WGL

The energy efficiency decisions made by consumers should be based on the economics of each individual customer's efficiency improvement. A subsidized financing rate should only be provided in situations where the improvement makes economic sense, but the homeowner is financially unable to go forward with the improvement at the prevailing market rate. If a subsidized financing program is implemented, DDOE should qualify customers for the program. The SETF and EATF would be appropriate vehicles to fund the program. While the EATF was established to fund existing low-income programs, WGL alleges that the CAEA "authorizes the Commission to issue rules to modify the programs funded by the EATF."

Commission Remarks

WGL's position with respect to the provision of subsidized financing is equivalent to stating that the energy efficiency project must be able to pass the Total Resource Cost ("TRC") test. Contrary to WGL's assertion, we can find no provision of the CAEA that permits the Commission to add to/change the programs funded by the EATF.[1] Indeed, the CAEA clearly states that "The Mayor, pursuant to Title 1 of the District of Columbia Administrative Procedure Act, approved October 21, 1968..., may issue rules to modify the assessments under subsection (b) of this section and the programs funded by the EATF."

3. Is the utility able to borrow at a lower interest rate than consumers? If so, what would be the impact of financing improvements on behalf of customers?

PEPCO

Yes, compared to the typical borrowing costs of residential and small commercial consumers. If utility financing were to be employed, any resulting interest costs, administrative fees, etc. would have to be

[1] For example, Section 211 (c) of the CAEA (as amended) specifies the following:
(c) The Energy Assistance Trust Fund shall be used solely to fund:

(1) The existing low-income programs in the amount of $3.3 million annually and an additional $1,563,000 for FY2009; and
(2) The Residential Aid Discount subsidy in the amount of $3 million annually.

recovered through a distribution surcharge and/or base rates. Borrowing costs would be lower if the District government were to assume any bad debt expense. Reduced financing costs would work to the benefit of customers that borrow funds.

WGL

Long-term rates depend on the financing source, and short-term rates may be quite high (e.g., credit cards). As such, the relative cost of borrowing for utilities and customers depends on the customer. The ratings impact on WGL's securities from financing renewable energy projects would depend on: a) the regulatory treatment of the outstanding loan balances; b) penalties for late payments; and c) other costs associated with consumer debt delinquency. If such costs were to become part of rate base and earn the same return as any other regulatory asset (without regulatory lag), there should be no theoretical impact on WGL's perceived creditworthiness. On the other hand, placing WGL at risk for exposure to consumer debt arising from customers' defaults could be detrimental to its ratings, and could raise WGL's cost of capital and thereby the cost of gas utility service to all customers.

Commission Remarks

As an example, PEPCO's generation- and transmission-related uncollectible expense is recovered within SOS administrative costs. In FC1076, PEPCO has proposed to recover its other uncollectible expense related to distribution through a surcharge. WGL is correct that if it cannot get cost recovery through rates, or get compensated for bad debt expense in some other way, any additional cost responsibility arising from customer defaults would increase WGL's risk exposure.

4. How should the cost of subsidized financing rates be recovered?

PEPCO

Available SETF funding should be used to cover interest rate buy down costs, and potentially cover a portion of bank-related administration expense. Again, bad debt expense should be assigned to the entity responsible for determining credit eligibility.

WGL

The SETF and EATF can be used to support the implementation of various programs to achieve energy efficiency in the District, without the need to establish a new cost recovery mechanism. A program could be implemented to include a specific amount of funds that could be made available to cover either all or a portion of the interest on the financed

amount. The availability of subsidized financing would then be based on an evaluation of the benefits of such a program compared to other programs under consideration by the Sustainable Energy Utility ("SEU").

Commission Remarks

The SEU would indeed be the proper agency for establishing additional loan programs. In the past, DDOE has implemented a low-cost loan program in partnership with community banks.

5. Should there be set limits (minimum and/or maximum) on the amount available for financing, or on the term?

PEPCO

Yes, the minimum should be set at approximately $5,000 and the maximum at $50,000. Actual minimums should be established after discussions with potential lenders. Consumers should be required to use loan funds for approved energy efficiency, conservation and renewable applications. Typical loan duration would be between three and fifteen years, subject to the input of potential lenders.

WGL

Yes, depending on the type of equipment and total amount financed. The maximum financing term should always be less than the useful life of the related equipment (typically three to five years for residential energy efficiency equipment). Again, the overall availability of financing should be based on the programs under consideration and the accessibility of SETF and EATF funding.

Commission Remarks

The utilities' comments are consistent. Both suggest that the financing term should be less than the useful life of the related equipment. However, unlike PEPCO, WGL did not propose a specific number of years. Based upon the estimated installation cost of $10,000 per kW suggested by the utilities, we believe PEPCO's $5,000 to $50,000 is reasonable. For an average residential household, the solar PV system is generally sized between 2 kW and 5 kW. For a 5 kW system, we believe $50,000 is a reasonable estimate of the total cost. So, a loan amount of between $5,000 and $50,000 seems to be a reasonable starting point.

6. Should financing be available to lease solar or renewable energy systems?

PEPCO

Yes, if third parties would offer both leasing and financing. However, PEPCO cautions that recently "available capital for leasing opportunities has become significantly more difficult to find because of the reduced value of tax incentives in the absence of earnings. The primary owners of leased renewable generators have been major financial and banking firms. There is no tax benefit related to the use of SETF funds directly by the District of Columbia Government to finance leases." Finally, PEPCO states while a lease option may be attractive to certain customers, unlike an auto loan, the customer would not likely be able to return equipment at the conclusion of the lease term.

WGL

Yes, but WGL finds few (if any) companies currently offering financing on leased equipment. WGL recommends that the District provide incentives for both renewable technologies and natural gas appliances/systems that demonstrate efficiency and environmental quality improvements.

Commission Remarks

We share WGL's view that lease arrangements are not used very frequently. Another model that is often cited involves third party financing of the initial costs, with the associated generation sold back to the owner of the facility. At the same time, this third party will often serve as the agent to apply for RECs.

7. Are there any legal or regulatory issues associated with allowing such systems to be leased?

PEPCO

No, but the Company notes that existing federal tax incentives related to renewable generators currently preclude utilities from receiving investment tax credits associated with leasing.

WGL

None that WGL is aware of.

Commission Remarks

If the utilities are not eligible for tax credits, they would not have much incentive to pursue leasing options.

8. Would the financing and/or leasing of renewable energy systems impact the ownership of any renewable energy credits ("RECs") or environmental attributes associated with such systems?

PEPCO

The answer depends on the terms of the lease. However, the customer leasing the generator would generally be entitled to (i.e., own) the associated RECs.

WGL

Based on WGL's understanding, the customer that installs the renewable energy system would retain ownership of the associated RECs, whether the system is leased or purchased.

Commission Remarks

We agree that, barring an explicit (re)assignment of RECs in a given lease, the individual/entity leasing the generation equipment would retain ownership of the associated RECs.

9. Should the RECs be accepted as partial payment for the amount financed?

PEPCO

This approach represents a potential financing option. However, PEPCO does not currently recommend this method due to the difficulty of projecting forward REC prices. In other words, using RECs to repay loans would expose the lender (or customer) to the risk that the loan would not be paid back on a timely basis.

WGL

While markets exist for the purchase/sale of RECs, WGL is unaware of any financial institutions that accept RECs as partial payment for loan or lease payments. If permitted, such an option could be beneficial to owners of renewable energy systems.

Commission Remarks

If the price terms can be clearly specified, mingling REC credits with loan or lease payments is an option to consider.

10. How can the District ensure that financed renewable energy systems remain operational over time?

PEPCO

A maintenance contract covering the life of the loan or lease should be a requirement for participation in any renewable generation program to ensure the continuing operation of the generator.

WGL

The District "should carefully review contract options available to consumers to ensure that they contain an option for a maintenance agreement or warranty for the system." If further assurances are required, the District "may have to regulate the individual operators of the systems."

Commission Remarks

Both PEPCO and WGL recommend that a maintenance contract be required. We agree.

11. Which entity should bear the risk of default on loan payments? How will default costs be shared?

PEPCO

The entity responsible for determining customer credit eligibility (typically a third party bank) should bear such risk.

WGL

The SETF and EATF programs should cover the cost of subsidized financing and issuing loans. If a default were to occur, the costs would be borne by all customers that contribute to the SETF and EATF. However, WGL states "in no instance should the utility bear any risk of default for any aspect of the loan payments."

Commission Remarks

It is clear that both WGL and PEPCO refuse to shoulder the default risk and do not want to be the entity directly involved in a consumer financing program.

12. What actions can be taken to facilitate financing and payments for energy service companies' ("ESCOs"): a) installation of renewable facilities for customers; or b) installation of energy efficient measures for the customer?

PEPCO

"ESCOs should be informed of all available rebates and financing alternatives to support the installation of renewable generators and/or energy efficiency measures." The District should encourage ESCOs to promote the availability of financial services directly to consumers. Moreover, all forms of financial assistance provided through a District government or utility program should go directly to the end-use customer.

WGL

In order to facilitate financing, ESCOs and equipment installation contractors must be willing and able to provide the financing to the end-user. Best practices require a strong contractor network and appropriate incentives for contractor participation (since contractors often have certain financing options already available for customers). Moreover, the demand for financing must be stimulated via promotion to end-users. Utilities and financial assistance organizations could promote energy efficiency financing, and energy management companies and related associations could promote renewable facilities.

Commission Remarks

To facilitate financing through an ESCO's energy efficiency programs, the shared savings approach is often used. Furthermore, regarding energy efficiency, rebates have often been used to finance the programs. With regard to renewables, ESCOs can either install or lease the facilities to the customers or offer low-cost financing. On any ESCO or bank loan, default risk is a potential issue.

13. What changes, if any, would be necessary to PEPCO's or WGL's billing systems to: a) facilitate payments of financing for purchasing renewable generating systems; or b) make energy efficiency improvements to homes and businesses; and c) ensure that rebates are paid efficiently where rebate programs are offered?

PEPCO

The Company's current billing system can accommodate a limited number of line item charges on bills, but the accounting aspects associated with a combined payment can be complicated, and "specific rules regarding

partial bill payments would need to be established."[2] Also, billing changes could require significant programming hours. The Company recommends that all billing for loans/leases be handled by a third (i.e., non-utility) party billing system and that customer rebates be paid via the issuance of checks to participants. A separate data tracking system would be needed to assure that rebates are paid in an efficient manner.

WGL

a. The Company's billing system (and associated procedures and internal controls) would require significant modifications in order to be able to manage such a billing initiative. Currently, the billing system is able to track/bill "simple merchandise contracts under $100,000 for Sales Service customers." However, changes would be necessary to add financing or leasing charges to WGL's billing statement, and to add revenue and collections reports. The billing system applicable to Delivery Service customers does not even have tracking functionality, and would require a significant effort to enable it. To the extent that the cost of certain renewable projects exceeds $100,000, significant Sales Service billing system modifications would be required to expand the current limit. Moreover, the existing merchandise functionality is only operable once the contract has been established. Ever since WGL terminated its programs to support consumer financing for appliances, it has taken no action to monitor/upgrade its Sales Service billing system to reflect the accounting controls required in today's regulatory environment. As such, the Company has not undertaken any recent assessment of the costs necessary to make such changes. Finally, customer service capabilities, financial reporting, cash management and internal controls would need to be modified/enhanced to provide for appropriate capture and reporting of information.

b. Same as part (a), except that the existing $100,000 limit would be less of an issue.

c. This functionality does not exist in the Company's billing systems and would need to be fully developed. A separate option would be to issue rebates through a third party provider.

Commission Remarks

Even though the utilities have not offered much in the way of specifics regarding the cost of modifying their billing systems to enable the accounting functions necessary

[2] For example, suppose a customer makes a partial payment toward a combined bill that includes monthly electric charges and the monthly charges associated with an energy efficiency related loan. Accounting rules would be needed to determine the charge(s) to which the partial payment would be applied.

to provide consumer loans, it is apparent that such modifications would be neither seamless nor costless.

14. Are there any other financing arrangements (not restricted to utilities) that the District should consider?

PEPCO

Yes, third party bank financing should be considered, along with establishing a capital fund using SETF resources that would be administered by a third party entity.

WGL

Yes, the SETF and EATF (per WGL's response to Question. 2).

Commission Remarks

Bank financing is a possible option if the additional administrative costs and default costs are properly handled.

15. What programs and resources currently exist in the District that provide long-term financing available to energy consumers for renewable energy generating systems and/or home and business improvements that increase energy efficiency? In your response please include: a) home equity loans; b) unsecured consumer loans; c) dealer financed installment plans; and d) energy efficient mortgages.

PEPCO

District entities offer home equity loans and unsecured consumer loans. The Company states that dealer financed installment plans vary significantly between installers, and should be examined on an individual basis. PEPCO is unaware of any available energy efficiency mortgages in the District at the present time.

WGL

The Company does not have first-hand knowledge of long-term financing mechanisms in place in the District (or in other states). Instead, WGL refers the Commission to the Database of State Incentives for Renewables & Efficiency (DSIRE) at www.dsireusa.org.

Commission Remarks

In the past, DDOE initiated the Energy Efficiency Mortgages and Loans Promotion Program (C-6). However, this program was folded into the Home Energy Ratings System Program (HERS)[3]C-5 Program since DDOE concluded that there was no need to keep these two programs separate. DDOE stated that "once energy efficient mortgage and loan products are available in the District on an attractive and consistent basis, the primary channel of promotion will be the audits conducted by the C-5 program."

According to DDOE, the baseline condition for this program was that at launch there were no energy efficiency loans or mortgages available to District residents, and there were no energy audits of District housing being performed that could serve as the basis for energy efficiency mortgages and loans. The C-6 program activities during the pilot period have consisted of (1) developing partnerships with lending institutions and loan guarantors that would offer energy efficiency mortgages and loans and (2) development and dissemination of materials explaining the advantages and benefits of the C-5 HERS audits and energy efficiency mortgages and loans. At the mid-term, the program had developed partnerships with loan guarantors Fannie Mae and the Federal Housing Administration and three lending institutions in the District – Industrial Bank, the District of Columbia Government Employees Federal Credit Union and the Operation HOPE center in the District – along with housing counseling organizations in the District. The program also developed a comprehensive energy efficiency information package for distribution to C-5 HERS audit clients at the time of audit. DDOE also indicated that at the close of the pilot period, no HERS audit-based mortgages or loans had been made. DDOE admits that the goals regarding (1) initiating the availability of energy efficiency loan products on a consistent basis and (2) ensuring that the loan product is attractive in the market are unrealistic. However, the program has been successful in developing partnerships and establishing consistent communication and promotion[4].

At present, DDOE is still implementing the HERS program. After the HERS audit, it seems to be efficient to refer customers to the alternative financing option, since they know which parts of their homes need improvement. If DDOE has developed some relationships with banks in the past, DDOE can perhaps continue with such a model in the future.

16. What gaps or needs exist that are not met by current financing instruments?

PEPCO

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3 The CAEA specifies HERS as a temporary electricity program that is funded only through FY2009. Currently, a single-family homeowner with 4,000 square feet or less can get a free home energy audit from DDOE. DDOE notes in its website, "Auditors will suggest specific cost effective, energy efficient improvements that should be done to reduce the home's operational costs and improve comfort. Such improvements and ratings may help you qualify for lower rate mortgages or energy efficiency home mortgages. Your energy rating should also help sellers be more attractive to home buyers."

4 See DDOE's Impact Evaluation filed on May 19, 2008.

Loans are not readily available in today's economic climate, and many residential customers find it difficult to finance installation through home equity loans. Making loans available to customers at "attractive interest rates" may be a viable alternative to rebates. Such loans may enable customers without access to needed capital to make investments in efficiency and conservation projects that will pay for themselves, over time. Available loans may also enable certain homeowners to install renewable generators, if desired.

WGL

"Current financing instruments lack specific ties to the benefits derived from renewable energy programs." As an example, if interest on loans for renewable energy projects were deemed tax deductible, it might "take the pressure off the home-equity market." From a supply side perspective, subsidies/grants might be paid to "green" lenders to offset their startup costs and/or credit risks.

17. How are the needs of long-term financing different for homeowners, landlords and owners of commercial properties?

PEPCO

The availability of low cost capital will differ across entities, with larger commercial property owners typically having access to lower cost capital. Greater access to lower cost capital may be expected to increase the willingness of homeowners and small business to install energy efficiency measures. On the other hand, even if lower cost capital were to be made available, landlords may have relatively little interest in energy efficiency upgrades or renewable generators if their tenants are individually metered.

WGL

Financing needs differ according to which entity reaps the renewable system's benefits, and who bears the associated costs. For homeowners, reductions in energy bills can be directly applied to paying down loans. On the other hand, homeowners tend to have lower than average amounts financed, which makes this group less attractive to lenders (i.e., fixed origination costs must be recovered over fewer dollars.) The end result is that lenders tend to charge higher rates for small loans. Landlords with individually metered tenants would see no savings from renewable system installations. Group metered landlords may not charge tenants more than the total amount of the bill, so they generally cannot recover the costs of any renewable financing.[5] Finally, owners that occupy "owned space" are

[5] Possible exceptions that would permit such landlords to recover costs include: a) government sponsored programs (including tax breaks); and b) the potential to increase rents to live in a "green" building.

similar to homeowners with respect to incurring cost and realizing savings, while owners who rent office space are more like landlords (i.e., little or no incentive to invest in energy efficiency).

Commission Remarks

Even under submetering, the landlord will have limited incentives to install solar panels, etc., unless incentive programs exist.

18. For which kinds of improvements or renewable energy generating equipment is the need for long-term financing most prominent?

PEPCO

Among homeowners and small commercial customers, the greatest need is financing to cover the installation of renewable generators and energy efficiency measures costing $5,000 or more (e.g., HVAC equipment).

WGL

According to the Energy Solutions Center ("ESC"), the need for long-term financing is directly related to the expense and lifetime of the related investment.[6] ESC contends that, in today's marketplace, rebates are more prevalent than financing. The greatest energy savings come from heating, cooling or power generating equipment, with the latter two (2) being more costly (and therefore having the greatest need for financial incentives.) WGL goes on to illustrate the "unique characteristics that natural gas possesses that allow it to meet the environmental and energy efficiency improvements being sought by the Commission while doing so in a cost-effective manner." Citing ESC, WGL claims that natural gas space heating, water heating, clothes drying and cooking appliances consume only 69% of the energy that would be required to run electric appliances. In addition, gas appliances reduce NOx emissions by nearly 90%, CO2 emissions by almost 80% and practically eliminate SOx emissions. Whereas a renewable technology application will typically require a redundant back-up source, gas appliances do not. In fact, gas applications often constitute an ideal backup for other renewable energy systems. Since gas applications are significantly less expensive to install than electrical applications, a wider audience may realize the associated benefits of gas (and thereby increase potential benefits). WGL concludes by claiming "if incentive programs are to be made available in response to the need for energy efficiency, natural gas is a key player."

[6] ESC is a natural gas technology commercialization and market development organization representing utilities, municipal energy authorities and equipment manufacturers/vendors.

19. What are the average costs for typical residential and commercial installations of renewable energy generating systems?

PEPCO

Smaller photovoltaic systems cost approximately $10,000 per kW to install in the District, with typical homeowner systems ranging from 2 kW to 3 kW in capacity. Larger systems cost approximately $8,000 per kW to install, but costs may be expected to decline somewhat over time.

WGL

The Company provides information gleaned from the American Solar Energy Society ("ASES"), Energy Information Administration ("EIA") and local contractors.

ASES: A 2 kW PV system costs approximately $20,000. To provide 50% of the electricity used by a small home in the District (i.e., average monthly electric bill of $100), a 5.23 kW PV system would be required, costing approximately $47,000, which equates to a 30-year payback. For a larger District home (average monthly electric bill of $300), a 13.31 kW PV system would be required (to provide a 50% bill reduction), costing approximately $120,000, which equates to a 27-year payback. For a commercial application with an average monthly bill of $500, a 34.37 kW PV system would be required to provide 100% of the customer's energy requirements. Such a system would cost approximately $309,000 and the payback would be about 23 years.

EIA: In 2005 dollars, the capital cost of a commercial solar system is around $6,115 per kW (i.e., *national* average). As such, a 34.37 kW system would cost approximately $210,000. For commercial wind generating systems, the national average cost is $4,000 per kW in 2005 dollars.

Contractors: Geothermal heat pumps are another form of renewable energy technology. Installation costs in the District might average: a) $6,000 per ton in equipment costs; b) $2,500 to $3,000 in retrofit ductwork (if needed); and c) $25,000 to $80,000 in drilling costs, per application.

Compared to the above applications, WGL states that installation of natural gas heating and water heating is "much more affordable." Since 2004, the average residential payment to install a gas service line is $1,855.[7] Equipment costs range from $5,000 to $8,000 (installed),

[7] Residential contributions are required only when the installed costs exceed two (2) years of anticipated revenues.

depending on the efficiency level of the appliances. Therefore, the average cost to convert a residential home to natural gas is less than $10,000 (with high efficiency appliances). (WGL notes that commercial natural gas applications are too varied to provide a meaningful average.)

20. What mechanisms to provide long-term financing have been implemented or proposed in other states that might be applicable or useful in the District?

PEPCO

The program most applicable to the District is likely to be one based on proposals in other PHI jurisdictions, notably Maryland. In Maryland, the program consists of the following: 1) an interest buy down to homeowners and small commercial customers on loans of up to fifteen years; 2) optional REC aggregation; and 3) a long-term renewable generator maintenance contract. Banks would typically provide the necessary capital, originate loans and process loan payments. The cost of the interest rate buy down would be funded via the existing SETF surcharge, another distribution bill assessment, or District general funds.

WGL

The Company does not have first-hand knowledge of long-term financing mechanisms in place in other states. Instead, WGL refers the Commission to the Database of State Incentives for Renewables & Efficiency (DSIRE) at www.dsireusa.org.

21. What impact will the federal tax credit of 30 percent of the cost for solar photovoltaic system installations have on the need for long-term financing of such systems for residential customers?

PEPCO

While the tax credit may increase the penetration rate of photovoltaics (among more affluent homeowners), it does not completely address the need of long-term financing. The situation may change when the demand for corporate tax incentives increase, since leasing would likely become a more attractive/widely available option.

WGL

The Solar Energy Industries Association ("SEIA") reports that after only two (2) years of ITC availability, the U.S. solar market grew by 45%. The SEIA forecasts that an extension of the Investment Tax Credit ("ITC")

(for all customer segments) would promote a steep escalation in PV installations through 2016 (from 500 MW of installed capacity to 2,150 MW or possibly even 5,700 MW). However, typical residential PV installations in the District range from $20,000 to $40,000, and WGL states that it is not clear how such systems are paid for (e.g., out-of-pocket, bank loan, home equity loans, etc.). Coupling the above with the effect of the current economic downturn, WGL concludes that it is not possible to discern what effect the tax credit will have on the need for long-term financing for residential PV systems.

22. What legislative change would be needed to implement specific recommended financing options?

PEPCO

None.

WGL

None, as long as financing is made available through the SETF and/or EATF.

Commission Remarks

Once a specific model is agreed upon, there may be a need for new legislation. It is too early to rule out that possibility.

OPC's Comments

In its general comments, OPC notes that since the Commission issued Order No. 15148 seeking the parties' comments, Congress had passed the American Recovery and Reinvestment Act of 2009 ("ARRA"). OPC opines that the ARRA would provide the District in excess of $42 million, a portion of which might be used to provide affordable financing for energy efficiency programs.[8]

OPC states that its office has consistently advocated for effective, efficient and affordable energy efficiency programs for District consumers. At the same time, OPC argues that programs implemented in response to the CAEA should be comprehensive, i.e., designed to help every District customer, in every ward and at every income level.

[8] OPC singles out the $22.1 million allocated for State Energy Program funding purposes. OPC does not endorse any specific funding program or project at this time, but offers to work with the Commission and interested stakeholders to develop programs that will make long term energy efficiency and renewable programs available to all District consumers.

After reviewing the goals and objectives of the CAEA, and summarizing the various programs currently funded by the Act, OPC argues that the "single most daunting barrier to the creation of a sustainable energy infrastructure, both in the District of Columbia and the world at large, is the up-front cost." Mitigating the high up-front costs of renewable technologies and certain energy efficiency measures will enable greater access to such technologies, and mechanisms that provide consumers with access to financing on reasonable terms are a necessary component for achieving the long-term sustainable energy goals outlined in the CAEA.

OPC claims that prior to the recent banking/financial crisis, "private financing had made some headway in overcoming the barrier of high up-front costs, mostly for large renewable energy and energy efficiency projects for commercial customers."[9] However, OPC argues that "little headway" has been made in overcoming the barrier of high up-front costs for residential and small commercial energy projects.

However, OPC notes that the ARRA provides many significant incentives to invest in renewable energy and energy efficiency. For example, for personal and business taxpayers who can take advantage of it, the ARRA's elimination of the federal investment tax credit ("ITC") cap effectively reduces the cost of a renewable energy system by 30%. The ARRA also extends/expands a residential energy efficiency federal tax credit so that a homeowner can receive a tax credit of 30% (up to a combined maximum of $1,500) on the cost of energy efficiency improvements made in 2009 and 2010.[10]

The ARRA also repeals the subsidized energy financing limitations on the ITC and energy efficiency tax credit. As a result, a project that receives subsidized financing from, say, a District government entity would remain eligible to take advantage of the ITC. For business customers, the ARRA also permits the option of receiving a 30% grant in lieu of taking a 30% tax credit for eligible projects, through 2010.

OPC states that of the $42.0 million in ARRA funding that the District is expected to receive for energy projects, the $22.1 million allocated for the State Energy Program appears to provide the most flexibility to improve or expand the District's current renewable energy and energy efficiency incentive programs. OPC recommends that DDOE "cast the broadest net possible so that it can consider all reasonable program options for renewable energy and energy efficiency measures that will meet the objectives of the CAEA."

Using ARRA funds to establish financing mechanisms could obviate the need to consider ratepayer funding for this purpose. However, OPC notes that the ARRA stimulus measures are designed to be temporary, and the CAEA's Renewable Energy Incentive Program ('REIP") is set to expire at the end of 2012. In other words, OPC

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[9] Such private financing relied heavily on tax equity financing, the market for which has been seriously eroded in the current economic climate.

[10] Eligible expenditures include water heaters, furnaces, boilers, heat pumps, air conditioners, building insulation, windows, doors and roofing.

concludes that "the bottom could fall out of the DC sustainable energy market at the end of 2012 if long-term financing mechanisms are not established."

OPC states that available financing options are evolving and that no single option will satisfy all financing needs. OPC reviews a number of existing financing mechanisms that may be appropriate for the District.

Green Energy Loan Program

Known as the Berkeley or "FIRST" model, the program allows property owners to pay for the up-front costs of a project over 20 years as a line item on their property tax bills. If the property is sold, any remaining repayment obligation transfers to the new owner. The program is intended to have no direct cost for participating municipalities since program costs are included in the financing package. OPC states that the Maryland General Assembly is currently evaluating a bill to implement a Berkeley-type program (i.e., House Bill 1236).

OPC states that the District might consider a variation of the Berkeley model with the following components: a) DDOE establishes a loan program for renewable energy and energy efficiency projects targeted toward residential and small commercial customers; b) eligible customers could include solar cooperatives and multi-family properties; c) DDOE deposits ARRA funding in a community bank; d) the bank provides low-cost loans above the IRS minimum (perhaps 4.7% to 5.0%); e) loan terms between five (5) and twenty (20) years.

Community Renewable Energy

Many District residents are unable to use on-site renewable energy technologies due to roof shading, roof configuration, historic district restrictions, or because they are renters/condominium owners. In such circumstances, the **Community Solar** concept allows a consumer to own a virtual share of a large solar energy installation in the District that is, perhaps, located on a "brownfield" or other under-utilized parcel of land. Because of the economies of scale associated with a large solar facility, a customer-owner could see a positive return in just a few years that would continue for the 20-year+ life of the project. **Virtual net metering** ("VNM") is a similar concept that allows the electricity produced by a single solar installation to be credited to the benefit of multiple residences/businesses in a single building or "neighborhood" (as defined in the program). However, under VNM, the energy produced from the single solar facility would directly offset consumption on an electric bill(s), with credits allocated to all units' electric bills in a predetermined proportion.

Bond Financing via the SEU

The primary funding of SEU activities under the CAEA is the SETF. DDOE should consider using bond financing to fund certain SEU programs, with ARRA

funds used, in part, to securitize the bonds. The primary benefit of bond financing is "to spread out the dollars so that more funds are made available for programs." The initial target for SEU bond financing would likely be large projects in the municipal government, university, schools and hospital markets. However, bond-financing models targeting smaller customers are also under development.

Commission Remarks

Given the size of the federal tax credits that are available for renewable energy and energy efficiency investments, a District financing program should be limited to that portion of the consumer's expenditure that is *not* covered by tax incentives. In other words, it does not appear reasonable to offer subsidized financing on the portion of an investment that is already subsidized by the federal government. To give an example, assume that a hypothetical (energy-efficient) replacement windows project were to cost the homeowner $5,000. If that customer were to qualify for a $1,000 federal income tax credit, the net cost to the homeowner would be $4,000. As such, the maximum amount of financing to be provided to that homeowner under any District financing program should be limited to $4,000.

OPC's Community Solar and VNM concepts seek to lower the cost of renewable energy and/or energy efficiency investments *by spreading the cost of a given project over multiple consumers.* These concepts appear to deserve further consideration, but their implementation would require changes to the District's net metering and/or interconnection rules.[11]

Reply Comments

OPC

OPC indicates that neither PEPCO's nor WGL's comments addressed the impact of the recently enacted ARRA on available financing options. OPC believes that the ARRA should be the initial starting point in the development and implementation of the District's renewable energy and energy efficiency financing mechanisms, as every dollar received via the ARRA is one less dollar to be paid by District ratepayers.

OPC presents a variation of the Berkeley, California "FIRST" program as a possible financing option for the District. Under this approach, DDOE would establish a loan program with funds deposited in a community bank. The bank would provide low-cost loans in terms between five and twenty years. PEPCO described a similar loan program concept. OPC states that both conceptual loan programs are fairly

[11] For example, a stand-alone Community Solar facility located in a brownfield is not "intended primarily to offset all or part of the customer's own electricity requirements." As such, it would not qualify as a "Customer-generator" under Section 999 of the District's Net Metering Rules. Similarly, under VNM, the energy produced from a common solar facility is used to offset the consumption appearing on the owners' electric meters, *which may or may not be located at the facility's site.* The District's Net Metering Rules do not currently permit multiple-meter and/or off-site crediting.

straightforward and could be implemented quickly in the District. OPC opines that such a program may be a good financing mechanism candidate for the Commission and the DDOE to explore further.

OPC also describes another financing option based on the Berkeley model. Under this approach, property owners receive a loan for the up-front costs of a renewable energy project, and are allowed to repay the loan over 20 years via a separate line item charge on their annual property tax bills. In fact, the county council of Montgomery County, Maryland approved legislation on April 14, 2009 that created the Home Energy Loan Program ("HELP"), which is based on the Berkeley model. Under HELP, a homeowner is required to obtain an energy audit that identifies feasible energy efficiency and renewable energy measures prior to applying to the County for a zero- or low-interest loan. The loan is repaid by a special assessment on the homeowner's property tax bill over 15 years and, like the FIRST program, the assessment stays on the property tax bill if the property is sold before the loan is repaid. The HELP program utilizes a revolving fund, and the Country is planning on using a portion of the federal stimulus and other federal dollars as seed money for the fund. OPC states that while the adoption of legislation based on the Berkeley model by Montgomery County is indicative of the attractiveness of this energy financing mechanism, the Office has not yet assessed if HELP is an appropriate model for the District.

With respect to the funding of financing mechanisms, OPC emphasizes that ratepayer funding should not be used for this purpose. Instead, current and potential federal funding sources should preclude any consideration of using ratepayer funds for this purpose. In support of its position, OPC cites the following language from the Draft Funding Opportunity Announcement, which permits entities:

> ...to use their ARRA funding not only to support current energy efficiency and renewable energy projects but also to seed sustainable programs and put in place long-term funding mechanisms such as revolving loans and energy savings performance contracting that will provide lasting benefits and lead to long-term market transformation.

Similarly, OPC notes that the funding opportunity announcement for the federal Energy Efficiency and Conservation Block Grant Program allows for 20% of the District's $9,593,500 allocation to be made available for seed money for revolving loan funds.

Furthermore, OPC cites two (2) potential federal funding sources for financing mechanisms included in separate bills introduced by Congressman Chris Van Hollen of Maryland's 8th District:

- National Home Energy Savings Revolving Fund Act, which would provide funding to local governments to offer no-interest loans to homeowners to make energy efficiency improvements; and

- Green Bank Act of 2009, which would create an independent lending authority to provide a comprehensive range of financing support to qualified clean energy and energy efficiency projects within the territorial United States.

While WGL and PEPCO suggest the use of SETF funding for a revolving loan program or other type of financing mechanism, OPC maintains its position that federal funds are the optimal funding source at this time.

Finally, OPC mentions that both WGL and PEPCO claim that the average cost for residential solar photovoltaic installations is $10,000 per kW. However, OPC notes that in Delaware, the average cost of a 4 kW residential photovoltaic installation is approximately $8,500 per kW, and that the cost trend for PV installations is downward. OPC notes that neither WGL nor PEPCO addressed the cost of solar hot water/thermal installations. OPC indicates that residential solar hot water installations in the mid-Atlantic region cost from $5,000 to $8,000, and if a radiant heat application is included, the cost may reach up to $12,000. Thus, such renewable technologies may be more affordable than WGL and PEPCO suggest. OPC recommends the Commission explore these options.

DDOE

DDOE's reply comments respond to the utilities' comments with respect to Directed Question Nos. 1, 2, 3, 4, 6, 10, 11, 14 and 20. In addition, DDOE replies to OPC.

1. How should "affordable financing" be defined/determined?

DDOE agrees with the overall definitions provided by the parties. In DDOE's view, "affordable" should mean that each borrower must be able to repay the loan in affordable installments. Affordability can be obtained by: a) extending the loan duration; b) reducing the interest rate; or c) providing a capital subsidy (to reduce the amount borrowed). Also, "long-term" should mean that the financing system itself should continue to be in place over a number of years.

DDOE opines that it is important for financing to be available and accessible to qualified customers that seek to install renewable energy systems. DDOE notes that it established the REIP on February 23, 2009, pursuant to the CAEA. The REIP program provides incentives to District residents to purchase renewable energy equipment. Despite current economic conditions and with minimal advertising, demand for REIP funding has exceeded the current funding level of $2.0 million per year. From this, DDOE concludes that "affordable financing mechanisms should be pursued to defray the initial capital outlay and encourage maximum participation in renewables by District residents."

With respect to WGL's proposal that natural gas should be included in any incentive plan, DDOE indicates that it would support the proposal so long as the natural gas is derived from renewable sources, e.g., landfills or sewage ponds. Moreover, DDOE suggests that WGL should clearly explain how the inclusion of natural gas would advance the goals listed in Section 201 (d) of the CAEA (pertaining to reduced per-capita energy consumption, increased renewable energy generating capacity, reduced growth in peak electricity demand, etc.).

Commission Remarks

We disagree that incentives for natural gas applications should be available only if the natural gas is derived from renewable sources. Section 213 of the CAEA requires that the Commission investigate affordable financing options for either the purchase of renewable energy generating systems *or for home and business improvements that increase energy efficiency*. Since the CAEA specifically targets *energy efficiency*, we conclude that it would be inappropriate for the District's prospective affordable financing programs to exclude energy efficient natural gas appliances or applications.

2. Should financing rates be subsidized? If so, describe in detail.

DDOE agrees with PEPCO that low-cost financing or rebates should be provided to District customers and that third-party financial institutions be responsible for all aspects of loan transactions, including any associated bad debt expense. DDOE has no specific objection to PEPCO's suggestion that SETF funds be used to cover interest buy down costs or a portion of bank-related administrative expense. However, DDOE notes that the SEU has final decision on how SETF funds will be used. Thus, DDOE concludes that while it is possible to develop recommended financing mechanisms for the SEU's consideration, no final decisions in this area can be made at this time.

DDOE takes exception to WGL's view that *both* SETF and EATF funds should be considered for subsidizing financing rates. DDOE argues that the CAEA requires that the EATF be used solely to fund existing low-income and Residential Aid Discount programs. Any diversion of EATF funds for other purposes would require: a) an increase in the overall EATF assessment level; and b) an amendment to the CAEA to permit alternative uses of such funding.

Commission Remarks

The SEU is charged with developing programs that are to be funded by the SETF. However, a subsidized financing rate is no different (conceptually) from any number of customer rebate or incentive programs. In that sense, the Commission finds that a valid argument exists that an affordable financing program(s) *should be* partially financed by the SETF, so that such programs are made to compete with all other energy efficiency programs for scarce SETF dollars.

We concur with DDOE that the CAEA does not appear to permit EATF funding to be used for anything other than the specific low-income and RAD discount programs cited in the legislation.

3. Is the utility able to borrow at a lower interest rate than consumers? If so, what would be the impact of financing improvements on behalf of customers?

DDOE reiterates that a third party financial institution should manage all loan transactions. DDOE disagrees with PEPCO that the District Government should assume any resulting bad debt expense. DDOE argues that the process of qualifying, issuing and processing loans is "very complex and should not become part of the core business of the District Government." In addition, DDOE points out that such action on the part of the District Government could violate the District's Anti-Deficiency Act, which prohibits the District's obligations from exceeding the amounts available in a specific fund.

Commission Remarks

DDOE's "complexity" argument might also suggest that the process of qualifying, issuing and processing loans should not become part of the core business of the District's electric and natural gas distribution utilities.

4. How should the cost of subsidized financing rates be recovered?

DDOE reiterates that it does not object to PEPCO's proposal to use SETF funding to subsidize financing rates prior to the implementation of the SEU. However, DDOE concludes that SETF funds should not be solely relied upon for this purpose.

With respect to WGL's comments, DDOE again distinguishes between possible SETF and EATF funding options. However, DDOE does agree with WGL that "an evaluation be performed and comparisons made between the benefits of any financing programs, and other programs administered by the SEU." DDOE would also agree that limits be placed on the amount of any funding used for subsidized financing.

6. Should financing be available to lease solar or renewable energy systems?

DDOE agrees with the parties that financing should be available for leasing, since leasing minimizes up-front costs and helps to make solar systems more affordable. To the extent that financing is to be permitted for natural gas systems, DDOE reiterates that the natural gas must be derived from renewable sources.

Commission Remarks

Question No. 6 relates specifically to the leasing of solar or renewable energy systems, not energy efficiency applications. As such, we would agree with DDOE that any natural gas system would have to be derived from renewable sources in order to be considered a "renewable energy system".

10. How can the District ensure that financed renewable energy systems remain operational over time?

DDOE supports PEPCO's proposal that a maintenance contract covering the life of the loan should be a requirement for participation in any renewable generation program. DDOE also suggests that there be "some consumer education" (presumably directed at how a system is to be operated).

11. Which entity should bear the risk of default on loan payments? How will default costs be shared?

DDOE agrees with WGL that the utility should not bear the risk of default on loan payments. Rather, such responsibility should fall to the third party financial entity that issues the loan and approves the credit worthiness of the customer.

14. Are there any other financing arrangements (not restricted to utilities) that the District should consider?

DDOE agrees with PEPCO's proposal for third-party financing since: a) such parties represent the most efficient vehicle for determining customers' credit worthiness, etc.; and b) the proposal would preserve the core business of the District's utilities while allowing DDOE to focus on energy efficiency and conservation measures.

Commission Remarks

DDOE comments make it clear that it also has no interest in performing the duties/functions of a financial institution.

20. What mechanisms to provide long-term financing have been implemented or proposed in other states that might be applicable or useful in the District?

DDOE believes some financing mechanisms adopted by other states could compliment the REIP in making additional funding accessible to district residents. In addition to bank-secured and unsecured loans, some viable models examined include: a) State Loan Programs; b) Local Government/Municipal Loans; c) Renewable Energy Vendor Loans; and d) Power Purchase Agreements ("PPAs"). Examples of each follow.

<u>Oregon State Loan Program</u>

Oregon's Small-Scale Energy Loan Program is administered by the Oregon Department of Energy. It offers the state's homeowners low-interest loans for upgrades using renewable energy, including passive solar, solar electric, and solar thermal projects. There is no maximum loan amount. Thus far, nearly 800 loans have been administered, totaling over $420 million.

New York Energy Smart Loan Fund

This is administered through the New York State Energy and Research Development Authority (NYSERDA), and offers loans up to $20,000 for 1-4 family homes. Interest rates for these loans will be up to 4 percent below the lender rate for 10 years. This approach results in an interest-rate discount.

Berkeley FIRST

Home-owners can apply for a municipal loan to install a solar power system with very little up-front costs to the home-owner. The loan is paid back through a voluntary increase in property taxes for 20 years. The FIRST program is currently in its pilot phase.

Renewable Energy Credit (RECs) Trading

Homeowners who create their own energy can sell RECs to the highest bidder (viewable via an online auction site). Atlantic City Electric offers to finance a solar project through a long-term contract to purchase the homeowner's RECs at a fixed price achieved through a competitive bidding process. This program will be in its pilot phase for three years.

SunPower Corp. Smart Financing

This financing mechanism does not have set rates like most state programs. SunPower will match a financing program to the property owner's specific situation and terms may be up to 25 years, allowing for fixed energy costs. Some local companies are entering into relationships with banks like SunTrust to finance the systems through a number of different means.

Power Purchase Agreements (PPA)

PPAs are financial instruments in which renewable energy generating systems are owned, operated and installed on the residential owner's property, and financed by the provider. No capital investment is required of the homeowner. This arrangement significantly reduces the up-front costs associated with installation of renewable systems. The generated energy is then sold back to the homeowner at a much lower rate (for example, Washington Gas Energy Services solar photovoltaic PPAs).

DDOE notes that most of the above programs are in their infancy. Thus, it is difficult to predict which of these may prove successful over the long-term. In addition, particularly with the influx of stimulus dollars, states may employ additional mechanisms that may serve as useful models for the District.

Reply to OPC

DDOE is generally in agreement with the goals and principles outlined in OPC's comments with regard to the design and development of comprehensive programs and plans pursuant to the CAEA. As stated by OPC, DDOE will also seek to work with the Commission, OPC and all other stakeholders to ensure that the SEU designs and delivers programs that will make long term energy efficiency and renewable energy programs available to all District consumers. DDOE concurs with OPC that long-term financing solutions must be implemented to last beyond temporary stimulus funding.

With regard to the ARRA, OPC recommends that DDOE do all it can to "consider all reasonable program options for renewable energy and energy efficiency measures that will meet the objectives of the CAEA." DDOE assures OPC, the Commission and all other stakeholders that DDOE is well aware of the funding opportunities made available through the ARRA, particularly the State Energy Program ("SEP"), the Weatherization Assistance Program ("WAP") and the Energy Efficiency and Conservation Block Grant ("EECBG") funds. DDOE has met the requirements for receiving available funds. DDOE states that it is vigorously pursuing all possible avenues based on guidance from DOE.

DDOE is in agreement with OPC that trust funds approved from sustainable energy program should not solely be relied upon to finance renewable energy generating systems. OPC also notes other options for generating and sharing energy among District residents. DDOE also considered the alternative of aggregating energy produced from shared residential roofs and business, as well as community and faith-based buildings. DDOE believes that at a minimum, new regulations would be required to govern the process by which residents, businesses and utility companies go off-grid via these methods.

ATTACHMENT B

FOR IMMEDIATE RELEASE

Investing in Residential Energy Efficiency: Leveraging Private Capital

CONTACT: Mark Wolfe, EPC: 202-237-5199, 202-320-9046 (cell)

(August 25, 2009, Washington, D.C.) – The Energy Programs Consortium released a report today calling on the federal government to support a national program to increase residential energy efficiency across the nation. The report found that a modest federal investment averaging $1,500 a unit could 3.75 to 15 times their value in private capital to fund the national retrofit program, or approximately $5 billion for every $1 billion in federal funds

The value of energy savings when applied to an energy loan would result in a net savings to the borrower as well as pay the full cost of the measures installed. For a low-income family, the annual energy savings in the first year would be $642 (including the value of carbon sales), resulting in a net savings of $124 a year under a fifteen-year loan and $180 a year under a thirty-year mortgage. For a middle-income family, the annual savings would be $56 for an energy efficiency loan and $262 for a mortgage loan.

The report also noted that the design of a national energy efficiency retrofit program must also take into account the situation of low-income households. These households occupy 35 percent of the nation's housing units, and account for 31 percent of total national residential energy consumption. A large majority of these low-income households have overwhelmingly high housing costs – 29 percent spend more than 60 percent of their income on housing costs alone. As such the report recommends that the subsidy be tiered with grants of up to $2,000 for low income, $1,000 for middle income and $500 for high income.

A copy of the report can be downloaded from the EPC website:

http://www.energyprograms.org/briefs/082509-EnergyEfficiencyFinanceRept.pdf

About Energy Programs Consortium (EPC) EPC is a 501©(3) nonprofit organization conducting policy research and demonstration programs sponsored by the four main organizations representing state energy and regulatory agencies: the National Association of State Energy Officials; the National Energy Assistance Directors' Association; the National Association of Regulatory Utility Commissioners; and the National Association of State and Community Services Programs. For more information on EPC, please visit our Web site: http://www.energyprograms.org

ATTACHMENT C

County Council
Montgomery County, Maryland

Search Council Web

Montgomery Council Becomes First in Region to Adopt Home Energy Loan Program

- Release ID: 09-053
- Release Date: 4/14/2009
- Contact: Neil H. Greenberger 240-777-7939 or Jean Arthur240-777-7934
- From: Council Office

Montgomery Council Becomes First in Region to Adopt Home Energy Loan Program

Councilmember Berliner's Bill to Provide Zero Interest Loans
For Energy-Efficient/Renewable Energy Home Retrofits

ROCKVILLE, Md., April 14, 2009—The Montgomery County Council today unanimously approved legislation proposed by Council Vice President Roger Berliner (D—District 1) to create a County Home Energy Loan Program (HELP). The legislation makes Montgomery County the first county in the Washington metropolitan region to adopt such a program, and one of a handful of jurisdictions in the nation to adopt such a measure.

The legislation was co-sponsored by five other members of the eight-member Council (Councilmembers Marc Elrich, Valerie Ervin, Nancy Floreen, George Leventhal and Duchy Trachtenberg).

"This measure will help our homeowners reduce their skyrocketing utility bills and their carbon footprint at the same time, while putting people to work in the new green economy," said Councilmember Berliner. "It has broad support within the environmental and business community and it should impose almost no cost on the County thanks to the good work of Congressman Chris Van Hollen and the federal stimulus bill."

Under HELP, a homeowner would voluntarily obtain a home energy audit from a certified auditor to identify the universe of cost effective, energy efficient and renewable energy measures that could be taken. The homeowner would then take the results of the audit to the County, which would provide a zero interest loan to make the improvements.

The HELP program is among the top priorities of the County's Sustainability Working Group, where Councilmember Berliner co-chaired the Residential Energy Efficiency Subcommittee.

The importance of HELP is the role local government plays. The loan would be secured through a lien on the homeowner's property. This is the critical piece: the loan, which would be repaid over 15 years as a voluntary additional line item on the property tax, would run with the property—not with the homeowner that took out the loan. This allows a homeowner to entertain a more robust home retrofit as long as the annual loan costs are equal to, or less than, the savings on their utility bill. Monies could also be borrowed for the installation of renewable energy devices once the home is energy efficient.

[EDITOR'S NOTE: A fact sheet detailing the HELP program is attached on a separate sheet.]

####

A Fact Sheet on Montgomery County Council Bill 6-09:

Home Energy Loan Program (HELP)
April 13, 2009

- Sponsored by Montgomery County Council Vice President Roger Berliner
- Co-sponsored by Councilmembers Marc Elrich, Valerie Ervin, Nancy Floreen, George Leventhal and Duchy Trachtenberg

• HELP can reduce greenhouse gas emissions by an estimated 20-30 percent; reduce utility bills by an equal amount; put money in Montgomery County homeowner's pockets; and create green jobs.
• Montgomery County would be the first county in the region to adopt such a program, and one of a handful of jurisdictions in the country to adopt such a measure. State legislatures in California and Virginia have passed legislation authorizing such programs.
• Historically, there have been three principle barriers to homeowners making significant investments in energy efficiency:
- They don't know what they need to do
- They may not have the resources in this economy to invest the dollars necessary to make a significant difference
- Even if they have the resources, home owners don't know if they will be in their homes long enough to pay for the improvements
HELP addresses all of those issues directly, and as a result, represents a significant conceptual breakthrough.
• Under HELP, a homeowner would obtain a home energy audit from a certified
• auditor. The nature of the audit, i.e., whether the audit should use a "blower door" or some other technology, will be determined by the Department of Environment.
• The audit will identify the universe of cost effective measures, including renewable energy, as well as a package of measures that based on the economics of the loan and projected energy savings would result in a net savings to the home owner (i.e., the amount by which the reduction in projected utility costs exceeds loan payments).
• The cost effectiveness test is based on the number of years required for the cost of the energy efficiency device to be recouped in energy savings (the "pay-back" period). It is expected that the payback period will be in the range of 7-8 years (as determined by the Department of Environmental Protection).
• The homeowner would take the results of the audit to the County or its designee (including a non-profit or private sector entity that could administer the program). The County would provide a zero or low interest loan, including the cost of the audit.
• The loan is repaid by a special assessment on the homeowner's property tax bill. This is the critical piece that local governments uniquely bring to the equation: the loan would be repaid over no less than 15 years (except where prepayment is desired by the homeowner) as a voluntary additional line item on the property tax. Thus, the obligation runs with the property not the homeowner that took out the loan. This means that a homeowner no longer has to do a cost benefit analysis based on how long they may own the home. Instead, the homeowner only has to calculate their net annual savings in the form of reduced utility bills.
• The County has estimated that a $5,000 zero interest loan would result in homeowners having $230 more a year in their pocket after paying their annual loan payment while reducing their greenhouse gas emissions by more than 20 percent.
• The interest rate on the loan will be determined by the source of funds (federal grants/federal and local bonds/private banks) and administrative costs. Montgomery County will use some portion of federal stimulus dollars for this program and can use the federal funds to pay down the interest on private sector funding.
• HELP is a revolving fund. Once the initial capitalization costs are covered, the securitization of the loans through the property tax add-on virtually guarantees that the loans will be repaid, and available for new homeowners. Congressman Chris Van Hollen has introduced legislation that would provide federal funds for this purpose.
• Loans will be available for the "net" costs of measures, i.e., a homeowner is expected to take advantage of county, state and federal tax credits (assuming availability) for both renewable and energy conservation measures.
• The legislation is supported by a broad coalition of business and environmental groups, including the real estate community, builders, and the Sierra Club.
Independent surveys by the Greater Capital Area Association of REALTORS have shown strong interest and support by homeowners for the program. It is expected that there will be very substantial

demand for the program.

» Return to Press Release

Expedited Bill No. 06-09
Concerning: Home Energy Loan Program - Establishment
Revised: 4/14/2009 Draft No. 8
Introduced: February 24, 2009
Expires: August 24, 2010
Enacted: April 14, 2009
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	*Heading or defined term.*
Underlining	*Added to existing law by original bill.*
[Single boldface brackets]	*Deleted from existing law by original bill.*
Double underlining	*Added by amendment.*
[[Double boldface brackets]]	*Deleted from existing law or the bill by amendment.*
* * *	*Existing law unaffected by bill.*

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

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

Chapter 18A. Environmental Sustainability

* * *

Article 4. Home Energy Loan Program

18A-24. Definitions.

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

Certified energy auditor means any individual who:

(a) is a participating contractor/auditor with the Maryland Home Performance with ENERGY STAR Program; or

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

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

Department means the Department of Environmental Protection.

Director means the Director of the Department or the Director's designee.

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.

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

(a) reduces the consumption of energy in the home, including:

(1) caulking and weatherstripping doors and windows;

(2) heating and cooling system efficiency modifications, including:

(A) replacing a burner, furnace, heat pump, or boiler, or air conditioner with a high efficiency model;

(B) a device to modify flue openings that increases the energy efficiency of the heating system;

(C) any electrical or mechanical furnace ignition system which replaces a standing gas pilot light; and

(D) any tune-up that increases the operating efficiency;

(3) a programmable thermostat;

(4) ceiling, attic, wall, or floor insulation;

(5) whole house air sealing;

(6) water heater tune-up, water heater insulation, pipe insulation, or [[charge-out]] change out to ENERGY STAR qualified water heater;

(7) storm windows or doors or ENERGY STAR qualified window or door replacement;

(8) air distribution system improvements, including duct insulation and air sealing;

(9) any device which controls demand of appliances and aids load management; and

(10) any other conservation device, renewable energy technology, and specific home improvement that the Director finds reduces the consumption of energy in the home; and

(b) meets safety and performance standards set by a nationally recognized testing laboratory for that kind of device, if these standards are available.

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

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

Home energy audit means an evaluation of the energy efficiency of a home which includes 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 that can be taken to improve a home's energy efficiency.

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

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

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

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

(a) the County's current cost of borrowing funds or the cost, if any, of federal funds made available to the County for this purpose; and

(b) the cost of administering the Program.

Renewable energy means the following energy sources or technology:

(a) solar;

(b) wind;

(c) geothermal; and

(d) any other energy source or technology which the Director finds is derived from natural processes that do not involve the consumption of exhaustible resources.

Renewable energy device means a device that:

(a) creates, converts, or actively uses renewable energy;

(b) is permanently installed on the home or property; and

(c) meets safety and performance standards set by a nationally recognized testing laboratory for that kind of device, if these standards are available.

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

18A-25. Established; purpose.

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

(a) improve energy efficiency;

(b) promote energy conservation;

(c) reduce greenhouse gas emissions; and

(d) reduce consumption of fossil fuels by County residents[[.]]; and

(e) create jobs.

18A-26. Eligibility; use of funds.

(a) The Director may loan funds to an owner of a single-family home to fund eligible costs to make an energy efficiency improvement that is projected to be cost effective or install a renewable energy device in the single-family home, up to the maximum loan amount set by regulation.

(b) To be eligible for a loan under this Program, a property owner must:

(1) have a home energy audit performed on the owner's single-family home by a certified energy auditor, as required under Section 18A-27; and

(2) have the energy efficiency improvement completed or renewable energy device installed [[within 6 months after receiving the loan]] in the timeframe set by regulation; and

(3) agree to repay the loan amount borrowed through the County tax bill for that home, as required by Section 18A-28.

(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.

(d) The term of the loan must be 15 years[[,]] [[unless]]. However, the Director [[sets a different]] may set a longer loan term by regulation.

(e) *Use of funds for an energy efficiency improvement.*

(1) A person may borrow funds for eligible costs to make an energy efficiency improvement, less any amount received from a public or private program because the improvement is or will be made.

(2) Except as provided by subsection [[(f)(2)]] (e)(3), funds must be loaned only for an energy efficiency improvement that is projected to be cost effective.

(3) Funds may be loaned for an energy efficiency improvement that is not cost effective if that improvement is part of a package of improvements financed under the Program that cumulatively is cost effective.

(f) *Use of funds for a renewable energy device.*

(1) [[A]] Except as provided in (f)(2), a person may borrow funds for eligible costs to install a renewable energy device only if[[:

(A) the single-family home has a HERS score of 100 or below; or

(B) the owner has a home energy audit performed on the owner's home and, based on the audit recommendations, makes energy efficiency improvements that result in a 30 percent increase in efficiency]] the single-family home meets energy efficiency criteria established by the Department.

(2) A person may borrow funds to install a renewable energy device on a single-family home that does not meet the energy efficiency criteria in (f)(1) if the device is cost effective.

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

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

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 a certified energy auditor.

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

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

(2) identifies those cost effective energy efficiency improvements which would generate projected annual energy cost savings, based on projected energy costs set by Method (3) regulation, 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; and

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

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

18A-28. Repayment of funds; lien.

(a) The owner of single-family home must agree to repay the loan amount borrowed, amortized over 15 years, through the County property tax bill for that home.

(b) If the owner of the single-family home sells the home, the seller must disclose that the buyer must continue to repay the loan through the property tax bill.

(c) 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.]]

18A-29. Regulations.

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

(a) lending standards and priorities;

(b) minimum and maximum loan amounts;

(c) interest rates, terms, and conditions;

(d) application procedures, including necessary supporting documentation;

(e) criteria for adequate security;

(f) procedures to refer applicants to other sources of funds, and to cooperate with other public and private sources of funds;

(g) procedures to ask the Director to reconsider any denial of a loan or any decision on interest rates, terms, and conditions;

(h) procedures for nonpayment or default;

(i) procedures and requirements for post-installation inspection; [[and]]

(j) disclosure requirements for real estate transactions[[.]]; and

(k) criteria for loan disbursement.

18A-30. Revolving loan fund.

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

Department means the Department of Finance.

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

(b) The Fund consists of:

(1) money appropriated in the County budget for the Program;

(2) money received from any public or private source;

(3) interest and investment earnings on the Fund;

(4) repayments and prepayments of principal and interest on loans made from the Fund; and

(5) any other available funds to support the Program.

(c) The Department must:

(1) disburse funds and collect payments for a loan made under the Program; and

(2) maintain loan records and provide an annual report to the Department of Environmental Protection.

18A-31. Annual report.

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

(a) the number of recipients of loans;

(b) the amount of funds loaned; and

(c) any activities during the previous fiscal year to market the Program.

18A-32. Third party contract.

(a) The County may contract with a non-profit or for-profit organization to take any action necessary to fulfill the purposes of this Article, including:

(1) prepare and review, evaluate, and approve applications;

(2) execute loan agreements;

(3) secure and service loans;

(4) collect loan payments; and

(5) conduct collections for defaulted loans.

(b) The County, or a contractor for the County, may charge an applicant or borrower usual and customary fees that the Department finds is consistent with the overall goals of the Program and will not inhibit utilization of the Program, including:

(1) application fees;

(2) loan origination fees;

(3) delinquency fees;

(4) costs of collection; and

(5) other program fees to support verification of program requirements.

Sec. 2. Initial regulations; repayment options; audit cost.

(a) [[The]] Unless the Council grants an extension, the County Executive must adopt and submit to the County Council, not later than (date [[3]] 6 months after enactment of bill), regulations to implement Article 4 of Chapter 18A, as added by Section 1 of this Act.

(b) Within 6 months, the Executive must:

(1) report to the Council if the Executive believes that the repayment provisions of §18A-28 are likely to unduly burden the lending industry or hinder homeowners from obtaining financing to refinance or purchase a home; and

(2) provide alternative recommendations, if appropriate, that would achieve the policy objective of assuring that the remaining loan payments will be assumed by the buyer of a property.

(c) Within 6 months, the Executive must:

(1) report to the Council on whether the cost of the home energy audit required under §18A-27 is likely to be a significant barrier to participation in the Program; and

(2) provide recommendations to address any barrier that the Executive identifies.

Sec. 3. Expedited Effective Date.

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

Approved:

Philip M. Andrews, President, County Council — Date

Approved:

Isiah Leggett, County Executive — Date

This is a correct copy of Council action.

Linda M. Lauer, Clerk of the Council — Date

ATTACHMENT D

Federal Tax Credits for Energy Efficiency

UPDATED July 14, 2009

Quick link to this page: energystar.gov/taxcredits

Federal Tax Credits for Energy Efficiency includes:

- **Tax Credits for Consumers**
  - **Tax credits are available at 30% of the cost, up to $1,500, in 2009 & 2010 (for existing homes only) for:**
    - **Windows and Doors**
    - **Insulation**
    - **Roofs (Metal and Asphalt)**
    - **HVAC**
    - **Water Heaters (non-solar)**
    - **Biomass Stoves**
  - **Tax credits are available at 30% of the cost, with no upper limit through 2016 (for existing homes & new construction) for:**
    - **Geothermal Heat Pumps**
    - **Solar Panels**
    - **Solar Water Heaters**
    - **Small Wind Energy Systems**
    - **Fuel Cells**
- **Cars**
- **Tax Credit Legislation**
- **IRS Guidance**
- **For More Information**

Frequently Asked Questions:

Is there a tax credit for central air conditioners?

Is there a tax credit for water heaters?

How do I apply for the energy efficiency tax credits?

Are installation costs covered by the tax credits?

Is there an income limit on the tax credit?

All Tax Credit FAQs

Not looking for Consumer information?

- **Tax Credits for Home Builders**
- **Tax Deductions for Commercial Buildings**
- Stimulus information for State and local governments

**Please note, not all ENERGY STAR qualified homes and products qualify for a tax credit. These tax credits are available for a number of products at the highest efficiency levels, which typically cost much more than standard products. If, for whatever reason, you decide not to purchase a product covered by the tax credit, you may still consider purchasing an ENERGY STAR product. ENERGY STAR distinguishes energy efficient products which, although they may cost more to purchase than standard models, will pay you back in lower energy bills within a reasonable amount of time, without a tax credit.

Tax Credits for Consumers:

Home Improvements

Tax credits are now available for home improvements:

- must be "placed in service" from January 1, 2009 through December 31, 2010
- must be for taxpayer's principal residence, EXCEPT for geothermal heat pumps, solar water heaters, solar panels, and small wind energy systems (where second homes qualify)
- $1,500 is the maximum total amount that can be claimed for all products placed in service in 2009 & 2010 for most home improvements, EXCEPT for geothermal heat pumps, solar water heaters, solar panels, fuel cells, and small wind energy systems which are not subject to this cap, and are in effect through 2016
- must have a Manufacturer Certification Statement to qualify
- for record keeping, save your receipts and the Manufacturer Certification Statement
- improvements made in 2009 will be claimed on your 2009 taxes (filed by April 15, 2010) — use IRS Tax Form 5695 (2009 version) — it will be available late 2009 or early 2010
- If you are building a new home, you can qualify for the tax credit for geothermal heat pumps, photovoltaics, solar water heaters, small wind energy systems and fuel cells, ***but not the tax credits for*** *windows, doors, insulation, roofs, HVAC, or non-solar water heaters.* More.

SUMMARY OF TAX CREDITS FOR HOMEOWNERS

Product Category	Product Type	Tax Credit Specification	Tax Credit	Notes
Insulation	Insulation	Meets 2009 IECC & Amendments	30% of cost, up to $1,500[1]	For insulation to qualify, its primary purpose must be to insulate (example: insulated siding does not qualify). Check to see if you have Home Performance with ENERGY STAR in your areas. Adding insulation to your home is covered.
Windows & Doors	Exterior Windows and Skylights	Before June 1, 2009: Must meet ENERGY STAR criteria After June 1, 2009: U factor <= 0.30 SHGC <= 0.30	30% of cost, up to $1,500[1]	Not all ENERGY STAR labeled windows and skylights qualify for tax credit. More information
	Storm Windows	In combination with the exterior window over which it is installed: 1. has a U-factor and SHGC of 0.30 or below 2. Meets the IECC	30% of cost, up to $1,500[1]	FAQ on storm doors and storm windows.
	Exterior Doors	Before June 1, 2009: Must meet ENERGY STAR criteria After June 1, 2009: U factor <= 0.30	30% of cost, up to $1,500[1]	Not all ENERGY STAR doors will qualify. More information

		SHGC <= 0.30		
	Storm Doors	In combination with a wood door over which it is installed: 1. has a U-factor and SHGC of 0.30 or below 2. Meets the IECC	30% of cost, up to $1,500[1]	FAQ on storm doors and storm windows.
Roofing	Metal Roofs, Asphalt Roofs	All ENERGY STAR qualified metal and reflective asphalt shingles	30% of cost, up to $1,500[1]	FAQ on roofs that qualify for the tax credit
HVAC	Central A/C	*Split Systems:* EER >=13 SEER >= 16 *Package systems:* EER >= 12 SEER >= 14	30% of cost, up to $1,500[1]	FAQ on Central ACs that qualify for the tax credit FAQ on Air Source Heat Pumps that qualify for the tax credit Note — not all ENERGY STAR products will qualify for the tax credit. View ENERGY STAR criteria.
	Air Source Heat Pumps	*Split Systems:* HSPF >= 8.5 EER >= 12.5 SEER >= 15 *Package systems:* HSPF >= 8 EER >= 12 SEER >= 14	30% of cost, up to $1,500[1]	
	Natural Gas or Propane Furnace	AFUE >= 95	30% of cost, up to $1,500[1]	FAQ on Furnaces and Boilers that qualify for the tax credit Note — not all ENERGY STAR products will qualify for the tax credit. View ENERGY STAR criteria for furnaces, boilers.
	Oil Furnace	AFUE >= 90	30% of cost, up to $1,500[1]	
	Gas, Propane, or Oil Hot Water Boiler	AFUE >= 90	30% of cost, up to $1,500[1]	
	Advanced Main Air Circulating Fan	No more than 2% of furnace total energy use.	30% of cost, up to $1,500[1]	Read this FAQ if the fan qualifies, but the furnace does not.
Water Heaters	Gas, Oil, Propane Water Heater	Energy Factor >= 0.82 or a thermal efficiency of at least 90%.	30% of cost, up to $1,500[1]	FAQ on Water Heaters that qualify for the tax credit View ENERGY STAR criteria for water heaters.
	Electric Heat Pump Water Heater	Same criteria as ENERGY STAR: Energy Factor >= 2.0	30% of cost, up to $1,500[1]	
Biomass Stove	Biomass Stove	Stove which burns biomass fuel to heat a home or heat water. Thermal efficiency rating of at least 75% as measured using a lower heating value.	30% of cost, up to $1,500[1]	FAQ on biomass stoves.
Geo-Thermal Heat Pump	Geo-Thermal Heat Pump	Same criteria as ENERGY STAR: Closed Loop:	30% of the cost	All ENERGY STAR geo-thermal heat pumps qualify for the tax credit.

		EER >= 14.1 COP >= 3.3 Open Loop: EER >= 16.2 COP >= 3.6 Direct Expansion: EER >= 15 COP >= 3.5		Must be "placed into service" before December 31, 2016.
Solar Energy Systems	Solar Water Heating	At least half of the energy generated by the "qualifying property" must come from the sun. Homeowners may only claim spending on the solar water heating system property, not the entire water heating system of the household. The credit is not available for expenses for swimming pools or hot tubs. The water must be used in the dwelling. The system must be certified by the Solar Rating and Certification Corporation (SRCC).	30% of cost	All ENERGY STAR solar water heaters qualify for the tax credit. Must be placed in service before December 31, 2016.
	Photovoltaic Systems	Photovoltaic systems must provide electricity for the residence, and must meet applicable fire and electrical code requirement.	30% of cost	Must be placed in service before December 31, 2016.
Small Wind Energy Systems	Residential Small Wind Turbines	Has nameplate capacity of not more than 100 kilowatts.	30% of cost	Must be placed in service before December 31, 2016.
Fuel Cells	Residential Fuel Cell and microturbine system	Efficiency of at least 30% and must have a capacity of at least 0.5 kW.	30% of the cost, up to $500 per .5 kW of power capacity	Must be placed in service before December 31, 2016.
Cars	Hybrid gasoline-electric, diesel, battery-electric, alternative fuel, and fuel cell vehicles		Based on a formula determined by vehicle weight, technology, and fuel economy compared to base year models	There is a 60,000 vehicle limit per manufacturer before a phase-out period begins. Toyota and Honda have already been phased out. Credit is still available for Ford, GM and Nissan. For more information visit: Fueleconomy.gov EXIT Use IRS Form 8910 EXIT for hybrid vehicles purchased for personal use.

				Use IRS Form 3800 EXIT for hybrid vehicles purchased for business purposes.
	Plug-in hybrid electric vehicles		$2,500–$7,500	The first 250,000 vehicles sold get the full tax credit (then it phases out like the hybrid vehicle tax credits). Effective January 1, 2009.

[1] *Subject to a $1,500 maximum per homeowner for all improvements combined.*

Efficient Cars

Starting January 1, 2009, there is a new tax credit for Plug-in hybrid electric vehicles, starting at $2,500 and capped at $7,500 for cars and trucks (the credit is based on the capacity of the battery system). The first 250,000 vehicles sold get the full tax credit (then it phases out like the hybrid vehicle tax credits).

Tax credits are available to buyers of hybrid gasoline-electric, diesel, battery-electric, alternative fuel, and fuel cell vehicles. The tax credit amount is based on a formula determined by vehicle weight, technology, and fuel economy compared to base year models. These credits are available for vehicles placed in service starting January 1, 2006. For hybrid and diesel vehicles made by each manufacturer, the credit will be phased out over 15 months starting after that manufacturer has sold 60,000 eligible vehicles. For vehicles made by manufacturers that have not reached the end of the phase-out, the credits will end for vehicles placed in service after December 31, 2010. See the IRS Website for updated information EXIT .

IRS Guidance:

- IRS Notice 2009-53 (6/22/2009) Interim guidance for Section 25C EXIT
- IRS Notice 2009-41 (5/11/2009) Interim guidance for Section 25D EXIT

For More Information:

- Tax Incentives Assistance Project (TIAP) EXIT
- Brochure: Residential Energy Efficiency Incentives (TIAP — May 2009, 2 pages) EXIT

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