

# Riverdale Park Sustainability Committee

## Municipal Energy Audit

In the fall of 2010 the Town of Riverdale Park, under the auspices of the Maryland Energy Administration's (MEA) EmPOWER Energy Efficiency and Conservation Block Grant (EECBG) program, contracted an energy services company to perform energy audits on its municipal buildings. The firm, Khepra Energy Group (a MEA Technical Assistance Team member), performed a field audit showing preliminary energy savings and financial analysis of energy efficiency improvements for the Town.

The audit team reviewed energy usage at **three** Town buildings: the headquarters of the Town police department, the mayor's office and the Town's primary public works building.

The Town provided the audit team with historical gas and electric utility bills for each project address. These bills, which covered the period from September 2008 through August 2010, allowed for the compilation of a two-year historical consumption baseline. Utility data was analyzed and used to help calculate cost savings for each of the efficiency improvement measures proposed by the audit team. It was determined that the police department headquarters consumes 141,246 kWh of electricity and 997 Therms of natural gas per year. It was determined that the mayor's office consumes 55,280 kWh of electricity and 2,581 Therms of natural gas per year. It was determined that the police department headquarters consumes 141,246 kWh of electricity and 997 Therms of natural gas per year. Utility data was not available for the public works building; however, the rates of electricity and natural gas consumption for this building were able to be estimated based upon an average of consumption for the other two buildings.

The audit team recommended three primary energy efficiency upgrades:

- (1) Upgrading the gas furnace serving the police department headquarters
- (2) Upgrading the gas furnace serving the mayor's office
- (3) Upgrading the efficiency of the lighting in the public works building

## ATTACHMENT

PAGE 2: EECBG Audit Report

# EECBG

## AUDIT REPORT

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December 21, 2010

Sara Imhulse  
Town of Riverdale Park  
[simhulse@riverdaleparkmd.gov](mailto:simhulse@riverdaleparkmd.gov)

Dear Ms. Imhulse:

On behalf of the Maryland Energy Administration's (MEA) EmPOWER Energy Efficiency and Conservation Block Grant (EECBG) program, MEA Technical Assistance Team member Khepra Energy Group has performed a field audit showing preliminary energy savings and financial analysis of energy efficiency improvements for the Town of Riverdale Park.

This *Audit Report* presents summary information in respect to an EECBG project. Please feel free to use this information in submitting your project for MEA approval.

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### PROJECT DESCRIPTION & ADDRESS

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- 1. Police Department - Rooftop unit replacement with new high efficiency system.**
  - a. Install new high efficiency rooftop unit system with 85% Annual Fuel Use Efficiency (AFUE) and 12.0 Energy Efficiency Ratio (EER) to replace one 180,000 British Thermal Unit (BTU) gas furnace with 82.0% Annual Fuel Use Efficiency (AFUE) and 11.0 Energy Efficiency Ratio (EER).
  
- 2. Mayor's Office - Rooftop unit replacement with new high efficiency system.**
  - a. Install new high efficiency rooftop unit system with 85% Annual Fuel Use Efficiency (AFUE) and 12.0 Energy Efficiency Ratio (EER) to replace one 180,000 British Thermal Unit (BTU) gas furnace with 80.0% Annual Fuel Use Efficiency (AFUE) and 10.0 Energy Efficiency Ratio (EER).
  
- 3. Public Works –Lighting replacement**
  - a. Facilities maintenance has replaced some of the high bay lighting in the building. The remainder of the lighting should be replaced with the fixtures and quantities listed:
    - i. 384 Watt (4xT12) bulbs with 198 Watt (4xT5) bulbs (6 count)
    - ii. 150 Watt (HPS) bulbs with 23 Watt - Compact Fluorescent Light – (CFL) (14 count)
  
- 4. Project Addresses:**

Riverdale Park Police Department  
5004 Queensbury Rd.  
Riverdale Park, MD 20737

Riverdale Park Mayor's Office  
5008 Queensbury Rd.  
Riverdale Park, MD 20737

Riverdale Park Public Works  
5012 Queensbury Rd.  
Riverdale Park, MD 20737

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## **BASELINE ANALYSIS**

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### **1. Energy Consumption**

You provided historical gas and electric utility bills for each project address. Bills provide historical consumption from September 2009 through August 2010. Additional past consumption is also provided on the bills, allowing the compilation of a two-year historical consumption baseline. The information from the utility analysis is used to help calculate savings for each of the measures. Bills were not available for the public works building and the electricity rate was based upon an average from the other two buildings.

### **Police Department**

#### **Utility Profile**

The electricity and natural gas profiles were compiled from the utility bills provided. The average minimum electricity consumption is 8,022 kWh per month. This is the assumed base plug load the facility consumes for lighting, appliances, and other electrical devices. This suggests 32% of the annual electricity consumption is attributed to the air conditioning system.

Natural gas bills were available from two meters for this building. One meter is for the hot water system and the other is for the heating system. Yearly consumption for hot water consumption in the police department was roughly 17 Therms on an average basis. In the month of January there was a spike to 38 Therms indicating there was probably a mechanical problem with the hot water system during this time. This value has been removed for reporting purposes as an anomaly. Fuel use for heating was roughly 981 Therms of natural gas for the year provided.

#### **Energy Intensity**

The building consumes 141,246 kWh of electricity per year and 997 Therms of natural gas. On a British Thermal Unit (Btu) basis this is equivalent to 581 million Btu of energy. Given a 4,000 ft.<sup>2</sup> area, the energy intensity of the building is 98,745 Btu/ft<sup>2</sup>.

#### **Utility Rate Analysis**

The tariff rates determined from the analysis will be used in calculating the potential cost savings associated with the project. The Building electricity usage is served by Pepco under a Non-Residential-General Service low voltage tariff. The building is charged 0.1027 per kWh on average for the distribution of electricity.

The building natural gas is provided by Washington Gas and is served under General Service Schedule C (Commercial Heat/Cool) which has an average purchased gas cost of \$1.27 per Therm and distribution average of \$0.32 per Therm for a total assumed gas cost of \$1.59 per Therm.

## **Mayor's Office**

### **Utility Profile**

The electricity and natural gas profiles were compiled from the utility bills provided. The average minimum electricity consumption is 3,300 kWh per month. This is the assumed base plug load the facility consumes for lighting, appliances, hot water, and other electrical devices. This suggests 28% of the annual electricity consumption is attributed to the air conditioning system.

Natural gas bills were available from one meter for this building which uses natural gas only for heating. Fuel use for heating was roughly 2,581 Therms of natural gas for the year provided.

### **Energy Intensity**

The building consumes 55,280 kWh of electricity per year and 2,581 Therms of natural gas. On a British Thermal Unit (Btu) basis this is equivalent to 446 million Btu of energy. Given a 5,400 ft.<sup>2</sup> area, the energy intensity of the building is 82,319 Btu/ft<sup>2</sup>.

### **Utility Rate Analysis**

The tariff rates determined from the analysis will be used in calculating the potential cost savings associated with the project. The Building electricity usage is served by Pepco under a Non-Residential-General Service low voltage tariff. The building is charged 0.1116 per kWh on average for the distribution of electricity.

The building natural gas is provided by Washington Gas and is served under General Service Schedule C (Commercial Heat/Cool) which has an average purchased gas cost of \$1.27 per Therm and distribution average \$0.32 per Therm for a total assumed gas cost of \$1.59 per therm.

## **2. Projected Savings**

Savings versus the consumption baseline are projected based on the following assumptions:

- Police Department rooftop unit is comprised of a Carrier Packaged Rooftop Unit, Model #48HJE008 which is 17 years old with a cooling efficiency of 11.0 EER (original) and 82.0 AFUE rating (original). Considering the age and performance degradation of the equipment, calculations are based upon existing cooling efficiency of 8.8 EER and heating efficiency of 66.0 AFUE.
- Mayor's Office rooftop unit is comprised of a Lennox Epic Packaged Rooftop Unit, Model #GCS24-953-200-1Y which is 15 years old with a cooling efficiency of 10.0 EER (original) and 80.0 AFUE rating (original). Considering the age and performance degradation of the equipment, calculations are based upon existing cooling efficiency of 8.0 EER and heating efficiency of 64.0 AFUE.
- Savings for new system upgrades at both locations are based on new equipment operating with a heating AFUE of 85.0 and EER of 12.0.
- Normal heating season (October-April) consists of 4,000 heating degree-days. Degree days are measurements equal to the difference of one degree between the mean outdoor temperature on a certain day and a reference temperature (usually 65F, used in estimating the energy needs for heating or cooling a building. System run time is projected as 2,000 hours per season.

- Normal cooling season (June-September) consists of 1,500 cooling degree-days and 1,000 hours of run time.
- Temperature set points and hours of operation remain constant – no change in occupancy schedule
- One ton of cooling = 12,000 Btus
- One kWh = 3,412 Btu; 1 Therm = 100,000 Btu
- $12/\text{EER} = \text{kW}/\text{Ton}$
- Assume 5 months of cooling annually
- Rooftop unit demand reduction = Months of cooling \*  $((\text{kW}/\text{T}_{\text{existing}} - \text{kW}/\text{T}_{\text{upgrade}}) * \text{tons})$

### **Police Department**

From the utility profile, the lowest average monthly electricity consumption is approximately 8,022 kWh. During the cooling season the building consumes an additional 44,982 kWh of energy. This is assumed to be the yearly cooling consumption.

It is assumed that the cooling capacity of the system remains the same and is appropriately sized. The efficiency of the old and new systems is measured by a ratio of the Energy Efficiency Rating (EER).

$$\text{Energy Projected} = \text{Energy Consumed} * (\text{SEER Old} / \text{SEER New})$$

A similar analysis is provided for the heating system savings.

From the natural gas analysis, winter heating season consumes 980 Therms of natural gas, which is assumed to be used for heating the building. The building consumes another 55 Therms of natural gas of hot water heating.

It is assumed that the heating capacity of the system remains the same and is appropriately sized. The efficiency of the old and new system is measured by a ratio of the Annual Fuel Utilization Efficiency ratings (AFUE).

$$\text{Energy Projected} = \text{Energy Consumed} * (\text{AFUE Old} / \text{AFUE New})$$

Annual energy savings are calculated as follows:

**Table 1: Projected Heating and Cooling Energy Savings**

<b>Cooling</b>	<b>Projected Annual Usage w/ECM</b>	<b>Current Usage</b>	<b>EER Old</b>	<b>EER New</b>	<b>Savings</b>
Electricity [kWh]	32,986	44,982	8.8	12	11,995
<b>Heating</b>	<b>Projected Annual Usage w/ECM</b>	<b>Current Usage</b>	<b>AFUE Old</b>	<b>AFUE New</b>	<b>Savings</b>
Gas [Therms]	756	981	66	85	223

### **Summary Energy Consumption**

Table 2 provides a summary of the historical baseline data and the estimated projected savings.

**Table 2: Historical Baseline Data and Projected Savings**

	<b><i>Electricity</i></b>	<b>Total</b>
a.	Current average annual energy [kWh]	44,982
b.	Projected annual energy savings [kWh]	11,995
c.	Percent reduction	8.49%
	<b><i>Natural Gas</i></b>	
d.	Current average annual energy [Therm]	997
e.	Projected annual energy savings [Therm]	223
f.	Percent reduction	22.37%

**Mayor's Office**

From the utility profile the lowest average monthly electricity consumption is approximately 3,300 kWh. During the cooling season the building consumes an additional 15,680 kWh of energy. This is assumed to be the yearly cooling consumption.

It is assumed that the cooling capacity of the system remains the same and is appropriately sized. The efficiency of the old and new systems is measured by a ratio of the Energy Efficiency Rating (EER).

$$\text{Energy Projected} = \text{Energy Consumed} * (\text{SEER Old} / \text{SEER New})$$

A similar analysis is provided for the heating system savings.

From the natural gas analysis, winter heating season consumes 2581 Therms of natural gas, which is assumed to be used for heating the building.

It is assumed that the heating capacity of the system remains the same and is appropriately sized. The efficiency of the old and new system is measured by a ratio of the Annual Fuel Utilization Efficiency ratings (AFUE).

$$\text{Energy Projected} = \text{Energy Consumed} * (\text{AFUE Old} / \text{AFUE New})$$

Annual energy savings are calculated as follows:

**Table 3: Projected Heating and Cooling Energy Savings**

<b>Cooling</b>	<b>Projected</b>	<b>Seasonal</b>	<b>EER Old</b>	<b>EER New</b>	<b>Savings</b>
Electricity [kWh]	10,453	15,680	8.0	12	5,227
<b>Heating</b>	<b>Projected</b>	<b>Seasonal</b>	<b>AFUE Old</b>	<b>AFUE New</b>	<b>Savings</b>
Gas [Therms]	1,943	2,581	64	85	638

**Summary Energy Consumption**

Table 4 provides a summary of the historical baseline data and the estimated projected savings.

**Table 4: Historical Baseline Data and Projected Savings**

	<b><i>Electricity</i></b>	<b>Total</b>
a.	Current average annual energy [kWh]	39,600
b.	Projected annual energy savings [kWh]	5,227
c.	Percent reduction	13.20%
	<b><i>Natural Gas</i></b>	
d.	Current average annual energy [Therm]	2581
e.	Projected annual energy savings [Therm]	638
f.	Percent reduction	24.72%

### **Public Works**

Utility bills were not provided for this analysis for the public works building. Cost savings are based upon the rate for the other two buildings.

Lighting fixtures have been replaced on a fixture by fixture basis by facilities maintenance, leaving many of the fixtures to be replaced. The measure in this building is to upgrade the remainder of the fixtures in the building at one time.

It is assumed that the savings from the lighting upgrade come from a reduced wattage of the fixtures. Fixtures are assumed to be in use for 8 hours 5 days a week. A ballast factor of 0.9 has been applied to the consumption of the fluorescent fixtures and a ballast factor of 1.3 has been applied to the high pressure sodium lights.

$$\text{Energy Savings} = \text{Hours of operation} * (\text{kW Old} - \text{kW New})$$

Annual energy savings are calculated as follows:

**Table 5: Projected Lighting Savings**

Lighting	Projected (kWh)	Current (kWh)	Watts Old (per fixture)	Watts New (per fixture)	Savings (kWh)
T-12 (6 count)	2,471	4403	352.8	198	1931
High Pressure Sodium (14 count)	670	5460	187.5	23	4,790

### **Summary Energy Consumption**

Table 6 provides a summary of the historical baseline data and the estimated projected savings.

**Table 6: Historical Baseline Data and Projected Savings**

	Electricity	Total
a.	Current average annual energy [kWh]	9,862
b.	Projected annual energy savings [kWh]	3,140
c.	Percent reduction	68.16%

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## **EECBG PROJECT ANALYSIS – Police Department RTU Replacement**

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The analysis methodology used is consistent with the *International Performance Measurement and Verification Protocol* ([www.ipmvp.org](http://www.ipmvp.org)) adopted in 2009.

### **1. Savings Summary**

The estimated costs of the project are based on estimates of the auditor. The project cost and savings are summarized below in total. Based upon our calculations, we estimate that these investments would result in the following projected energy savings and financial benefits:

**Table 7: Estimated Savings**

		Electricity [kWh]	Gas [Therms]	Total
a.	Annual energy consumption savings	11,995	224	
b.	Expected Energy Rate	\$0.11	\$1.59	
c.	Expected energy cost savings {a*b}	\$1,319	\$356	\$1,675

## 2. Energy and Economic Benefits

If you replace the existing systems as recommended it would cost roughly \$17,000 and represent annual utility cost savings of \$1,675.

**Table 8: Estimated Energy, Environmental, and Economic Benefits**

<b>Energy Benefits</b>		
a.	Electricity Demand Reduction ( <i>kW</i> )	20.0
b.	Annual Reduction in Electricity Consumption ( <i>kWh</i> ) {From estimated cost and savings table}	11,995.00
	Annual reduction in Natural Gas Consumption ( <i>Therm</i> )	224.00
	Annual reduction in fuel oil consumption ( <i>Gal</i> )	0.00
	Annual reduction in propane consumption ( <i>Gal</i> )	0.00
c.	Useful life of energy efficiency measure (years) {EEM useful life * % contributed to annual emissions savings}	15.00
d.	Lifetime energy savings from source ( <i>Million Btu</i> ) {(Reduction <i>kWh</i> * 10,000 <i>Btus/kWh</i> + Reduction <i>Therm</i> *99,976 <i>Btu/therm</i> + Reduction <i>Fuel Oil</i> * 140,000 <i>Btus/gal</i> + Reduction <i>propane</i> * 91,330 <i>Btus /gal</i> )*c / 1,000,000}	2,135.17
<b>Economic Benefits</b>		
e.	Installed Cost (\$)	\$17,000.00
f.	Annual Cost Savings (\$) {From estimated cost and savings table}	\$1,675.00
g.	Simple Payback (years) { $e \div f$ }	10.15
h.	Lifetime Cost per Million Btu (\$) { $e \div d$ }	\$7.96
<b>Environmental Benefits</b>		
i.	Annual carbon dioxide emission reductions ( <i>kg</i> )	7,444.27
j.	Lifetime carbon dioxide emission reductions ( <i>Metric Ton</i> ) { $(i * c) / 1000$ }	111.66
k.	Lifetime cost per metric ton of carbon reduced (\$) { $e \div j$ }	\$152.24

## 3. Additional Benefits

The simple payback does not include savings affiliated with operational and maintenance cost reductions. By installing a more efficient HVAC system, it is possible to further reduce system run time. Installing temperature control systems, programmable thermostats, and other energy efficient office equipment may further reduce heat load in the summer, reducing the need for cooling capacity during peak hours. Other energy saving devices may provide additional benefits that are not analyzed here.

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## EECBG PROJECT ANALYSIS – Mayor’s Office RTU Replacement

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The analysis methodology used is consistent with the *International Performance Measurement and Verification Protocol* ([www.ipmvp.org](http://www.ipmvp.org)) adopted in 2009.



## Savings Summary

The estimated costs of the project are based on estimates of the auditor. The project cost and savings are summarized below in total. Based upon our calculations, we estimate that these investments would result in the following projected energy savings and financial benefits:

**Table 9: Estimated Savings**

		Electricity [kWh]	Gas [Therms]	Total
a.	Annual energy consumption savings	5,227	638	
b.	Expected Energy Rate	\$0.11	\$1.59	
c.	Expected energy cost savings {a*b}	\$575	\$1,014	\$1,589

## 4. Energy and Economic Benefits

If you replace the existing systems as recommended it would cost roughly \$16,000 and represent annual utility cost savings of \$1,589.

**Table 10: Estimated Energy, Environmental, and Economic Benefits**

<b>Energy Benefits</b>		
a.	Electricity Demand Reduction (kW)	23.5
b.	Annual Reduction in Electricity Consumption (kWh) {From estimated cost and savings table}	5,227.00
	Annual reduction in Natural Gas Consumption (Therm)	638.00
	Annual reduction in fuel oil consumption (Gal)	0.00
	Annual reduction in propane consumption (Gal)	0.00
c.	Useful life of energy efficiency measure (years) {EEM useful life * % contributed to annual emissions savings}	15.00
d.	Lifetime energy savings from source (Million Btu) {(Reduction kWh * 10,000 Btus/kWh + Reduction Therm * 99,976 Btu/Therm + Reduction Fuel Oil * 140,000 Btus/gal + Reduction propane * 91,330 Btus /gal)*c / 1,000,000}	1,740.82
<b>Economic Benefits</b>		
e.	Installed Cost (\$)	\$16,000.00
f.	Annual Cost Savings (\$) {From estimated cost and savings table}	\$1,589.00
g.	Simple Payback (years) { e÷f }	10.07
h.	Lifetime Cost per Million Btu (\$) { e÷d }	\$9.19
<b>Environmental Benefits</b>		
i.	Annual carbon dioxide emission reductions (kg)	6,271.21
j.	Lifetime carbon dioxide emission reductions (Metric Ton) {(i * c)/1000}	94.07
k.	Lifetime cost per metric ton of carbon reduced (\$) { e÷j }	\$170.09

## 5. Additional Benefits

The simple payback does not include savings affiliated with operational and maintenance cost reductions. By installing a more efficient HVAC system, it is possible to further reduce system run time. Installing temperature control systems, programmable thermostats, and other energy efficient office equipment may further reduce heat load in the summer, reducing the need for

cooling capacity during peak hours. Other energy saving devices may provide additional benefits that are not analyzed here.

## EECBG PROJECT ANALYSIS – Public Works Lighting Replacement

The analysis methodology used is consistent with the *International Performance Measurement and Verification Protocol* (www.ipmvp.org) adopted in 2009.

### 1. Savings Summary

The estimated costs of the project are based on estimates of the auditor. The project cost and savings are summarized below in total. Based upon our calculations, we estimate that these investments would result in the following projected energy savings and financial benefits:

**Table 11: Estimated Savings**

		Electricity [kWh]	Gas [Therms]	Total
a.	Annual energy consumption savings	6,722	--	
b.	Expected Energy Rate	\$0.11	\$1.59	
c.	Expected energy cost savings $\{a*b\}$	\$739	--	\$739

### 2. Energy and Economic Benefits

If you replace the existing systems as recommended it would cost roughly \$4,072 and represent annual utility cost savings of \$739.

**Table 12: Estimated Energy, Environmental, and Economic Benefits**

<b>Energy Benefits</b>		
a.	Electricity Demand Reduction (kW)	0.32
b.	Annual Reduction in Electricity Consumption (kWh) {From estimated cost and savings table}	6,722.00
	Annual reduction in Natural Gas Consumption (Therm)	0.00
	Annual reduction in fuel oil consumption (Gal)	0.00
	Annual reduction in propane consumption (Gal)	0.00
c.	Useful life of energy efficiency measure (years) {EEM useful life * % contributed to annual emissions savings}	11.00
d.	Lifetime energy savings from source (Million Btu) {(Reduction kWh * 10,000 Btus/kWh + Reduction Therm * 99,976 Btu/Therm + Reduction Fuel Oil * 140,000 Btus/gal + Reduction propane * 91,330 Btus /gal)*c / 1,000,000}	739.42
<b>Economic Benefits</b>		
e.	Installed Cost (\$)	\$4,072.00
f.	Annual Cost Savings (\$) {From estimated cost and savings table}	\$739.00
g.	Simple Payback (years) { e ÷ f }	5.51
h.	Lifetime Cost per Million Btu (\$) { e ÷ d }	\$5.51
<b>Environmental Benefits</b>		
i.	Annual carbon dioxide emission reductions (kg)	3,468.55
j.	Lifetime carbon dioxide emission reductions (Metric Ton) {(i * c)/1000}	38.15

k.	Lifetime cost per metric ton of carbon reduced (\$) { $e \div j$ }	\$106.73
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### 3. Additional Benefits

The simple payback does not include savings affiliated with potential operational and maintenance cost reductions.

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## RECOMMENDATION

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### Recommended EECMs

This audit studied the potential for three grant-qualified EECMs, including two HVAC system replacements at the Police Department and Mayor's Office, and one lighting replacement project at Public Works. The total estimated project costs come very close to the total dollar amount of your EECBG award. The proposed EECMs demonstrate substantial energy, environmental and economic savings.

We can confirm that the recommended EECMs are eligible to receive EmPOWER EECBG funds and verify that the EECMs will reduce energy consumption and/or generate clean energy. Keep in mind that EECM costs in this report are estimates only and may change after you have received bids from contractors, and in turn the actual costs may affect this report's estimated payback.

If you decide to leverage non-ARRA financial resources to expand your project beyond the scope estimated to be fundable using your EECBG grant, please keep in mind that if you commingle other funds with your EECBG grant for additional measures, you will be required to comply with all ARRA reporting requirements.

### Leveraging Additional Funds

MEA and the EECBG technical assistance team would like to be sure that you are aware of the following additional energy project funding sources that are available in case you wish to consider executing future energy projects:

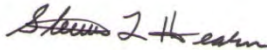
- EmPOWER Programs. The major Maryland electric utilities offer energy efficiency incentives. Riverdale Park is served by Pepco. Details on Pepco's EmPOWER program offering can be found at <http://www.pepco.com/energy/conservation/meiin/>
- MEA's Lawton Loan Program. This Maryland state program has a limited amount of energy efficiency loan funding available that local governments are eligible for. The minimum loan size is \$40,000 so this could be useful for projects that need a substantial amount of additional funding. For more information, browse to <http://energy.maryland.gov/incentives/state-local/janeelawton.asp>
- Incentive Programs. The Database of State Incentives for Renewables and Efficiency (DSIRE) is a comprehensive source of information on federal, utility and county incentives and policies that promote renewable energy and energy efficiency. The DSIRE database can be found on the Internet at <http://www.dsireusa.org/about>

**Next Steps**

If you would like to discuss this analysis in greater detail, please contact Steve Hearn at [shearn@khepragroup.com](mailto:shearn@khepragroup.com).

On the following page, please find a checklist of items that must be submitted to MEA in order for your project to be approved. Following MEA approval, your Account Manager will work with you on Post-Project Approval steps. Please review Addendum D of your ARRA Addendum to the EECBG Grant Agreement for more information on the procurement requirements.

Sincerely,



Steve Hearn  
MEA Technical Assistance Team Energy Auditor  
Khepra Energy Group  
[shearn@khepragroup.com](mailto:shearn@khepragroup.com)

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## PROJECT APPROVAL CHECK LIST

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As outlined in Attachment E of your EECBG grant agreement, once you have decided on the project that you wish to implement with your EECBG grant funds, MEA must approve your project.

Below is a check list of items that must be submitted to MEA in order for your project to be approved. Your Technical Assistance Team representative will work with you to compile the documentation listed below and to submit the appropriate documentation to MEA.

<b>Check List of Items for Project Approval</b>	
<b>1. Eligible Technology</b>	
<input type="checkbox"/>	a. Ensure that the proposed project is on the list of eligible energy technologies contained in Attachment A of your EECBG grant agreement.
<b>2. Audit Report</b>	
<input type="checkbox"/>	a. Ensure that the project energy savings have been quantified in the <i>Audit Report</i> provided by MEA's Technical Assistance Contractor.
<b>3. Historic Preservation</b>	
<input type="checkbox"/>	a. Submit Historical Preservation documentation to MEA. This can consist of either 1) a completed <i>Maryland Historical Trust (MHT) Project Approval Form</i> (Attachment C <sup>1</sup> of your grant agreement) signed by MHT <i>or</i> 2) documentation from MEA's qualified historian that your project is eligible to be exempted from the MHT review process under the Programmatic Agreement between MEA, MHT, and the U.S. Department of Energy (DOE).
<b>4. Waste Management Plan</b>	
<input type="checkbox"/>	a. Complete and Submit the <i>Maryland EECBG Waste Management Plan Template, Part 1</i> (Attachment B in your EECBG grant agreement).

Your completed forms and supporting documentation should be sent to your assigned Technical Assistance Team *Account Manager*, who will make the forms available to MEA for review.

After review by MEA, MEA will send a signed copy of the *EECBG Project Approval Form* (Attachment E of your EECBG grant agreement) to you. Only after you have a signed copy of the *Project Approval Form* can you proceed to procurement and installation for your project—as detailed in the *Post-Project Approval Checklist* available from your *Account Manager*.

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<sup>1</sup> All project forms can be found in your grant agreement, and also on MEA's EECBG website:  
<http://www.energy.state.md.us/EECBG.asp>