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

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2009 SEP 23 P 2: 55
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

TABLE OF CONTENTS

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. <u>*WGL's Comments*</u>

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-ofpocket, 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. <u>OPC's Comments</u>

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. <u>DDOE's Comments</u>

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

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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