

MEMORANDUM

April 12, 2013

TO: Transportation, Infrastructure, Energy & Environment Committee

FROM: *KL* Keith Levchenko, Senior Legislative Analyst

SUBJECT: **FY14 Operating Budget:** Utilities Non-Departmental Account (NDA)

Council Staff Recommendation: Approve the FY14 Utilities NDA as recommended by the County Executive.

NOTE: Agency utility budgets could be revised, depending on Council action on the Energy Tax.

Attachments to this Memorandum

- County Executive's FY14 Recommended Budget Section for Utilities (©1-7)
- FY14 County Government (Department of General Services (DGS)) Resource Conservation Plan (©8-14)
- Excerpts from Agency Resource Conservation Plans
 - Montgomery County Public Schools (MCPS): ©15-23
 - Washington Suburban Sanitary Commission (WSSC): ©24-33
 - Maryland-National Park and Planning Commission (M-NCPPC): ©34-42
 - Montgomery College: ©43-50
- List of New Construction Projects – Projected Utility Usage in FY14 (DGS)

Staff from the Department of General Services (DGS), including Deputy Director Beryl Feinberg and the Chief of the Division of Central Services Angela Dizelos will be available at the Committee worksession to discuss County Government utility issues and the Utilities Non-Departmental Account budget. Utility managers from the outside agencies have also been invited to attend this worksession.

Background

As part of the annual Operating Budget review process, the Council reviews utility costs

across all agencies and policy issues associated with utility¹ costs. This review covers utility costs for electricity, natural gas, water & sewer, fuel oil, and propane for the County Government, the College, MCPS, M-NCPPC, and the entire bi-County area of WSSC.

Utility costs associated with County Government General Fund departments are included in the Utilities Non-Departmental Account. Utility costs associated with Tax and Non-Tax Supported Special Funds, as well as with the outside agencies, are budgeted separately in each of those funds and agencies. The “Utilities” section from the Recommended Operating Budget is attached on ©1-7.

Agency representatives meet periodically through the Interagency Committee on Energy and Utilities Management (ICEUM) to discuss energy issues. Given the volatility of energy and fuel prices, and the unique circumstances of each agency in terms of its short- and long-term contracting practices for energy, adopting specific rates applicable to all agencies is not feasible. Each agency develops its own energy budget based on assumptions specific to that agency.

Utility budgets are based on rate assumptions as well as on projected changes in energy consumption at existing facilities and estimated energy requirements for new facilities coming on-line during FY14. Energy efficiency measures are taken into account as well. It is important to note that energy use is also greatly affected by the severity of weather conditions in a given year. The utilities budgets presented here assume a typical weather year.

The outside agencies and DGS recently completed their FY14 Resource Conservation Plans, which summarize energy consumption trends as well as past, present, and planned energy conservation initiatives and their expected impacts in terms of consumption and cost savings. The full DGS Resource Conservation Plan is attached on ©9-15. Excerpts from the MCPS, WSSC, M-NCPPC, and Montgomery College Resource Conservation Plans are attached beginning on ©16.

Fiscal Summary (All Agencies)

The FY14 budgets for utilities by agency are summarized below.

Table 1:
Utility Costs by Agency

Agency	Actual			Approved FY12	Approved FY13	GE Rec FY14	Change (FY14 vs. FY13)	
	FY09	FY10	FY11				\$\$	%
County Government	34,201,405	34,311,128	37,987,067	37,909,670	33,664,982	35,846,850	2,181,868	6.5%
MCPS	40,350,189	40,664,814	41,329,506	41,687,370	38,315,819	36,792,003	(1,523,816)	-4.0%
Montgomery College	6,236,514	6,906,351	7,711,568	8,467,370	6,560,471	7,096,728	536,257	8.2%
WSSC	26,617,000	28,550,000	28,527,669	25,644,000	24,582,052	23,910,000	(672,052)	-2.7%
M-NCPPC	3,411,679	3,548,140	3,432,845	4,018,250	3,830,300	5,388,300	1,558,000	40.7%
Total	110,816,787	113,980,433	118,988,655	117,726,660	106,953,624	109,033,881	2,080,257	1.9%

Note: FY10 actuals shown for County Government are for 11 months of costs instead of 12 due to a change in the timing of year-end close-out practices as a result of the new ERP system.

¹ Motor fuel costs are not included in the numbers presented in this memorandum. General Fund costs for motor fuels are budgeted in the Department of General Services-Division of Fleet Management Services. Motor fuel costs are also included in the various special funds and outside agency budgets.

Overall, utility costs are recommended to increase \$2.1 million (1.9 percent). This comes after a substantial decrease (\$10.8 million, or 9.2 percent) from the FY12 Approved to FY13 budgets. This is the first overall increase since FY11. However, the trends vary greatly by agency, with MCPS and WSSC experiencing decreases while the other agencies are seeing increases.²

The following chart presents utility costs by type.

**Table 2:
Utility Costs by Type (All Agencies)**

Type of Utility	Actual			Approved		CE Rec FY14	FY14 % of Total	Change (FY14 vs. FY13)	
	FY09	FY10	FY11	FY12	FY13			\$\$	%
Electricity	88,230,639	92,665,703	98,012,737	94,917,535	87,036,454	89,189,646	81.8%	2,153,192	2.5%
Water and Sewer	5,653,148	5,199,035	5,758,621	7,514,720	7,597,771	7,009,301	6.4%	(588,470)	-7.7%
Fuel Oil	494,202	561,770	331,242	547,122	1,074,780	2,023,151	1.9%	948,371	88.2%
Natural Gas	16,227,906	15,278,097	14,594,891	14,416,885	11,481,609	10,465,247	9.6%	(1,016,362)	-8.9%
Propane	210,891	275,780	291,164	330,398	318,410	346,536	0.3%	28,126	8.8%
Total	110,816,786	113,980,385	118,988,655	117,726,660	107,509,024	109,033,881	100.0%	1,524,857	1.4%

As in past years, electricity costs (81.8 percent of the total) and natural gas costs (9.6 percent of the total) account for the bulk of all utility costs. Across all agencies, electricity costs from FY13 approved levels are projected to increase, while natural gas costs are projected to decline. Water and sewer expenditures are also projected to decline from approved levels, although DGS has noted that water and sewer costs will be increasing from FY13 estimated costs.

Fiscal Summary: (General Fund Non-Departmental Account)

The Department of General Services (which manages County Government utility costs) is responsible for 241 County-owned facilities with about 6 million square feet of space. There are also another 85 leased facilities with about 1.2 million square feet of space.

For the General Fund NDA (which accounts for the tax-supported General Fund portion of the County Government's utility costs), utilities are recommended to increase by about \$785,000 (or 3.0 percent), as shown in the following chart.

**Table 3:
NDA Utility Costs by Type (General Fund Only)**

Type of Utility	Actual		Approved		CE Rec FY14	FY14 % of Total	Change (FY14 vs. FY13)	
	FY11	FY12	FY13	FY14			\$\$	%
Electricity	24,441,500	23,761,843	22,630,630	23,375,947	23,375,947	86.8%	745,317	3.3%
Water and Sewer	1,881,230	1,520,404	2,090,500	1,825,663	1,825,663	6.8%	(264,837)	-12.7%
Fuel Oil	106,000	109,726	210,000	210,000	210,000	0.8%	-	0.0%
Natural Gas	2,199,260	1,303,010	1,168,730	1,472,902	1,472,902	5.5%	304,172	26.0%
Propane	2,450	20,424	60,000	60,000	60,000	0.2%	-	0.0%
Total	28,630,440	26,715,407	26,159,860	26,944,512	26,944,512	100.0%	784,652	3.0%

Electricity (which makes up 86.8 percent of all expenditures) and natural gas (which makes up 5.5% of all expenditures) are both up (3.3 percent and 26 percent respectively).

² Comparisons between agencies are problematic, given the differences in each agency's energy usage profile, differing opportunities to achieve energy savings, and energy purchasing processes. Comparing a particular agency over time is a fairer measure of progress.

The Executive's Recommended Budget provides a crosswalk from FY13 to FY14 (see chart at the bottom of the page on ©4). The major changes include:

- \$1.5 million increase in streetlight utilities: According to DGS, the costs for FY13 maintenance costs for retrofitting street lights from mercury vapor to high pressure sodium are higher than budgeted. The FY14 recommended budget increases for Traffic Engineering align the budget with FY13 actual expenditures.
- \$725,511 increase for new and renovated buildings in FY14: DGS provided detail sheets (see ©51-52 breaking out the square footage, estimated energy usage, and costs).
- \$1.3 million decrease in costs based on estimated consumption and unit costs: These savings are based on preliminary 3rd quarter analysis for FY13 and an extrapolation of savings to the FY14 base budget as a result.
- \$100,000 in costs shifted from the Utilities NDA to the County Attorney (for Public Service Commission representation). The services were brought "in-house" to the County Attorney's office and the corresponding charges to the Utilities Budget and to the Office of Consumer Protection are being removed.

Discussion

Clean Energy Procurement

The County's Energy Policy (established under Resolution 16-757 in October 2008) called for the County to achieve 20 percent or more of its energy portfolio from clean energy purchases by 2011, which all of the County agencies have achieved. For FY12 and FY13, the County Government achieved a 30 percent level of clean energy purchases, which it plans to achieve in FY14 as well. WSSC purchases about 30% of its power through a direct purchase agreement with a wind power supplier. Montgomery College and MCPS are assuming 20 percent. Council Staff did not have M-NCPPC's assumption for FY14 in time for inclusion in this memorandum.

Electricity Procurement for County Government

The County has a fixed price contract in place through January 2015. The County manages 1,013 electricity accounts, of which 695 are streetlights or traffic signals.

Last year, the Council agreed that during this current fixed price period, ICEUM should identify different purchasing options that County Government should consider in the future and how these would compare in cost and operation to the current fixed price approach of the County. This suggestion is consistent with the previous CARS effort (discussed later), which identified cooperative energy purchasing as a strategy that should be further studied. Also, wholesale block purchasing strategies (which MCPS and WSSC utilize) should also be considered.

Consultant services may be needed to flesh out these different options. The cost and scope of such a contract should be presented to the Council for consideration on a schedule sufficient to allow for a potential transition to a new purchasing model at the conclusion of the current fixed price contract.

Council Staff suggests that the Committee discuss this issue with DGS staff to 1) confirm whether (and how much) consultant services would be needed and 2) determine on what schedule. If consultant services would be needed in 2014, the Committee may wish to consider placing these costs on the Reconciliation List.

Natural Gas Procurement for County Government

ICEUM staffs from Montgomery County Government, Montgomery College, and M-NCPPC are considering bridging a regional natural gas contract in order to lock in prices through FY16. Natural gas prices bottomed out in recent years and have begun to rise again, and expectations are that prices are more likely to rise than fall in the near future.

As with the discussion of alternative purchasing strategies for electricity, County Government may wish to consider natural gas procurement options as well. However, given that such a study would take a number of months, Council Staff recognizes that a decision to lock in natural gas prices will need to be made prior to this effort.

Fuel/Energy Tax Sunset Issue

In 2010, the Council approved a major increase to the Fuel/Energy Tax. The increase had been scheduled (by legislation) to sunset after FY12. However, the County Executive's FY13 Recommended Budget (including the NDA for Utilities) assumed the sunset did not occur in FY13. The Council later approved an increase (albeit lower than what was assumed in the County Executive's FY13 Recommended Budget).

For FY14, the County Executive is recommending no change in the energy tax rate and the agency utility budgets assume no increase in the rate.

Councilmember Andrews has introduced legislation that would reduce the revenue received from the 2010 energy tax by 10 percent. If this reduction is approved, while County revenue would be reduced by an estimated \$11.6 million, there would be some offsetting savings in agency utility budgets. Council Staff has asked the agencies to provide an estimate of potential savings.

Council Staff notes that agency utility budgets could be revised downward if the Council chooses to reduce the energy tax.

Energy Usage Trends

In past years, the Committee has discussed energy usage trends with agency staff during its discussion of the Utilities NDA budget. These trends have looked at agency energy consumption over time as well as how the agencies compare to national averages.

This year, the Resource Conservation Plans and other energy usage information came to County Staff too late for this kind of analysis as part of the Utilities budget review. However, a discussion can be scheduled after the budget if desired by the Committee.

County Government Facility Retrofits

Consistent with Council Bill 30-07, Buildings – Energy Efficiency (enacted in April 2008) and Montgomery County’s Climate Protection Plan (transmitted to the Council in January 2009), the Department of General Services (DGS) hired a consultant (EMG) to do an energy analysis of Montgomery County facilities. The report included what the consultant identified as reasonable targets for potential cost savings (60%), energy savings (45%), and greenhouse gas reductions (58,000 metric tons) by 2015. These annual cost savings would result in a payback period on the upfront capital costs (\$57 to \$67 million) of 8 to 10 years.

DGS developed a priority list of work from this effort. Funding for this work is coming from multiple sources, such as: the Energy Conservation: MCG project (\$150,000 per year in current revenue funding) and American Recovery and Reinvestment Act of 2009 Federal grant dollars.

In FY12, DGS used these funds for two parking garage lighting projects in the Rockville core and Heating and Cooling plant upgrades for the Strathmore Concert Hall.

FY13 ongoing measures are noted in DGS’ Resource Conservation Plan on ©13. FY14 planned measures are presented on ©15.

Also, as part of the FY13-18 CIP, a new capital project, Energy Systems Modernization, was approved. This project is intended to implement energy savings performance contracting efforts with \$10 million in expenditures (long-time financing) assumed in both FY13 and FY14.

According to DGS, the County has reached agreement with a vendor and is in the process of drafting a contract for a pilot project for the County’s Health and Human Services Headquarters. Council Staff suggests the Committee get an update from DGS on this project and on the list of work to be scheduled in the next few years through the performance contracting effort.

Cross Agency Resource Sharing (CARS) Committee – Utilities Workgroup

On March 24, 2010, the Chief Administrative Officer announced an interagency initiative to look at possible efficiencies from better coordination and possible consolidation of similar efforts across agencies. In addition to the creation of a high level Executive Committee, nine

subject specific interagency workgroups were convened, including one for utilities. While the agencies already share information via ICEUM, the goal of CARS was to go beyond current practices.

Two years ago, the Utilities workgroup identified a number of short- and long-term initiatives. Three immediate initiatives included: a multi-agency energy service contract agreement for energy efficiency and renewable energy retrofits, an interagency energy conservation campaign (never formally rolled out), fluorescent light retrofits across the agencies (ongoing), and building operator certification (BOC) training (ongoing). Future potential projects include expanding and enhancing the cooperative purchasing of utilities, participating in PJM load management programs, and several other cooperative efforts.

While the work above is moving along through the ICEUM group, the CARS Committee itself has been dormant for some time. Council Staff has asked Executive Staff to provide an update on the status of CARS.

Council Staff Recommendation – Utilities NDA

Council Staff recommends approval of the FY14 Utilities NDA as recommended by the County Executive.

Attachments

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Utilities

MISSION STATEMENT

The goals of the County Government relating to utility consumption are to:

- achieve energy savings by the elimination of wasteful or inefficient operation of building systems;
- continue improvements in energy efficiency in all County operations; and
- obtain required energy fuels at the most favorable cost to the County.

HIGHLIGHTS

This budget funds the utility costs for 236 (General Fund) facilities with approximately 5,592,578 total square feet, and over 67,359 streetlights and 822 traffic controlled signalized intersections.

BUDGET OVERVIEW

The FY14 Recommended Budget for the tax-supported Utilities non-departmental account (NDA) is \$26,944,512, an increase of \$784,652 or 3.2 percent from the FY13 Approved Budget of \$26,109,860. Allocation of these utilities expenditures is approximately: electricity, 85.8 percent; natural gas, 5.5 percent; water and sewer, 6.8 percent; fuel oil, 0.8 percent, and propane, .2 percent.

The FY14 Recommended Budget includes County government utilities expenditures for both tax and non-tax supported operations. Tax-supported utilities expenditures related to the General Fund departments are budgeted in the Utilities NDA, while utilities expenditures related to special fund departments are budgeted in those funds. Some of these special funds, such as Recreation and portions of the Department of Transportation, are tax supported. Other special funds, such as Solid Waste, are not supported by taxes, but through user fees or charges for services.

Utilities expenditures are also found in the budgets of other County agencies: Montgomery County Public Schools (MCPS), Montgomery College, the Washington Suburban Sanitary Commission (WSSC), and the Maryland-National Capital Park and Planning Commission (M-NCPPC). The total budget request for these "outside" agencies is \$73,187,031 which includes the entire bi-county area of WSSC.

The FY14 Recommended tax-supported budget for Utilities Management, including both the General Fund NDA (\$26,944,512) and the other tax supported funds (\$2,831,872), is \$29,776,384, an increase of \$785,602 or approximately 2.7 percent from the FY13 Approved utilities budget. The FY14 Recommended budget for non-tax supported utilities expenditures is \$4,813,658, an increase of \$139,458 or 2.98 percent from the FY13 Approved Budget.

In both the tax and non-tax supported funds, increased utilities expenditures result primarily from greater consumption due to new facilities or services; and in some cases, a more precise alignment of budgeted costs with actual prior-year expenditures by utility type; decreases in utility expenditures result primarily from reductions in consumption. Energy conservation and cost-saving measures (e.g., new building design, lighting technology, energy, and HVAC management systems) help offset increased utility consumption or unit costs.

Unleaded Gasoline, Diesel, and Compressed Natural Gas fuels are purchased from various providers, and are budgeted in the Department of General Services, Division of Fleet Management Services; not the General Fund Utilities NDA. Interagency Committee on Energy and Utilities Management (ICEUM) also monitors changes in energy costs in the current year and will recommend appropriate changes, if necessary, prior to final Council approval of the FY14 Budget.

The following is a description of utility service requirements for departments which receive tax or non-tax supported appropriations for utilities expenditures. The utilities expenditures for the non-tax supported operations are appropriated within their respective operating funds but are described in the combined utilities presentation for reader convenience.

TAX SUPPORTED

Department of General Services

The Department of General Services is responsible for managing all utilities for general County operations including all County office buildings, police stations, libraries, health and human services facilities, correctional facilities, maintenance buildings, and warehouses.

Department of Transportation

The Department of Transportation manages all County streetlights, traffic signals, traffic count stations, and flashing school signs. The utilities expenditures for these devices are budgeted here as this Department designs, installs, controls, and maintains them. In addition, minimal utility costs for the Operations Center and Highway Maintenance Depots are budgeted in the Traffic Engineering component of the General Fund non-departmental account.

Division of Transit Services - Mass Transit

The Department of Transportation Mass Transit Facilities Fund supports all utilities associated with the Ride On transit centers and Park and Ride Lots.

Department of Recreation

The Department of Recreation funds all utility costs for its recreational facilities located throughout the County, such as swimming pools, community recreation centers, and senior citizen centers.

Urban Districts

Urban District utilities are supported by Urban District Funds, which are included in the operating budget for Regional Services Centers.

NON-TAX SUPPORTED

Fleet Management Services

The Department of General Services - Fleet Management Services utility expenditures are displayed in the Special Fund Agencies - Non-Tax Supported section, to reflect that Fleet Management Services expenditures are not appropriated directly but in the budgets of other departments.

The Department of General Services - Fleet Management Services Motor Pool Internal Service Fund supports all utilities associated with the vehicle maintenance garages in Rockville, Silver Spring, and Gaithersburg. Fuel for the County's fleet is also budgeted in that special fund, but these costs are not included in the utilities expenditures displayed in this section.

Parking Districts

The Parking Districts funds utility expenditures associated with the operation of all County-owned parking garages and parking lots.

Liquor Control

The Department of Liquor Control funds utility expenditures associated with the operation of the liquor warehouse, administrative offices, and the County-owned and contractor-operated retail liquor stores.

Department of Environmental Protection, Solid Waste Services

Solid Waste Services funds utility expenditures associated with the operation of the County's Solid Waste Management System. Utilities expenditures associated with the operation of the Oaks Sanitary Landfill maintenance building, the County's Recycling Center, the Resource Recovery Facility, and most of the Solid Waste Transfer Station are currently the responsibility of the operators. Only the site office and maintenance depot costs continue to be budgeted as an identifiable utilities expenditure in the Solid Waste Disposal Fund.

Other Agencies

Utilities for MCPS, Montgomery College, (bi-county) WSSC, and M-NCPPC are displayed in the charts on the following pages. These are the amounts requested in the budgets of those agencies.

LINKAGE TO COUNTY RESULT AREAS

While this program area supports all eight of the County Result Areas, the following are emphasized:

- ❖ *An Effective and Efficient Transportation Network*
- ❖ *Safe Streets and Secure Neighborhoods*

PROGRAM CONTACTS

Contact Erika Lopez-Finn of the Office of Management and Budget at 240.777.2771 for more information regarding this department's operating budget.

PROGRAM DESCRIPTIONS

Utilities (for All General Fund Departments)

The Utilities non-departmental account provides the General Fund utilities operating expense appropriations for the facilities maintained by the Department of General Services and the Department of Transportation. The utilities expenditures for other non-tax supported operations and other agencies are appropriated within their respective department or agency.

BUDGET SUMMARY

	Actual FY12	Budget FY13	Estimated FY13	Recommended FY14	% Chg Bud/Rec
COUNTY GENERAL FUND					
EXPENDITURES					
Salaries and Wages	0	0	0	0	---
Employee Benefits	0	0	0	0	---
County General Fund Personnel Costs	0	0	0	0	---
Operating Expenses	26,715,407	26,109,860	26,109,860	26,944,512	3.2%
Capital Outlay	0	0	0	0	---
County General Fund Expenditures	26,715,407	26,109,860	26,109,860	26,944,512	3.2%
PERSONNEL					
Full-Time	0	0	0	0	---
Part-Time	0	0	0	0	---
FTEs	0.00	0.00	0.00	0.00	---
GRANT FUND MCG					
EXPENDITURES					
Salaries and Wages	0	0	0	0	---
Employee Benefits	0	0	0	0	---
Grant Fund MCG Personnel Costs	0	0	0	0	---
Operating Expenses	121,618	0	0	0	---
Capital Outlay	0	0	0	0	---
Grant Fund MCG Expenditures	121,618	0	0	0	---
PERSONNEL					
Full-Time	0	0	0	0	---
Part-Time	0	0	0	0	---
FTEs	0.00	0.00	0.00	0.00	---
REVENUES					
Federal Grants	121,618	0	0	0	---
Grant Fund MCG Revenues	121,618	0	0	0	---
DEPARTMENT TOTALS					
Total Expenditures	26,837,025	26,109,860	26,109,860	26,944,512	3.2%
Total Full-Time Positions	0	0	0	0	---
Total Part-Time Positions	0	0	0	0	---
Total FTEs	0.00	0.00	0.00	0.00	---
Total Revenues	121,618	0	0	0	---

FY14 RECOMMENDED CHANGES

	Expenditures	FTEs
COUNTY GENERAL FUND		
FY13 ORIGINAL APPROPRIATION	26,109,860	0.00
Other Adjustments (with no service impacts)		
Increase Cost: Traffic Engineering Streetlight Utilities	1,526,523	0.00
Increase Cost: Utility costs for new and renovated buildings in FY14	725,511	0.00
Shift: Shift to County Attorney (bring in Public Service Commission attorney representation in-house)	-100,000	0.00
Decrease Cost: Due to estimated consumption and unit costs	-1,317,382	0.00
FY14 RECOMMENDED:	26,944,512	0.00

FUTURE FISCAL IMPACTS

Title	CE REC. (S000's)					
	FY14	FY15	FY16	FY17	FY18	FY19
This table is intended to present significant future fiscal impacts of the department's programs.						
COUNTY GENERAL FUND						
Expenditures						
FY14 Recommended	26,945	26,945	26,945	26,945	26,945	26,945
No inflation or compensation change is included in outyear projections.						
Subtotal Expenditures	26,945	26,945	26,945	26,945	26,945	26,945

COUNTY UTILITIES EXPENDITURES

EXPENDITURES BY ENERGY SOURCE

	ACTUAL FY11	ACTUAL FY12	APPROVED FY13	RECOMMENDED FY14	CHANGE BUDGET/REC	% CHANGE BUDGET/REC
COUNTY GOVERNMENT TAX SUPPORTED OPERATIONS						
NON-DEPARTMENTAL ACCOUNT						
Electricity	24,441,500	23,761,843	22,630,630	23,375,947	745,317	3.3%
Water & Sewer	1,881,230	1,520,404	2,090,500	1,825,663	-264,837	-12.7%
Fuel Oil	106,000	109,726	210,000	210,000	0	0.0%
Natural Gas	2,199,260	1,303,010	1,168,730	1,472,902	304,172	26.0%
Propane	2,450	20,424	60,000	60,000	0	0.0%
GENERAL FUND NDA EXPENDITURES	28,630,440	26,715,407	26,159,860	26,944,512	784,652	3.0%
OTHER TAX SUPPORTED OPERATIONS						
Electricity	2,661,046	2,462,135	1,831,222	1,832,172	950	0.1%
Water & Sewer	384,417	519,967	360,090	360,090	0	0.0%
Fuel Oil	29,622	12,007	0	0	0	N/A
Natural Gas	513,201	450,172	639,610	639,610	0	0.0%
Propane	48,398	28,333	0	0	0	N/A
SUBTOTAL	3,636,684	3,472,614	2,830,922	2,831,872	950	0.0%
TOTAL TAX SUPPORTED	32,267,124	30,188,021	28,990,782	29,776,384	785,602	2.7%
NON-TAX SUPPORTED OPERATIONS						
Electricity	5,156,063	5,447,371	4,009,122	5,394,025	1,384,903	34.5%
Water & Sewer	110,704	103,449	212,274	223,212	10,938	5.2%
Fuel Oil	3,122	2,670	0	0	0	N/A
Natural Gas	450,054	328,486	451,764	452,189	425	0.1%
Propane	0	0	1,040	1,040	0	0.0%
TOTAL NON-TAX SUPPORTED	5,719,943	5,881,976	4,674,200	6,070,466	1,396,266	29.9%
SUMMARY - COUNTY GOVERNMENT						
Electricity	32,258,609	31,671,349	28,470,974	30,602,144	2,131,170	7.5%
Water & Sewer	2,376,351	2,143,820	2,662,864	2,408,965	-253,899	-9.5%
Fuel Oil	138,744	124,403	210,000	210,000	0	0.0%
Natural Gas	3,162,515	2,081,668	2,260,104	2,564,701	304,597	13.5%
Propane	50,848	48,757	61,040	61,040	0	0.0%
TOTAL COUNTY GOVERNMENT	37,987,067	36,069,997	33,664,982	35,846,850	2,181,868	6.5%
OUTSIDE AGENCIES TAX AND NON-TAX SUPPORTED OPERATIONS						
Electricity	65,754,128	63,249,890	58,565,480	58,587,502	22,022	0.0%
Water & Sewer	3,382,270	4,790,030	4,934,907	4,600,336	-334,571	-6.8%
Fuel Oil	192,498	413,500	864,780	1,813,151	948,371	109.7%
Natural Gas	11,432,376	11,086,670	9,221,505	7,900,546	-1,320,959	-14.3%
Propane	240,316	276,900	257,370	285,496	28,126	10.9%
SUBTOTAL	81,001,588	79,816,990	73,844,042	73,187,031	-657,011	-0.9%
TOTAL UTILITIES EXPENDITURES						
Electricity	98,012,737	94,921,239	87,036,454	89,189,646	2,153,192	2.5%
Water & Sewer	5,758,621	6,933,850	7,597,771	7,009,301	-588,470	-7.7%
Fuel Oil	331,242	537,903	1,074,780	2,023,151	948,371	88.2%
Natural Gas	14,594,891	13,168,338	11,481,609	10,465,247	-1,016,362	-8.9%
Propane	291,164	325,657	318,410	346,536	28,126	8.8%
TOTAL UTILITIES EXPENDITURES	118,988,655	115,886,987	107,509,024	109,033,881	1,524,857	1.4%

COUNTY UTILITIES EXPENDITURES

EXPENDITURES BY DEPARTMENT/AGENCY

	ACTUAL FY11	ACTUAL FY12	APPROVED FY13	RECOMMENDED FY14	CHANGE BUD/APPR	% CHANGE REC/APPR
COUNTY GOVERNMENT TAX SUPPORTED OPERATIONS						
NON-DEPARTMENTAL ACCOUNT						
Facilities	18,539,080	17,102,414	17,126,420	16,384,548	(741,872)	-4.3%
Traffic Signals and Streetlighting	10,091,360	9,612,993	9,033,440	10,559,964	1,526,524	16.9%
GENERAL FUND NDA EXPENDITURES	28,630,440	26,715,407	26,159,860	26,944,512	784,652	3.0%
OTHER TAX SUPPORTED OPERATIONS						
Transit Services	89,089	90,394	91,730	91,730	0	0.0%
Recreation	3,547,595	3,382,220	2,739,192	2,740,142	950	0.0%
SUBTOTAL	3,636,684	3,472,614	2,830,922	2,831,872	950	0.0%
TOTAL TAX SUPPORTED	32,267,124	30,188,021	28,990,782	29,776,384	785,602	2.7%
COUNTY GOVERNMENT NON-TAX SUPPORTED OPERATIONS						
Fleet Management Services	899,648	1,288,141	916,010	1,630,392	714,382	78.0%
Parking Districts	3,730,870	3,513,100	2,860,708	3,120,058	259,350	9.1%
Liquor Control	945,997	950,804	765,810	1,093,810	328,000	42.8%
Solid Waste Services	143,428	129,931	131,672	226,206	94,534	71.8%
TOTAL NON-TAX SUPPORTED	5,719,943	5,881,976	4,674,200	6,070,466	1,396,266	29.9%
SUMMARY - COUNTY GOVERNMENT						
TOTAL TAX SUPPORTED	32,267,124	30,188,021	28,990,782	29,776,384	785,602	2.7%
TOTAL NON-TAX SUPPORTED	5,719,943	5,881,976	4,674,200	6,070,466	1,396,266	29.9%
TOTAL COUNTY GOVERNMENT	37,987,067	36,069,997	33,664,982	35,846,850	2,181,868	6.5%
OUTSIDE AGENCIES TAX AND NON-TAX SUPPORTED OPERATIONS						
Montgomery County Public Schools	41,329,506	41,687,370	38,315,819	36,792,003	(1,523,816)	-4.0%
Montgomery College	7,711,568	8,467,370	6,560,471	7,096,728	536,257	8.2%
Washington Suburban Sanitary Commission	28,527,669	25,644,000	24,582,052	23,910,000	(672,052)	-2.7%
M-NCPPC	3,432,845	4,018,250	3,830,300	5,388,300	1,558,000	40.7%
TOTAL OTHER AGENCIES EXPENDITURES	81,001,588	79,816,990	73,288,642	73,187,031	(101,611)	-0.1%
TOTAL UTILITIES EXPENDITURES	118,988,655	115,886,987	106,953,624	109,033,881	(8,933,363)	1.9%



**FY 2014
Resource Conservation Plan**

**Department of General Services
Division of Central Services**

April 2013

Summary

The information on this page reflects the facilities owned or operated by this agency as of the end of FY 12(June 30, 2012)

Agency	MC Government DPWT Division of Operations		
Number of Facilities	241(owned) 85 (leased)	Change in number of facilities	9
Total square feet	6,029,477 (owned) 1,231,673 (leased)	Change in total ft ²	405,256
Average operating hrs/year	Not available	Change in avg. operating hrs/year	Not available

Utilities:	units	total consumption (actual FY11)	total consumption (actual FY12)	Percent change from actual FY11	total cost (actual FY11) \$	total cost (actual FY 12 \$	Percent change from actual FY 10
Electricity	kWh	85,275,340	93,951,845	9.24%	13,891,353	13,799,741	-0.66%
Natural Gas (firm)	THERMS	1,408,950	1,128,756	-24.82%	1,597,930	1,297,167	-23.19%
Natural Gas (Irate)	THERMS						
Fuel Oil #2	Gallons	67,303	28,794	-133.74%	241,371	109,726	-119.98%
Propane	Gallons	20,150	7,806	-158.13%	52,394	20,424	-156.53%
Water/Sewer	Gallons	115,825	116,596	0.66%	1,487,182	1,525,587	2.52%
Total						16,752,645	0.83%

Other changes effecting energy consumption	
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Electricity Contracting:

The County has successfully utilized the existing DC Government electricity contract and negotiated new electricity supply rates for all Montgomery County Government accounts. Also included in the effort were 10 municipalities and townships. The new rates will go into effect starting July 1st 2012 and remain unchanged until contract termination due in January 2015.

The total first year savings to include Townships and Municipalities was calculated to be \$11,053,926 for a volume of 523,275,096 kWh. The savings are based on the rate difference that resulted from more favorable current rates as compared with existing rates.

Montgomery County Government first year saving were calculated to be \$6,401,171 for a total volume of 193,992,802 kWh. This endeavor incorporates all Montgomery County accounts, such as NDA facilities and Traffic Engineering, Recreation, Police & Fire, Parking lot District, Fleet and Liquor control.

The NDA facilities (85,275,340 kWh) and Traffic Engineering NDA (43,198,233 kWh) will obtain savings in proportion to their volume and rate allocation for the various Electric Distributing Companies.

Summary - Montgomery County Government Accounts	total Usage (kwh)	# of accounts	Current PES rate/kwh	New rate starting July 2012	Annual Savings**
Pepco - Type II and III -	131,974,662	200	0.1224	0.0795	\$5,661,713
BGE - Type II and III -	1,689,671	23	0.1045	0.081	\$39,707
Pepco - Type I - Includes street lights and traffic signals	37,091,554	695	0.07696	0.065	\$443,615
Pepco - New accounts - Pepco	11,111,207	37	0.07500	0.065	\$111,112
Allegheny Power Type I accounts	12,125,708	58	0.07696	0.065	\$145,023
Totals	193,992,802	1013			\$6,401,171

Table 1. Electricity supply contracting details for all Montgomery County Government electricity accounts. The new rates are fixed rates throughout the 31 month duration of the contract starting July, 2012 ending January 2015.

(Existing Measures) (FY 12)
(implemented during FY12)

(July 1, 2011 through June 30, 2012)

Measures - New: (Implemented during FY 12) <i>Funding- See note (2) below</i>	date implemented	initial cost (\$)	annual net impact on maintenance	fuel type(s) effected and units	units saved per year	annual Energy cost savings (\$)
	(FY12)					
Capital Improvement Projects						
Replace current light fixtures in the COB garage parking with LED lights	FY12	188,672	(3,696)	Elec (kWh)	237,256	\$30,843
EOB Parking Garage: Replace current light fixtures with Induction lights.	FY12	192,256	(3,895)	Elec (kWh)	174,762	\$22,719
Strathmore Concert Hall: Install Dedicated Heat Recovery Chiller (50 Ton Nominal)	FY12	280,000	(\$7,499)	Elec (kWh) Nat Gas (therms)	(210,400) 76,108	\$ 34,991
Strathmore Concert Hall – Install VFD & Efficiency controls on two 300 ton chillers- 33% chiller consumption savings	FY12	451,679 (1)	(4,625)	Elec (kWh)	213,925	\$18,280
Grand Totals	FY12	1,112,607	(\$19,715)	Elec.(kWh) Nat Gas(TH)	415,543 76,108)	\$106,833

Note (1):Initial cost or saving projections Does not include a PEPCO rebate of \$ 57,540 credit at completion of the work. The

Note (2) Below is a breakdown of partial contributions by various funding sources for the above projects.

- 1) ARRA EEGBC \$645,563 58%
- 2) Energy Conservation CIP \$300,000 27%
- 3) HVAC/ Electric CIP \$167,044 15%

Total Project cost to the County factoring ARRA EEGEBC funding and Pepco rebate \$409,504



New Measures (FY13)
 (Projects implemented during to FY13)

(July 1, 2012 through June 30, 2013)

Measures - New: (Implemented during FY 13)	date implemented	initial cost (\$)	annual net impact on maintenance	fuel type(s) effected and units	units saved per year	annual Energy cost savings
	(mo/yr)					
Capital Improvement Projects						
Kensington Library: Retrofit existing chiller with high efficiency unit	FY13	\$58,500	(15,500)	Elec (kWh)	43,640	\$6,900
Chevy Chase Library Chiller Replacement	FY13	\$185,000		Elec (kWh)		\$6,900
White Oak Library Chiller Replacement	FY13	\$60,000	(12,500)	Elec (kWh)	480,000	\$ 64,800
<u>Up County Center</u> -Provide Interlocking controls for the air cooled chiller and existing primary loop circulating pumps (7.5 HP), to operate pumps and chiller whenever there is a call for chilled water. Currently pumps run 24/7 whether or not chilled water is needed.	FY13	\$14,500	(980)	Elec (kWh)	43,910	\$6,225
Subtotal		\$ 318,000	\$ (28,980)			\$ 84,825
Grand Totals		\$ 318,000	\$ (28,980)			\$ 84,825



Existing Measures prior to (FY12)

This table shows information on resource conservation measures implemented prior to FY 12

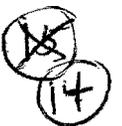
Measures - Existing: (implemented from FY 98 to FY 11)	date implemented (mo/yr)	initial cost (\$)	annual net maintenance savings (\$)	units saved per year (kWh)	units saved per year (TH)	annual cost savings (\$)
Damascus Library & Senior Center – Install VFD on six AHUs, calibrate pneumatic control system, retrofit 20 lights and provide motion sensors.	FY11	\$36,000	-\$2400	Elec (kWh)	45,000	\$7,200
Install Motion Sensors EOB & COB	FY10	\$ 105,500		187,692		24,400
EMS Retrofit White Oak Library	FY09	\$84,179	-\$7,100	76,653	1,684	\$9,260
Install VFD 5 AHU-Dennis Ave Health Center	FY09	\$34,499	-\$2,600	1,203		\$5,445
EMS Upgrades Aspen hill Library	FY08	\$98,532	-\$9,500	19,903	11,430	\$19,692
EMS Upgrade Silver Spring Police	FY07	\$87,604	-\$8,500	17,696	10,162	\$17,508
EMS upgrade Silver Spring Gov't Center	FY07	\$38,000	-\$3,500	7,676	4,408	\$7,595
JC- Install premium motors & Starters	FY07	\$34,500	-\$900	51,852		\$6,264
EMS Upgrades Damascus daycare Center	FY06	\$24,920	-\$2,500	5,034	2,891	\$4,980
EMS Upgrades Red Brick Courthouse	FY06	\$50,000	-\$5,000	10,100	5,800	\$9,993
EMS Upgrades Leland Community Center	FY06	\$80,976	-\$8,000	16,357	9,393	\$16,184
EMS Upgrades Kensington Library	FY06	\$73,867	-\$7,200	14,921	8,569	\$14,763
EMS Upgrades Upper County Community Center	FY05	\$9,598	-\$8,000	16,079	9,233	\$15,908
EOB/JC Energy Assessment	FY05	\$94,873		19,164		\$2,453
Ballast Retrofits	FY05	\$62,261	-\$4,900	5,125		\$619
Parking lots: install photo cells & time clocks for lighting control	FY 04	\$18,000	-\$2,600	17,895		\$2,162
Davis Library Day Daylighting	FY03	\$25,000		12,869		\$1,555
Lighting Retrofits	FY03	\$45,000	-\$4,500	76,500		\$9,180
EOB -VFD Repl (2AHUs)	FY 03	\$42,499	-\$4,000	52,002		\$6,282
JC - VFD Replacement (4AHUs)	FY 03	\$24,540	-\$1,900	28,560		\$3,450
Wheaton Library Day Daylighting	FY03	\$20,000		10,528		\$1,272
COB Parking light levels evaluation	FY 02	\$9,800				\$1,100
Purchase utility billing software and energy consultant assistance	FY 01	\$125,000				\$47,000
EMS Upgrades Hungerford Office Building	FY00	\$57,000	-\$15,000	31,714	18,212	\$31,377
EMS Upgrades Gaithersburg Maint Depot	FY99	\$31,000	-\$3,000	6,262	3,596	\$6,196
EMS Upgrades Council Office Bld	FY99	\$73,000	-\$7,300	14,746	8,468	\$14,589
EMS Upgrades Gaithersburg Library	FY99	\$122,000	-\$12,000	24,644	14,152	\$24,382
Lighting Retrofits	FY98	\$194,000	-\$19,400	329,800		\$39,576
Total Energy Conservation CIP		\$1,702,148	-\$139,800			\$350,385

Planned Measures (FY 14)

This table shows information on resource conservation measures planned to be implemented in FY 14(July 1, 2013 through June 30, 2014)

Measures - Planned: Capital Improvement Projects: Description of Activities	projected completion date	projected initial cost (\$) Note (1)	projected annual net impact on maintenance cost (\$)	fuel type(s) effected and units	estimated units saved per year	projected annual cost savings (\$)
						*
Black Rock Center for the Arts – Lighting Retrofit	FY14	\$30,383	(\$1,454)	Elec (kWh)	37,468	\$6,190
Chevy Chase Library Controls DDC Upgrade	FY14	\$90,000	(\$2,225)	Elec (kWh)	38,125	\$6,100
Kensington Library Control System upgrade	FY14	\$90,000	(\$2,225)	Elec (kWh)	34,375	\$5,500
MLK Swim Center Indoor lighting upgrade	FY14	\$40,000	(\$1,900)	Elec (kWh)	150,688	\$25,406
Germantown Indoor Swim center – Replace interior ceiling metal halide lams with dimmable induction lamps where 50% are controlled by photocell	FY14	\$63,850	(\$2,700)	Elec (kWh)	185,520	\$29,683
Fire and Rescue Service Center	FY14	\$56,790	(\$2,271)	Elec (kWh)	39,092	\$8,120
Germantown Library	FY14	\$59,854	(\$2,394)	Elec (kWh)	119,468	\$20,371
Shriver Aquatic Center	FY14	\$43,519	(\$1,740)	Elec (kWh)	200,688	\$33,406
911 Center - ECC	FY14	\$44,467	(\$1,786)	Elec (kWh)	55,627	\$11,205
				Elec (kWh)		
Total CIP		\$ 518,863	(18,695)			\$ 145,981

Note (1): Projected initial costs for ARRA projects are exclusive of design costs.



MCPS

**Resource Conservation Plan
FY 2014**

Summary
Facilities owned or operated
by MCPS as of the end of FY 2012 (June 30, 2012)

Agency	Montgomery County Public Schools, Maryland				
Number of Facilities	223	Change in number of facilities	0		
Total square feet	24,194,200	Change in total square feet	311,818		
Average annual operating hours	3,220	Change in average annual operating hours	0		
Changes effecting energy consumption	<p>Expanding Community Use of Schools: MCPS schools are used for a growing number of outside groups scheduled through the Community Use of Public Facilities (CUPF). Annual operating hours are on the rise.</p> <p>Increasing Summer Use of Schools: Schools have been fully air-conditioned and are used over the summer for an increasing number of academic, extended learning opportunities (ELO), recreational, and community activities.</p>				
	Units	Total Consumption (Actual FY 2012)	Percent Change from Actual FY 2011	Total Cost (Actual FY 2012) \$	Percent Change from Actual FY 2011
Electricity	kWh	215,813,179	-3.7%	26,864,101	-1.4%
Natural Gas	therms	5,024,321	-22.6%	6,933,194	-32%
Fuel Oil #2	gallons	32,950	-13.1%	116,002	-48%
Propane	gallons	36,109	1.0%	72,952	-0.7%
Water/Sewer	kgallons	401,304	-1.3%	2,784,678	20%
Total				\$36,770,927	-7.4%

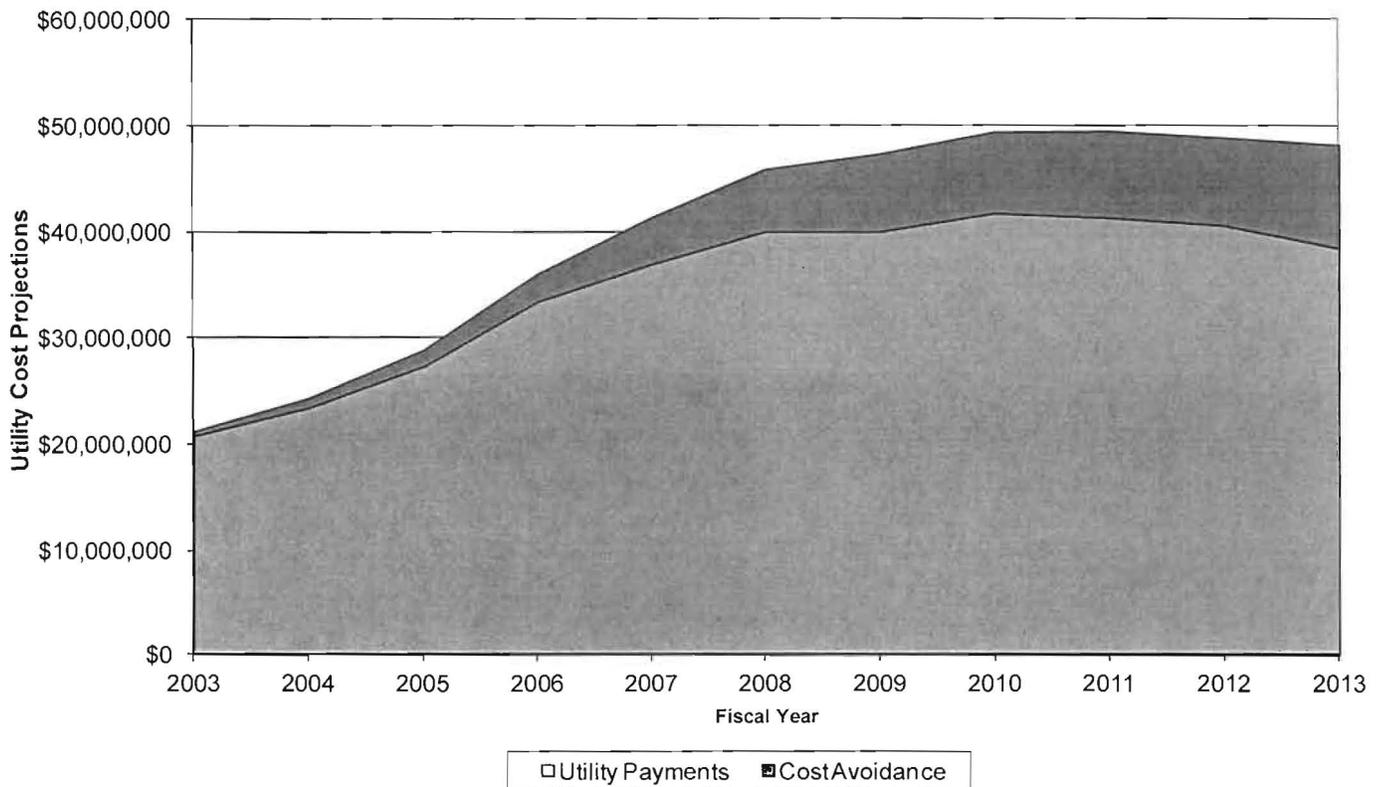
**Resource Conservation Plan
Fiscal Year (FY) 2014
Summary**

One-Time Projects	Completion Year	Implementation Cost	Annual Cost Savings	Average Simple Payback (Years)
New Measures	FY 2013	\$832,933	\$746,989	1.1
Existing Measures	FY 2004 To FY 2012	\$11,846,560	\$4,948,179	2.4
Planned Measures	FY 2014	\$2,333,691	\$1,122,495	2.1
Subtotal		\$15,013,184	\$6,817,663	2.2
Recurring Annual Operations Programs		Annual Cost	Annual Cost Savings	Return on Investment
School Energy and Recycling Teams		\$964,266	\$1,911,153	198%
Peak Load Management		\$120,000	\$1,900,000	1,583%
Subtotal		\$1,084,266	\$3,811,153	351%
Grand Total MCPS Annual Savings			\$10,628,816	

Summary

Without the energy programs and conservation measures implemented by the Department of Facilities Management (DFM) just since FY 2004, the FY 2014 utility request would be higher by approximately \$10,600,000. The chart below tracks the cost avoidance achieved by DFM each year of that time period. Despite the continued rapid growth of the school system, the MCPS energy program has succeeded in leveling the annual cost of utilities and is working toward reducing future request levels through procurement and consumption reduction strategies.

MCPS Growth of Utilities Cost Avoidance
From FY 2003 Baseline Year



New Measures

The **New Measures** table in this section lists and describes energy retrofit activities occurring in the current fiscal year. Other new measures in ongoing MCPS processes are described below.

Smart Grid Compatibility and Peak Load Reduction: MCPS currently is working with Pepco and other electric utilities in the upgrade of electricity meters to Smart Grid technology. In addition to the utilities' upgrades, MCPS is specifying KYZ outputs on all of its new meters so that it can fully implement access to near real-time electric data for each MCPS facility. The access to near real-time data will enable MCPS to be more responsive to reducing electric loads during peak grid hours in the summertime. Furthermore, the collection and management of more detailed data will allow for the development of consumption trends to identify additional energy conservation measures.

EnergyStar Portfolio Tracking: MCPS leadership is committed to benchmarking for the purpose of continuously pursuing excellence for all services provided to the students of the school system. MCPS has had a long-standing program of successfully tracking its energy consumption internally. Benchmarking has been more difficult due to the lack of similarly situated institutions that provide systemwide building energy performance data. In FY 2013, MCPS will be able to successfully load data for all of its facilities into the U.S. Environmental Protection Agency's (EPA's) EnergyStar's Portfolio Manager system. This is a time consuming task that will be evaluated to decide the value of continual updating the EPA system.

New Construction: The implementation of energy efficient design and construction generate substantial energy savings in each MCPS construction project. New construction measures are not listed in this table due to the large number of measures involved and because the cost and benefits of these measures are integrated into the building design.

The scope of the MCPS commitment to lean and green construction is exemplified by use of ground source heat pumps as a standard heating and cooling system and the goal of receiving above Silver certification on all new schools and modernization projects, through the Leadership in Energy and Environmental Design (LEED) Program.

MCPS provides the designers new building design guidelines to standardize the energy efficient design. More recent adoptions by MCPS in its design guidelines include the incorporation of Variable Refrigerant Flow (VRF) technology into all new administrative spaces. In addition, MCPS standards require that Demand Based Ventilation (DBV) be incorporated into all assembly areas, such as auditoriums, cafeterias, and multipurpose rooms.

VRF technology allows the effective waste heat recovery of one space to be transferred to another space within the same facility. This allows

simultaneous heating and cooling to occur from a common condenser, which can be used more accurately and more efficiently to service a space as it helps to mitigate external environmental factors. VRF will be considered during new construction and modernization projects. The feasibility of this technology is being investigated for classrooms located in the core of a structure for future applications.

DBV technology takes advantage of savings opportunities made possible by a change to the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) ventilation standard 62.1, which allows reduced outside air intake into spaces while they are not fully occupied. This is performed by controlling outside air dampers based on continuously monitored CO₂ levels in the school system's newly constructed assembly areas. DBV also is being investigated for retrofitting purposed in existing facilities.

Ground Source Heat Pumps: Spark M. Matsunaga Elementary School opened in 2001 with the first ground source heat pump (GSHP) system in MCPS. This highly efficient heating and cooling system is standard on MCPS new schools and modernizations wherever ground conditions permit. GSHPs exchange heat with the earth through fields of closed-loop bore holes and reduce annual heating and cooling energy by 30 percent compared to conventional Heating, Ventilation, and Air Conditioning (HVAC) systems. The following is a list on the deployment of GSHP systems to date:

IN OPERATION:

Bells Mill Elementary School (ES)	Great Seneca Creek ES
Beverly Farms ES	Francis Scott Key MS
Cabin John Middle School (MS)	Little Bennett ES
Cannon Road ES	Spark M. Matsunaga ES
Carderock Springs ES	Richard Montgomery High School (HS)
Cashell ES	Paint Branch HS
Cresthaven ES	Seven Locks ES
Garrett Park ES	Flora M. Singer ES
William B. Gibbs, Jr. ES	

IN CONSTRUCTION:

Bel Pre ES	Glenallan ES
Clarksburg Village ES	Herbert Hoover MS
Gaithersburg HS	Weller Road ES

LEED Certification: In concert with energy conservation measures, MCPS seeks to be environmentally responsible in all aspects of facility design and operation. To comply with the *Montgomery County Green Buildings Law of 2006* for new buildings, all new schools and

modernizations (excluding simple additions) that started design in FY 2008 or later will be certified by the United States Green Building Council under the LEED rating system. LEED directs sustainable design in the categories of: (1) Site Selection, (2) Efficient Use of Water, (3) Energy and Atmosphere, (4) Materials and Resources, (5) Indoor Environmental Quality, and (6) Innovative Design. Below is a table of MCPS schools affected by the LEED initiative through the construction phase.

LEED Certifications

	SCHOOL	Opening Date	LEED Status/Current Situation
1	Great Seneca Creek ES	2006	Certified GOLD
2	Cashell ES	2009	Certified GOLD
3	William B. Gibbs, Jr. ES	2009	Certified GOLD
4	Francis Scott Key MS	2009	Certified GOLD
5	Cresthaven ES	2010	Certified GOLD
6	Carderock Springs ES	2010	Certified GOLD
7	Cabin John MS	2011	Certified GOLD
8	Farmland ES	2011	Certified GOLD
9	Garrett Park ES	2012	Finishing construction credits
10	Cannon Road ES	2012	Certified GOLD
11	Seven Locks ES	2012	Certified GOLD
12	Flora M. Singer ES	2012	Working on construction credits
13	Gaithersburg HS	2013	Design credits submitted; school under construction
14	Paint Branch HS	2012	Working on construction credits
15	Herbert Hoover MS	2013	Design credits approved; school under construction
16	Beverly Farms ES	2013	Working on construction credits
17	Weller Road ES	2013	Design credits being prepared; school under construction
18	Glenallan ES	2013	Design credits submitted; school under construction

Utility Procurement: MCPS controls utility costs through competitive procurement of deregulated energy supplies. Since 2007, MCPS procures electricity in preplanned blocks of on-peak, off-peak, and around-the-clock products for various times of year. This is all managed through a wholesale account with PJM Interconnection, LLC (PJM), the independent system operator of the electric grid that serves MCPS. PJM operates the electric grid for a large portion of the eastern United States. MCPS has recently adopted a similar methodology for the procurement of natural gas. The transition to the new method became effective in July 2012. This method of procurement risk management helps to insulate MCPS from market volatility while providing access to lower wholesale pricing.

Solar Power Purchase Agreements: MCPS has established power purchase agreements (PPA) for onsite electric renewable energy generation that extend to 20 years. These contracts hold a stabilized rate below the cost of conventional grid electricity and provide additional risk management for electric rates well into the future.

A PPA allows a government building owner to host the operation of a solar photovoltaic (PV) system on the roof of a building. A solar developer installs, owns, and maintains the solar array and sells power directly to the

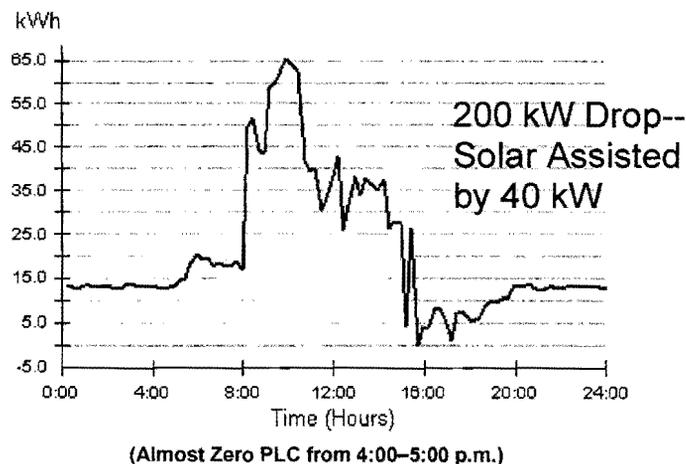
building owner. Unlike a government building owner, the developer is able to access significant cost offsets to solar projects available under state and federal tax incentives. The building owner benefits from electricity at below market rates, with no upfront cost or risk.

Existing: Large-scale PV systems from 80 kilowatts up to 319 kilowatts have been completed at eight schools. As a result, MCPS is one of the leading hosts of net-metered, solar power purchase agreements in Maryland with 1,264 kilowatts AC installed. The combination of these solar arrays is predicted to produce a capacity charge cost avoidance of approximately \$150,000 in FY 2013. A list of the existing systems is provided in the table below:

School	Capacity (kW AC)	Number of Panels	Construction Value (\$)	Completion Date
Clarksburg HS	260	1,466	\$1,504,000	1/23/2009
Lakelands Park MS	133	770	790,000	2/10/2009
College Gardens ES	86	497	510,000	2/12/2009
Richard Montgomery HS	135	784	804,000	6/30/2009
Francis Scott Key MS	100	564	578,000	12/20/2009
Quince Orchard HS	319	1,799	1,846,000	12/20/2009
Sargent Shriver ES	80	495	508,000	12/20/2009
Parkland MS	151	851	873,000	1/20/2010
Total:	1,264	7,226	\$7,413,000	

DFM expects to deter a significant fraction of the Peak Load Contribution (PLC) for our schools through hosting solar installations. Recent rate increases in PLC charges would have raised the utility cost for MCPS by \$4.5 million per year if not abated. The buildings with solar PV systems experience reduced annual PLC charges. As illustrated in the chart below, the load contribution during the 4:00–5:00 p.m. time period, when the PLC is typically assessed, was reduced substantially to a minimal level due to the power output from the solar PV system.

Sample Profile for Lakelands Park Middle School



Green Power Procurement: Prior to FY 2008, MCPS had procured 10 percent of its electricity as clean or renewable energy through purchase of renewable energy certificates (RECs). Since FY 2009, MCPS has purchased additional RECs to ensure that a minimum of 20 percent of its total electricity consumption is provided by renewable sources.

Light-Emitting Diode (LED) Technology: In the last year, MCPS piloted LED technology in exterior building lighting applications. MCPS is continuing to pilot LED fixtures in additional applications in anticipation of the technology becoming cost effective due to efficiency and reliability.

These new applications include parking lots, walkways, and auditorium house lights. Auditorium use has increased over the years to include lectures, classroom functions, testing, community use, as well as the traditional uses for assemblies, dramatic, and musical performances. The increased demand on light fixtures result in these lamps failing at higher frequencies, causing maintenance and operation issues. Changing the lamps is very labor intensive because accessing the house lighting fixtures requires special equipment due to the high ceilings. LED fixtures possess many advantages over the incandescent lamps that currently are used in most auditoriums including a life expectancy that is many times longer, reduced energy consumption by more than 50 percent, and lower heat output that improves air conditioning effectiveness. Because LED lamps have dimming capabilities, they are suitable for use in auditorium house lighting.

New Measures

This table shows information on resource conservation measures planned to be implemented in
FY 2013 (July 1, 2012, through June 30, 2013)

Measures—New:	Projected Completion Date (mo/yr)	Projected Initial Cost (\$)—After Rebates	Projected Annual Net Impact on Maintenance Cost (\$)(-)	Fuel Type(s) Affected And Units	Estimated Units Saved Per Year	Projected Annual Cost Savings (\$)
Energy Projects:						
Energy Management Upgrades	June 2013	\$678,083	(\$46,667)	Elect kWh	565,215	\$71,962
				NG Therm	13,159	\$15,119
EMS Temperature Setpoint Modifications	June 2013	\$20,000	\$0	Elect kWh	1,064,729	\$135,560
				NG Therm	11,798	\$13,556
Lighting Retrofits	June 2013	\$14,850	(\$14,850)	Elect kWh	2,538,632	\$323,215
Solar PV PPAs	June 2013	\$0	\$0	NA	NA	\$117,577
Retrocommissioning	June 2013	\$120,000	(\$20,000)	Elect kWh	471,259	\$60,000
				NG Therm	8,703	\$10,000
FY 2013 Page Totals		\$832,933	(\$81,517)			\$746,989

Description of Activities

Energy Management Upgrades: The infrastructure of energy management systems (EMS) at MCPS has reached an age where many systems need to be upgraded or replaced. Advances in electronics and communications now enable greater savings from EMS than previously was possible.

Solar PV PPA: A PPA allows a government building owner to host the operation of a PV system on the roof of the building. A solar developer installs, owns and maintains the solar array and sells power directly to the building owner. The building owner benefits from cheaper electricity and reduced demand charges at no upfront cost or risk.

Lighting Retrofits: Some projected will be funded by the state Energy Efficiency Initiative (EEI) in which lighting retrofits considered to be capital expenditures will receive roughly 50% funding.



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Summary

The information on this page reflects the facilities owned or operated
By WSSC as of the end of FY 12 (June 30, 2012)

Number of Facilities	210	Change in number of facilities	+2
Total square feet	N/A	Change in total ft ²	N/A
Average operating hrs/year	N/A (most 24/7)	Change in avg. operating hrs/year	N/A
Other changes effecting energy consumption	See Narrative		

Utilities:	units	total consumption (actual FY 12)	percent change from actual FY 11	total cost (actual FY 12) \$	percent change from actual FY 11
Electricity	kWh	217,609,000	+1%	\$24,709,000	-12%
Natural Gas (firm)	therms	281,000	-7%	\$295,000	+2%
Natural Gas (Irate)	therms	186,000	-45%	\$104,000	-51%
Diesel Fuel (generators)	gallons	25,000	-36%	\$97,000	-32%
Fuel Oil #2	gallons	4,000	-83%	\$12,000	-82%
Propane	gallons	3,000	-25%	\$9,000	-10%
Water/Sewer	gallons	N/A	N/A	N/A	N/A
Total				\$25,227,000	



**WASHINGTON SUBURBAN SANITARY COMMISSION
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Existing Measures- Prior to FY'12

This table shows information on resource conservation measures implemented prior to FY 12
(July 1, 2011 through June 30, 2012)

Measures - Existing: (implemented from FY 02 to FY 11)	date implemented (mo/yr)	initial cost (\$)	annual net impact on maint. cost (\$)	fuel type(s) effected and units	units saved per year	annual cost savings (\$)
Capital Improvement Projects:						
Variable Frequency Drives	FY 02-03	\$250,000	(\$10,000)	Electricity	1,000,000 kWh 1,000 kW	\$50,000
Energy Performance Project- Phase IIA	FY 05	\$10,300,000	(\$50,000)	Electricity	9,000,000 kWh	\$1,100,000
Energy Performance Project- Phase IIB	1/08 Seneca WWTP	\$2,370,000 E-G Peak- Shaving	(\$20,000)	Electricity	1,000 kW	\$120,000
Total, CIP		\$12,920,000	(\$80,000)	Electricity	10,000,000 kWh 2,000 kW	\$1,270,000
Operations and Maintenance:						
Load Curtailment	FY 02-11	\$0	\$0	Electricity	5,000 kW	\$500,000
Pump Turbine Utilization (Rocky Gorge)	FY 01-08	\$0	\$0	Electricity	2,000,000 kWh	\$200,000
Derceto Water Pumping Optimiz. System - Load Shifting & Efficiency Optimiz.	Start-up 4/06	\$100,000	(\$200,000)	Electricity	1000 kW 2,000,000 kWh	\$200,000
Energy Performance Project- Phase IIC- Electric Supply with 28% wind power	4/08 Wind farm Start-up	\$0	\$0	Electricity	N/A	\$200,000
Total, O&M		\$0	(\$200,000)	Electricity	4,000,000 kWh 6,000 kW	\$1,100,000
Page Total		\$12,920,000	(\$280,000)	Electricity	14,000,000 kWh 5,000 kW	\$2,370,000



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Existing Measures- FY'12

This table shows information on resource conservation measures implemented during FY 12
(July 1, 2011 through June 30, 2012)

Measures - New: (Implemented during FY 12)	date implemented (mo/yr)	initial cost (\$)	annual net impact on maint. cost (\$)	fuel type(s) effected and units	units saved per year	annual cost savings (\$)
Capital Improvement Projects:						
Energy Performance Project- Phase IIB	9/09 Anac. II WWPS	\$2,000,000 New Pumps	(\$20,000)	Electricity	3,100,000 kWh 1,000 kW	\$350,000
Total, CIP		\$2,000,000	(\$20,000)	Electricity	3,100,000 kWh 1,000 kW	\$350,000
Operations and Maintenance:						
Energy Performance Project- Phase IIC- Electric Supply with 28% wind power	4/08 Wind farm Start-up	\$0	\$0	Electricity	N/A	\$600,000
PJM ILR Program- emergency load shedding	7/09	\$0	\$0	Electricity	2,000 kW load shedding	\$120,000
Pump Turbine Utilization (Rocky Gorge)	7/08- 12/11 Down for repair	\$0	\$0	Electricity	0 kWh	\$0
Total, O&M		\$0	(\$200,000)	Electricity	2,000 kW load shedding	\$720,000
Page Total		\$2,000,000	(\$220,000)	Electricity	5,100,000 kWh 3,000 kW	\$1,070,000
Description of Activities:						
See narrative						



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New Measures

This table shows information on resource conservation measures planned
To be implemented in FY 13 (July 1, 2012 through June 30, 2013)

Measures - Planned: (for FY13)	projected completion date (mo/yr)	projected initial cost (\$)	projected annual net impact on maint cost (\$)	fuel type(s) effected and units	estimated units saved per year	projected annual cost savings (\$)
Capital Improvement Projects:						
Energy Performance Project- Phase IID (Potomac Pump Upgrade)	12/12 6 pumps	\$5,744,000		Electricity	4,400,000 kWh	\$562,000
Total, CIP		\$5,744,000		Electricity	4,400,000 kWh	\$562,000
Operations and Maintenance:						
Energy Performance Project- Phase IIC- Electric Supply with 28% wind power	4/08 Wind farm start up	\$0	\$0	Electricity	N/A	\$200,000
Total, O&M		\$0	\$0	Electricity		\$0
Page Total		\$5,744,000		Electricity	4,400,000 kWh	\$762,000
Description of Activities:						
See narrative						



**WASHINGTON SUBURBAN SANITARY COMMISSION
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Planned Measures

This table shows information on resource conservation measures planned
To be implemented in FY 14 (July 1, 2013 through June 30, 2014)

Measures - Planned: (for FY14)	projected completion date (mo/yr)	projected initial cost (\$)	projected annual net impact on maint. cost (\$)	fuel type(s) effected and units	estimated units saved per year	projected annual cost savings (\$)
Capital Improvement Projects:						
Total, CIP		\$0	\$0	Electricity	0 kWh	\$0
Operations and Maintenance:						
Solar PV PPA- Seneca & Western Branch	10/31/13	\$0 to WSSC	\$0	Electricity	0 kWh	\$157,000
Pump Turbine Utilization (Rocky Gorge)	12/15/12 Upgraded	\$1,000,000	\$0	Electricity	2,000,000 kWh	\$240,000
Total, O&M		\$1,000,000	\$0	Electricity	2,000,000 kWh	\$397,000
Page Total		\$1,000,000	\$0	Electricity	2,000,000 kWh	\$397,000
Description of Activities:						
See narrative						



**WASHINGTON SUBURBAN SANITARY COMMISSION
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RESOURCE CONSERVATION PLAN**

MAJOR INITIATIVES:

Electricity Supply:

WSSC currently purchases approximately 200,000 MWh per year in electricity. Towards that goal our strategy is to purchase commodity in a reasoned manner subject to its overall risk parameters and goals. Here energy is purchased strategically on a block and index basis with greater block purchases targeted to higher cost periods. Blocks are defined as products normally traded by major Electric Wholesale Trading Counterparties. Generally, these products include round-the-clock which is 7x24 (7 days by 24 hours), on-peak which is 5x16 (5 weekdays x 16 on-peak hours), or off-peak which is all weekend hours plus 5x8 weekday off-peak hours. For load which is not covered by a corresponding block purchase the load requirement is obtained by settling at the "Index". The Index for the WSSC accounts is the Locational Marginal Price "LMP" in the zone where the account is located. The LMP is instantaneous price of electricity integrated for any given hour. It represents the price at which all demand for electricity clears at the price which suppliers are willing to provide.

A block and index approach is appropriate for several reasons:

- It gives WSSC access to the wholesale market on a transparent basis. All block purchases are made through a transparent bidding mechanism where Constellation, executes on WSSC's behalf at Wholesale Market Pricing.
- The process of aggregating blocks over time to fulfill a future position allows WSSC to accumulate their position over time based on market timing and future market pricing expectations. This allows WSSC to purchase its future blocks when it is deemed advantageous. It allows for purchases based on normal and expected seasonal swings in the market. Because electricity prices tend to be related to Natural Gas prices, monitoring trends in the natural Gas Market is a key indicator as to the potential timing of block purchases for WSSC. Recently, a great many of the block purchases have either been made in the spring or the fall as the forward market has declined seasonally.
- An advantage to block and index pricing is that it shares risk. By assuming some of the risk of future index prices, WSSC shares in the benefit of potentially lower index prices. Generally, over the course of recent years, average index prices have tended to be somewhat less than block purchases.
- Block purchases allow WSSC to lock in prices and isolate WSSC from the effect of major index swings due to regulatory changes, extreme weather impacts such as excessive hot or cold weather durations as well as the effect of hurricanes, and the potential of environmental compliance issues.

Budget Comparison Summary



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All energy projects have a life-cycle. To achieve the strategic objective of maintaining continual progress in energy performance improvement, it will be necessary to institute a life-cycle audit plan, including funding, that assures all of WSSC's energy systems are being reviewed according to a systematic plan.

Developing this plan will entail documenting the existing major energy projects, when they occurred, and their life-cycle timeline, then feeding this information into the generation of a long term audit schedule. Integrating it into a timeline tool will facilitate knowing what projects have been done at each plant and help determine what equipment & systems need auditing.

This life cycle energy audit plan should have some with the WSSC Asset Management Plan.

8. Generate a draft execution plan incorporating multiple phases of major energy-related initiatives projected over the coming 5-10 years. Energy management is not a new concept at WSSC, therefore the energy projects of the next 10 years are going to come from more technical, research-based analyses, and require more effort to execute. Hence this step in the blueprint appears at the end of several foundation-building steps.

The fact is that WSSC executed an aggressive energy campaign over the past 10 years, covering the supply side and demand side of energy management. It follows that continuing to improve energy performance and achieve critical environmentally friendly objectives over the next 10 years (some which are already committed to) will be even more challenging than the preceding 10.

Currently visible prospects on the SEP horizon include:

- o Solar electricity generation
- o AD/CHP
- o EPC Phase F
- o New electric supply contract
- o New wind contract
- o Energy audits under life cycle plan
- o SEP support tools

Gains from future initiatives will be more dependent upon developing technology than past gains. The status of new technologies (per #5 above) will impact the execution timing of the strategic plan. The plan cannot be viewed statically, because developing technologies will not come into viability on a predictable schedule.

Greenhouse Gas Action (Reduction) Plan

WSSC has developed inventories of annual greenhouse gas (GHG) emissions for all Commission operations for the calendar years (CY) 2005 through 2011. The inventories quantify the GHG emissions that result from the energy-intensive processes required to treat and distribute potable water for public use and to collect and treat wastewater before discharge. Based on the inventory results, a 20-yr plan of action was developed which outlines strategies to reduce future GHG emissions at WSSC by 10 percent every 5 years through the year 2030 using demonstrated technologies and practices available at the present time.

Future GHG emissions at WSSC will be mainly affected by the following factors:

1. Population growth in the service area that will increase the demand for potable water and the resulting wastewater flows.



**WASHINGTON SUBURBAN SANITARY COMMISSION
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2. Regulatory drivers that require process upgrades in order to meet more advanced levels of treatment.
3. Implementation of renewable energy programs such as wind, solar and biogas (anaerobic digestion/combined heat and power [CHP]).

The GHG inventory results and the future emissions projections were used to identify the largest emission sources, calculate potential future reductions, and measure the effectiveness of meeting reduction goals. In the next phase of the project, strategies were developed to reduce the GHG emissions and meet the reduction goal. The following are the main focus areas of the GHG reduction strategies:

1. Optimizing the efficiency of the water distribution system
2. Improving equipment efficiency for water and wastewater
3. Reducing residuals and optimizing processes
4. Reducing GHGs associated with vehicles and transportation
5. Optimizing building services (lighting/heating, ventilating, and air conditioning [HVAC])
6. Implementing renewable energy

The 20 selected strategies that will be needed (arranged by cost per tonne CO₂e removed rank), in addition to the implementation of a new wind energy contract in order to meet the 2030 GHG reduction goal are:

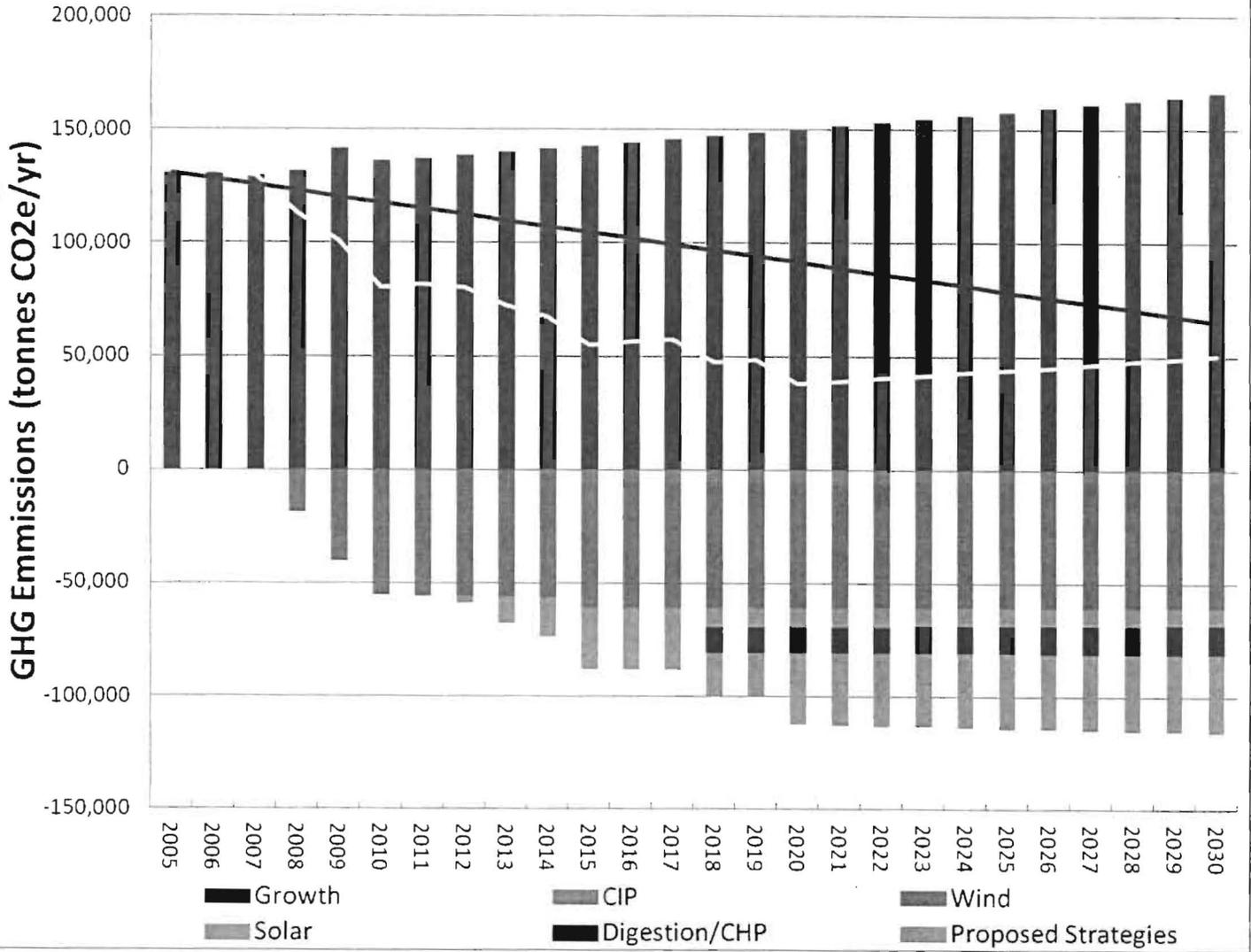
1. Office Equipment
2. Reduce Water Pressure
3. Patuxent Reclaim Pumps
4. Optimize Water Pumping Efficiency
5. Solar Water Heating at RGH
6. Track Water Distribution System Valves
7. RentricitySM Flow-to-Wire
8. Replace Mixers at Piscataway
9. Business Trip Reductions
10. Anacostia Wastewater Pumps
11. Aeration Efficiency at WWTPs
12. Solar PV at Seneca and Western Branch (4 MW)
13. Additional Solar Installation (2 MW)
14. Potomac High Zone Pumps
15. Recycling
16. Telecommuting
17. HVAC/Lighting Upgrades
18. Ostara Pearl ProcessTM
19. Optimize Wastewater Pumping Efficiency
20. Digestion/CHP

The strategies selected, in conjunction with the renewed wind contract, will reduce an estimated 104,400 tonnes of CO₂e in annual GHG emissions by the year 2030. This represents about 109 percent of the reduction needed to meet the stated goal of ten percent reduction every five years over the 2005 inventory. Implementing the proposed strategies will have an estimated total life-cycle cost of \$9.6 million by 2030. The Figure below shows the GHG projections with the proposed strategy reductions. It identifies in different categories the impact of the renewed wind contract, the solar PV projects (strategies 12 and 13 listed above) and digestion/CHP (strategy 20 listed above). All the other strategies combined are shown under the "Other Selected Strategies" category.



WASHINGTON SUBURBAN SANITARY COMMISSION
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RESOURCE CONSERVATION PLAN

WSSC GHG Projections (2005 - 2030)
Impact of All Proposed Strategies





**WASHINGTON SUBURBAN SANITARY COMMISSION
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Solar PV PPA Project

On Dec. 19, 2012, WSSC awarded a solar photovoltaic Purchase Power Agreement to Standard Solar/WGES for 2 MW to be installed at Western Branch WWTP and 2 MW to be installed at Seneca WWTP. Project design is underway and construction is expected to begin at both sites in April 2013. Standard Solar will design, build, operate and maintain solar power equipment at the plants. Washington Gas Energy Systems, Inc. will own and finance SSI's project.

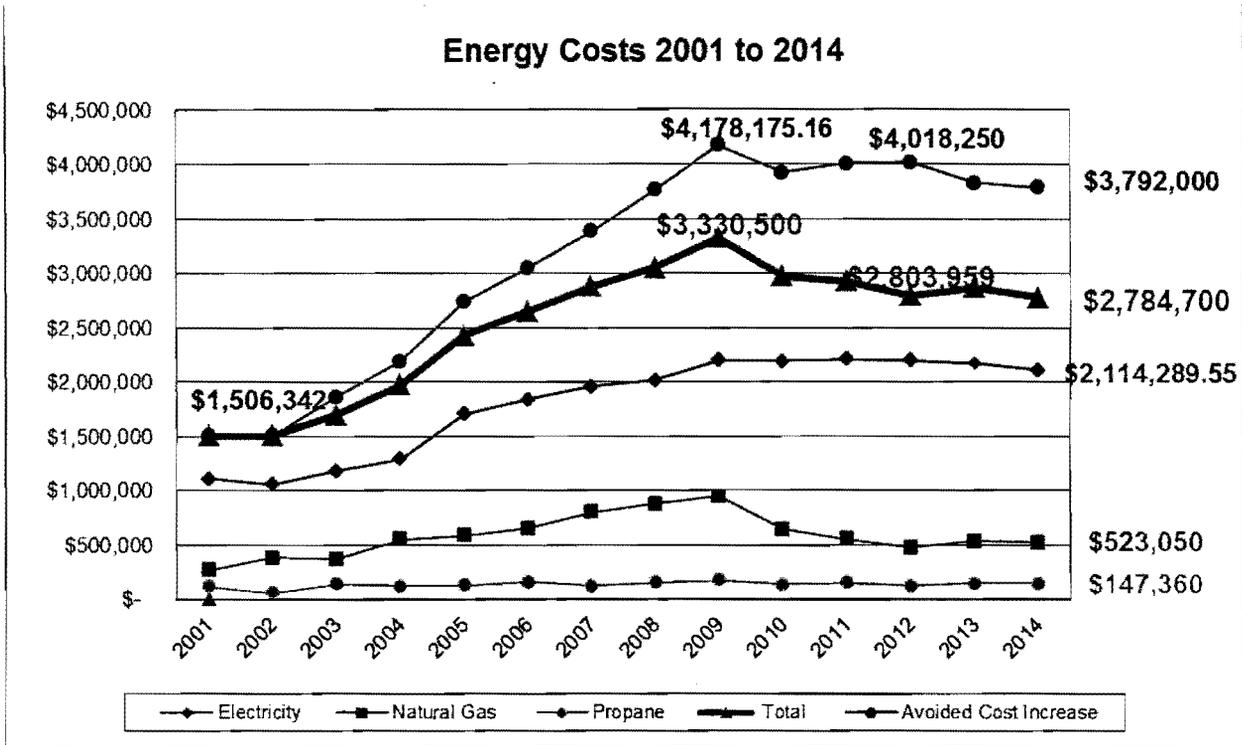
The two plants used approximately 39 million kWh during FY 2012, and WSSC is projected to save about \$3.5 million dollars over the life of the 20 year contract by paying less per kWh for solar when compared to conventional electricity.

Except for a few hours a year, each plant will consume the entire solar photovoltaic system's output. For those few times when the output exceeds the plant's capacity, the kWh production will be sold to the PJM grid at the same hourly rate as WSSC purchases the power.



MNCFC

Energy costs peaked due to market rate increases and have been reduced by 16.7% since Fiscal Year 2009.



II. FISCAL YEAR RESULTS - 2012 July 2011 to June 2012

The results of the programs and projects implemented in Fiscal Year 2012 are:

Cost by Utility:

<u>Energy Resource</u>	<u>Actual</u>	<u>Budget</u>	<u>Difference</u>	<u>%</u>
Electricity	\$2,202,699	\$2,527,610	\$324,911	13%
Natural Gas	\$479,465	\$763,670	\$284,205	37%
Propane	\$122,795	\$149,900	\$27,105	18%
Water & Sewer	\$523,546	\$577,070	\$53,524	9%
Totals	\$3,328,505	\$4,018,250	\$689,745	17%

Cost by Department Budget

	Budget 2012	Actual Expenditure EST.
DEPARTMENT OF PLANNING	\$250,000	\$203,182
DEPARTMENT OF PARKS	\$2,420,400	\$1,905,002
ENTERPRISE & PROPERTY MANAGEMENT	\$1,347,850	\$1,220,321
Totals	\$4,018,250	\$3,328,505
	Reduction	\$689,745

Projects and Programs Implemented in Fiscal Year 2012

- Updated Assessment Reports for potential Grant Opportunities.
- Implemented projects identified in the Utility Management Plan
- Implemented projects identified in the Department of Energy Grant
- Implemented the recommendations of the County Executive: Cross-Agency Resource-Sharing Committee (CARS).

Department of Energy Block Grant Received and Implemented in Fiscal Year 2012:

Projects and Status:

<u>Location</u>	<u>Project</u>	<u>Investment</u>	<u>Savings</u>	<u>Payback Period</u>
Brookside Gardens Conservatory Lighting	High Intensity Definition to Induction Lighting	\$9,364	\$3,200	2.9
Black Hill Visitor Center	HVAC	\$8,328	\$2,300	3.6
Brookside Sycamore House	HVAC	\$3,204	\$890	3.6
Parkside	HVAC	\$24,549	\$6,800	3.6
Little Bennett Camp Ground Office	HVAC	\$680	\$190	3.6
Agricultural Center	HVAC	\$9,150	\$2,500	3.7
South Germantown Maintenance Yard	High Intensity Definition to T-8 Lighting	\$9,440	\$3,600	2.6
Black Hill Maintenance Yard	High Intensity Definition to T-8 Lighting	\$5,985	\$2,300	2.6
Park Maintenance Yards	Street Lighting to LED	\$40,300	\$9,600	4.2
	Totals	\$111,000	\$31,380	3.5

County Executive: Cross-Agency Resource- Sharing Committee (CARS)

The Commission participated in the development of CARS programs and projects for implementation in Fiscal Year 2012.

The Commission staff is implementing the recommendations in accordance with the programs supported by the Inter-County Committee on Energy and Utility Management and as funding is allocated by the County for the projects proposed.

The following project and program recommendations have been proposed by the Utilities Workgroup and adopted by the Executive Committee for implementation in Fiscal Year 2012.

CARS Program and Projects

(R1) Establish an Interagency Energy Technical Service Organization

- Recommitment to Inter-County Committee on Energy and Utility Management

(R2) Develop a Multi-Agency Energy Service Contract for Energy-Efficiency and Renewable Energy Retrofits

(R4) Launch and Interagency Energy Conservation Campaign

(R5) Retrofit T-8 32Watt Fluorescent Lamps with 28 Watt Replacements

- Being implemented as inventories of 32 watt bulbs are depleted

(R6) Provide Building Operator Certification (BOC) Training to Facilities Staff

- MNCPPC Staff attended

The budgeted expenditures for Fiscal Year 2012:

Programs Energy Management:	\$ 35,000.00
Projects Local:	\$108,000.00
<u>Projects Non-local:</u>	<u>\$ 69,000.00</u>
Total in FY 2012:	\$212,000.00

Grant Received in Fiscal Year 2012:

DOE Block Grant:	\$111,000.00
<u>Total for Fiscal Year 2012:</u>	<u>\$323,000.00</u>

III. RESULTS TO DATE - FISCAL YEAR 2013
July 2012 to June 2013

The results of the programs and projects implemented as of December 30, 2012 are:

Utility Costs and Projections:

	Projection July 2012 to June 2013	Budget 2013	Projected Difference
DEPARTMENT OF PLANNING	\$223,150	\$234,830	\$11,680
DEPARTMENT OF PARKS	\$2,242,000	\$2,324,700	\$82,700
ENTERPRISE & PROPERTY MANAGEMENT	\$1,222,300	\$1,270,770	\$48,470
TOTALS	\$3,687,450	\$3,830,300	\$142,850

Note: The projected winter 2012-2013 temperatures are expected to be back to normal temperature ranges and not be as mild as the prior year. Natural gas and propane consumption and costs will be more in line with the prior five year averages.

Goals Fiscal Year 2013:

- Reduce consumption overall by up to 2%.
- Reduce costs, with the support of the Central Purchasing Office staff, to lower the unit cost of the energy supply component on the utility bills by 12% effective July 1, 2013.
- Implement projects and programs focused on heating and air conditioning system replacements for equipment in operation for over 20 years. Heating and air conditioning systems manufactured in 2012-2013 are over 35% more efficient for the same unit size and types installed 10 years ago.
- Increase staff participation in the overall program plan.

Planned Projects and Programs for Fiscal Year 2013

- Develop a comprehensive energy management and green parks program plan for:
 - Cabin John Regional Park
 - South Germantown Regional Park
- Seek additional project grant opportunities
- Implement projects identified in the Inter-County Committee on Energy and Utility Management Plan
- Expand opportunities based on the recommendations of the County Executive: Cross-Agency Resource- Sharing Committee (CARS)

The proposed budgeted expenditures for Fiscal Year 2013:

Programs Energy Management:	\$35,000.00
Projects Local:	\$45,000.00
<u>Projects Non-local:</u>	<u>\$35,000.00</u>
Total in FY 2013:	\$115,000.00

IV. PLANNED RESOURCE CONSERVATION PLAN – FISCAL YEAR 2014
July 2013 to June 2014

Goals:

- Reduce consumption overall by up to 1%.
- Reduce costs, with the support of the Central Purchasing Office staff, to lower the unit cost of the energy supply component on the utility bills by 6%.
- Implement projects and programs focused on heating and air conditioning system replacements for equipment in operation for over 20 years.
- Seek additional project grant opportunities
- Increase staff participation in the overall program plan.

Planned Projects and Programs for Fiscal Year 2014

Meadowbrook Maintenance - HVAC Replacement
 Brookside Gardens Visitor Center – Auditorium - HVAC Retrofit
 Parkside – Lighting Retrofit

Budget projection for Fiscal Year 2014 is:

	Proposed Budget 2014
DEPARTMENT OF PLANNING	\$239,700
DEPARTMENT OF PARKS	\$2,379,800
ENTERPRISE & PROPERTY MANAGEMENT	\$1,299,600
TOTALS	\$3,919,100

The proposed budgeted expenditures for Fiscal Year 2014:

Programs Energy Management:	\$35,000.00
Projects:	<u>\$69,000.00</u>
Total in FY 2014:	\$104,000.00

Existing Measures
Programs and Projects Completed - Fiscal Years 2000 to June 2012

Measures - Existing: (implemented from FY 2000 to FY 2012)	date implemented (mo/yr)	initial cost (\$)	annual net impact on maintenance cost (\$)	fuel type(s) effected and units	units saved per year	annual cost savings (\$)
Capital Improvement Projects:						
Equipment Replacement Project	FY 2000 to FY 2012	\$341,000 est.	\$80,000 on Annual Service Costs	Electricity, Natural Gas, and Propane	504,000 kWh, 21,600 therms & 4,100 Pounds	\$108,100 est. Annual Cost Avoidance
Equipment Retrofit Projects Includes MEA Grant in 2010 and DOE Grant in 2012	FY 2000 to FY 2012	\$121,000 est.	\$10,000 on Annual Service Costs	Electricity, Natural Gas, and Propane	190,200 kWh, 11,500 therms & 600 Pounds	\$47,600 est. Annual Cost Avoidance
Controls Improvements	FY 2000 to FY 2012	\$50,000 est.	NA	Electricity and Natural Gas	112,000 kWh & 9,600 therms	\$35,000 est. Annual Cost Avoidance
Lighting Projects Includes MEA Grant in 2010 and DOE Grant in 2012	FY 2000 to FY 2012	\$377,200 est.	NA	Electricity	262,000 kWh	\$162,850 est. Annual Cost Avoidance
CIP Projects Sub-total		\$889,200 est.			1,068,200 kWh, 32,700 therms & 4,700 Pounds	\$353,550 est. Annual Cost Avoidance
Operations and Maintenance:						
Operations and Maintenance Best Management Practice and Programs	FY 2000 to FY 2012	\$307,500	\$5,000 annual	Electricity, Natural Gas, and Propane	584,000 kWh, 26,900 therms & 5,500 Pounds	\$125,000 est. Annual Cost Avoidance
Totals		\$1,196,700			1,652,200 kWh, 59,600 therms & 10,200 pounds	\$478,500 est. Annual Cost Avoidance 2.5 yrs. ROI

New Measures Fiscal Year 2013

Resource Conservation Measures Being
Implemented July 1, 2012 through June 30, 2013

Measures - Planned:	projected completion date (mo/yr)	projected initial cost (\$)	projected annual net impact on maintenance cost (\$)	fuel type(s) effected and units	estimated units saved per year	projected annual cost savings (\$)
Capital Improvement Projects:						
Equipment Replacement Projects Local & Non-Local	Entire Year	\$50,000 est.	\$20,000 on Annual Service Costs	Electricity, Natural Gas, and Propane	100,000 kWh, 10,000 therms & 1000 Pounds	\$16,000 est. Annual Cost Avoidance
Controls Improvements Local & Non-Local	Entire Year	\$10,000 est.	NA	Electricity	15,000 kWh & 1,000 therms	\$4,000 est. Annual Cost Avoidance
Lighting Projects Local & Non-Local	Entire Year	\$20,000 est.	NA	Electricity, and Natural Gas	30,000 kWh,	\$12,000 est. Annual Cost Avoidance
CIP Projects Sub-total		\$80,000	\$20,000			\$32,000
Operations and Maintenance:						
Best Management Practices Programs	Entire Year	\$15,000	NA	Electricity, Natural Gas, and Propane	23,000 kWh, 900 therms & 200 Pounds	\$4,000 Annual Cost Avoidance
Employee Training and Participation Programs	Entire Year	\$5,000	NA	Electricity, Natural Gas, and Propane	14,000 kWh, 400 therms & 100 Pounds	\$1,000 Annual Cost Avoidance
Operations and Maintenance Improvement Programs	Entire Year	\$15,000	NA	Electricity, Natural Gas, and Propane	25,000 kWh, 900 therms & 200 Pounds	\$5,000 est. Annual Cost Avoidance
Sub-Totals		\$35,000	NA			\$10,000
Totals		\$115,000	\$20,000			\$42,000 2.7 yr. ROI

Planned Measures Fiscal Year 2014

Resource Conservation Measures Planned July 1, 2013 through June 30, 2014

Measures - Planned:	projected completion date (mo/yr)	projected initial cost (\$)	projected annual net impact on maintenance cost (\$)	fuel type(s) effected and units	estimated units saved per year	projected annual cost savings (\$)
Capital Improvement Projects: 2014						
Equipment Replacement Project Local & Non-Local	Entire Year	\$30,000 est.	\$6,000 on Annual Service Costs	Electricity, Natural Gas, and Propane	100,000 kWh, 10,000 therms & 1000 Pounds	\$9,000 est. Annual Cost Avoidance
Controls Improvements Local & Non-Local	Entire Year	\$10,000 est.	NA	Electricity	15,000 kWh & 1,000 therms	\$4,000 est. Annual Cost Avoidance
Lighting Projects Local & Non-Local	Entire Year	\$29,000 est.	NA	Electricity	30,000 kWh	\$10,000 est. Annual Cost Avoidance
CIP Projects Sub-total		\$69,000	\$6,000			\$23,000
Operations and Maintenance: 2014						
Best Management Practices Programs	Entire Year	\$15,000	NA	Electricity, Natural Gas, and Propane	23,000 kWh, 900 therms & 200 Pounds	\$4,000 Annual Cost Avoidance
Employee Training and Participation Programs	Entire Year	\$5,000	NA	Electricity, Natural Gas, and Propane	14,000 kWh, 400 therms & 100 Pounds	\$1,000 Annual Cost Avoidance
Operations and Maintenance Improvement Programs	Entire Year	\$15,000	NA	Electricity, Natural Gas, and Propane	25,000 kWh, 900 therms & 200 Pounds	\$5,000 est. Annual Cost Avoidance
O&M Total		\$35,000	NA			\$10,000
Totals		\$104,000	\$20,000			\$33,000 3.2 yrs. ROI

Montgomery College

Resource Conservation Plan Summary

The following summarizes the activities and accomplishments of the College's Resource Conservation Program.

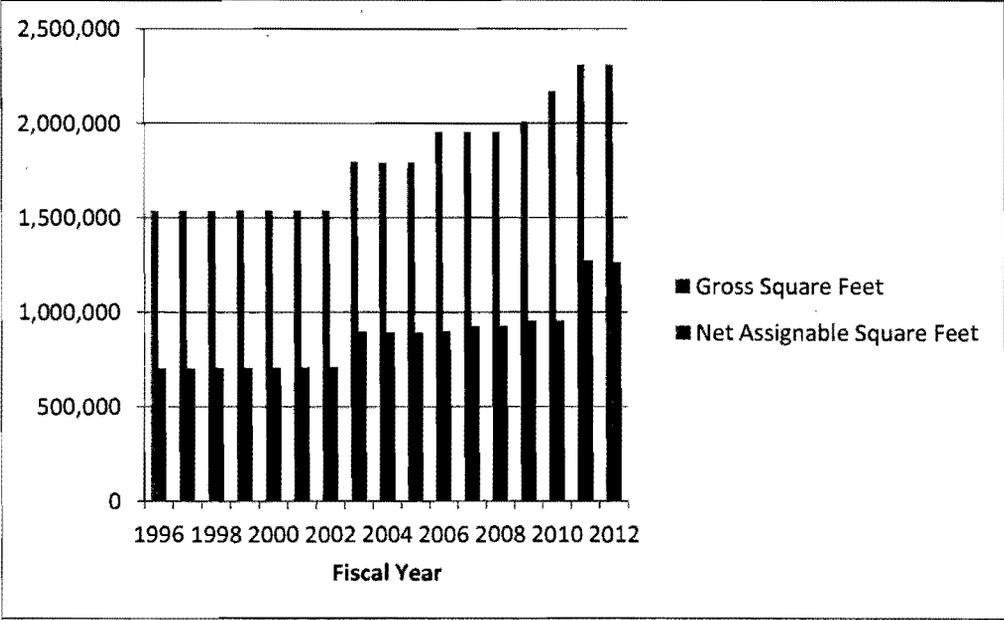
Collegewide Master Planning, Utility Master Planning and Sustainability: Master Planning has historically provided a framework for collegewide space planning and is the basis for capital budget requests to the State of Maryland and the Montgomery County Government. It also provides an opportunity to integrate resource conservation and sustainability into the College's program. The most recent collegewide Master Plan was completed in Fall 2010 for the FY2011-FY2016 period. Both the master plan and utilities master plan are currently being updated.

In the late 1980s and early 1990s the College expanded its planning efforts to include Utility Master Planning as a mechanism to select life cycle cost effective systems and provide a framework for the Campus utility infrastructure. Over the years the recommendations of utility master plans have been implemented and refined as necessary to meet the changing needs and the expansion of the College. For example, one of the early recommendations was to implement high efficiency, environmentally sustainable, life cycle cost effective central plant technology which allows for consolidation of major building equipment at the end of its life cycle and enjoys the benefits of economies of scale. As a result four separate plants have been installed, one each on the Rockville and Germantown campuses and two on the Takoma Park/Silver Spring campus. Environmentally friendly, the plants use high efficiency, variable speed, open drive chillers. The chillers use Ammonia (R-717), a highly efficient, naturally occurring refrigerant that minimizes the Total Equivalent Warming Impact (TEWI) in that it has no Ozone Depletion Potential (ODP) and No Direct Global Warming Potential (GWP). The chiller and refrigerant cycle is further enhanced by using high efficiency plate and frame heat exchangers and ice thermal storage. The heat exchangers improve refrigerant heat transfer while the ice storage stores cold energy at night when the electricity rates are low for use during the day when electricity rates are high. Ice storage also reduces the active rotating mechanical and electrical equipment by half and can produce colder water which reduces the size of distribution systems and their associated operating costs. As an additional energy and electrical demand strategy, some of the plants use natural gas fired engine driven chillers that recover waste heat and return it to the heating system for space, swimming pool and domestic water heating. The Rockville and Germantown plants have been successfully on-line since the early 1990s while the newest plants on the Takoma Park/Silver Spring Campus have come on-line in the past 5 years. The central plants have been integrated into either existing buildings or into new buildings and as such benefit from the economics of equipment consolidation and with only incremental first cost increases. The utility master plans also determine if a building should be designated as a satellite plant facility, which if properly designed and connected to the central plant distribution system can provide for additional cooling and heating capability and redundancy. A satellite hot water and chilled water plant is designed into the basement of the Germantown Biosciences Education Center(Open Fall 2014) and will serve the buildings on the south end of the campus and be able to share energy resources with the existing central plant in the High Technology & Science Center.

The Collegewide Facility Planning CIP No. 886686 is the primary funding source for all College planning activities. The Project Description Form(PDF) is shown in Appendix A.

College Expansion, Renovation & Sustainable Green Building Design: Resources are consumed as the College builds new or renovates existing space. To minimize resources, the College has historically applied sustainable green building practices to the design of new building construction and building renovations. In 1985 County Council legislation, Building Energy Performance Standards(BEPS) required county agencies to perform energy analysis and life cycle costs on new and renovated buildings. In 2007, County Council legislation further required that county agencies meet U.S. Green Building Council(USGBC) LEED Silver rating. The College continues to expand to meet the demands of its educational programs and since Fall 2000 the College has seen a 63% increase in Gross Square Feet. The largest growth has been on the Takoma Park/Silver Spring Campus which expanded into Silver Spring in FY 2001 with the acquisition of Giant Bakery and surrounding property bounded by CSX tracks, Burlington Ave, Georgia Ave and Blair Park. The table on Appendix A-1, lists these buildings in chronological order, shows their GSF, certification level and function. The following chart graphically shows this expansion.

**College Expansion
Gross Square Feet & Net Assignable Square Feet
Fiscal Years 1996-2012**



New and Renovated Building Design: Beginning in the late 1970s the College, using the technology of the time, designed its Germantown Campus buildings to be highly efficient, incorporate solar thermal heating systems, passive solar control, high efficient envelopes and premium efficiency HVAC systems. In the mid 1980s the College developed energy design guidelines and implemented an award winning energy management program. The College continues to improve and refine the energy efficient design process to meet the requirements of the Montgomery County Code. The College has developed Energy Design Guidelines specifically tailored to the needs of the College’s design and project management teams. All buildings undergo rigorous analysis during the design process which results in an estimated 40% reduction in energy and maintenance costs. Efficiently designed and constructed buildings generally incur slightly higher first costs which are recovered over the life cycle in energy, maintenance and

occupant productivity savings. Sustainable and renewable technologies such as environmentally friendly materials, daylighting and active and passive solar components are incorporated into all building designs. A total quality commissioning process ensures that buildings are built to the specifications and are turned over to the operations and maintenance staffs in proper operating order. Small scope alterations and renovations are also scrutinized for energy opportunities. All buildings built or renovated since the mid 1980s have exceeded the requirements of Montgomery County Code, which require assignment of a Building Energy Performance (BEP) Budget, and compliance demonstration by life cycle cost based energy analysis. New construction and renovation meet Montgomery County Code LEED rating system requirements. The results of these efforts can be seen in the improvement in the College's historical consumption trends, which are discussed in the Utility Management section.

Capital Improvement Projects and Operating Budget Sources of Funding: The College Resource Conservation Program is funded by various capital improvement projects(CIP) and operating budget sources. The Energy Conservation CIP, No. 816611 is the original capital program for which the College is requesting \$125,000, the same as in past fiscal years. Other CIPs such as Planned Lifecycle Asset Replacement (PLAR), No. 926659 and College Capital Renewal, No. 096600, also contribute to increased efficiency during equipment and infrastructure replacements. As previously mentioned, the Facility Planning CIP, No. 886686, PDF, attempts to integrate sustainability into the planning process. CIP Project Description Forms (PDF) are shown in Appendix A. Resource conservation opportunities are also integrated into building projects(new construction and renovations) which are usually funded by individual building CIPs. A list of these building projects is also shown in Appendix A.

The College's operating budget includes funding for one energy staff position. Operating budget funds are sometimes used to replace older less efficient equipment with newer more efficient equipment during routine equipment replacement. In FY2012, the College accepted \$210,000 in federal ARRA funds to replace lighting in the Rockville Physical Education building. This project was completed, Summer 2012. The College is currently evaluating lighting, HVAC and controls retrofits in various buildings and will be requesting rebates from PEPCO the local electrical utility.

The College's goal has been to integrate resource conservation and sustainability into all capital and operating budget projects. The table in Appendix A lists existing, new & planned improvement measures and estimates costs related to the Energy Conservation CIP.

Utility Management: The College continues to evaluate the most appropriate fuel sources, participate with other County agencies in deregulated utility procurement, monitor utility expenditures and maintain utility consumption databases. Monthly scrutiny of utility bills and persistence in recovering money from inaccurate bills is part of routine utility management operations. Timely monitoring and accurate records allow resolution of disputes with suppliers and recover thousands of dollars. Due to the increase quantity and complexity of billing issues since deregulation, the College has obtained consultant services to assist in utility bill monitoring and utility bill resolution. Accurate records and monthly monitoring also provide early warnings of unusual operating conditions that result in changes to utility consumption. In FY 2006 the utility management database was updated to a web based platform with expanded reporting features.

The following table shows the space and operating hour changes that occurred during this reporting period which affect the utility consumption costs.

Space Summary & Operating Hour Comparison For FY12 & FY13

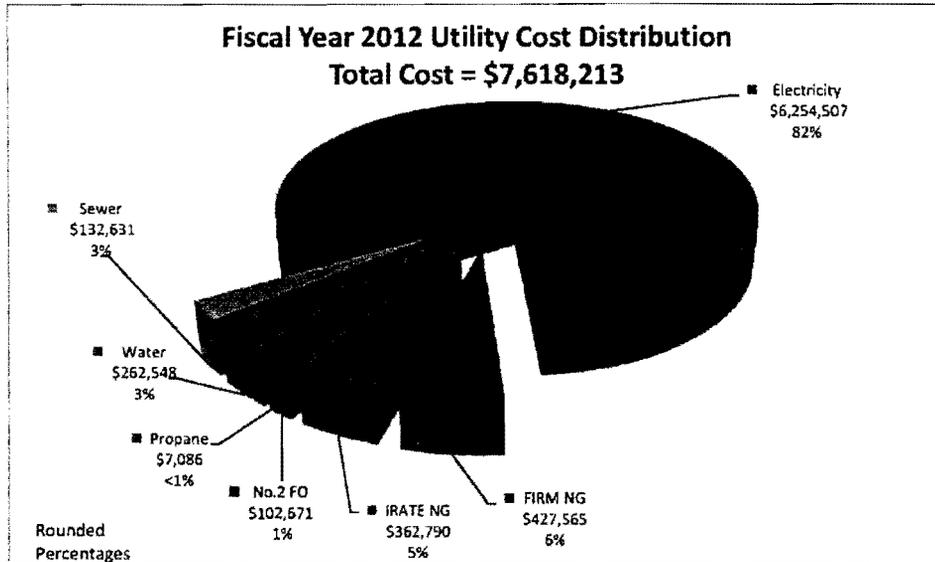
	Fall 2011	Fall 2012	Change
Owned Facilities	48	48	0
Leased Facilities	7	7	0
Gross Square Feet(GSF)	2,505,307	2,517,196	+11,889 +0.5 %
Net Assignable Square Feet (NASF)	1,343,204	1,372,307	+29,103 +2.2%
Conditioned Square Feet	1,760,314	1,790,314	30,000 +1.7%
Average Annual Operating Hours	4760	4760	0

Utility Consumption & Cost Comparison FY2011-FY2012

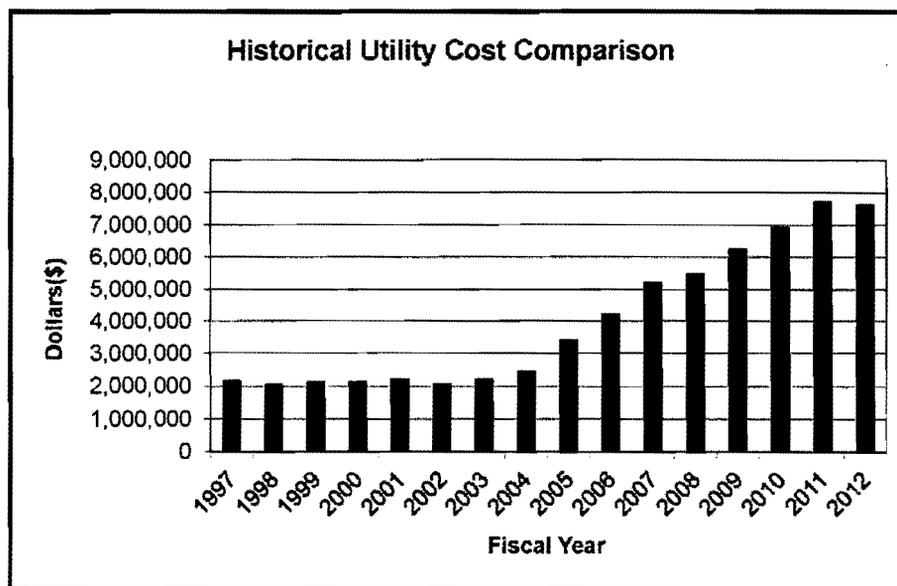
Utility	FY11 Consumption	FY11 Cost	FY12 Consumption	FY12 Cost	Change Consumption (%)	Change Cost (%)
Electricity (kWh)	38,465,527	\$6,263,080	40,088,577	\$6,254,507	4.2	-0.1
Firm NG (Therms)	349,253	\$480,084	369,409	\$427,565	5.8	-10.9
IRATE NG (Therms)	393,165	\$523,477	384,121	\$362,790	-2.3	-30.7
No.2 FO (Gals)	28,393	\$84,321	30,054	\$102,671	5.9	21.8
Propane (Gals)	2,817	\$9,527	1,964	\$7,086	-30.3	-25.6
Water (kGal)	32,889	\$185,050	39,546	\$262,548	20.2	41.9
Sewer (kGal)	26,184	\$166,029	29,665	\$200,955	13.3	21.0
Total		\$7,711,568		\$7,618,122		-1.2

The table above compares the cost and consumption for FY2011 and FY2012. The 1.2% decrease in cost was primarily due to a slight decrease in unit costs for electricity and decrease in the unit cost natural gas which offset increases in consumption.

The pie chart below shows that electricity is 82% of the College's total utility costs and is the primary influence on the College's utility budget.



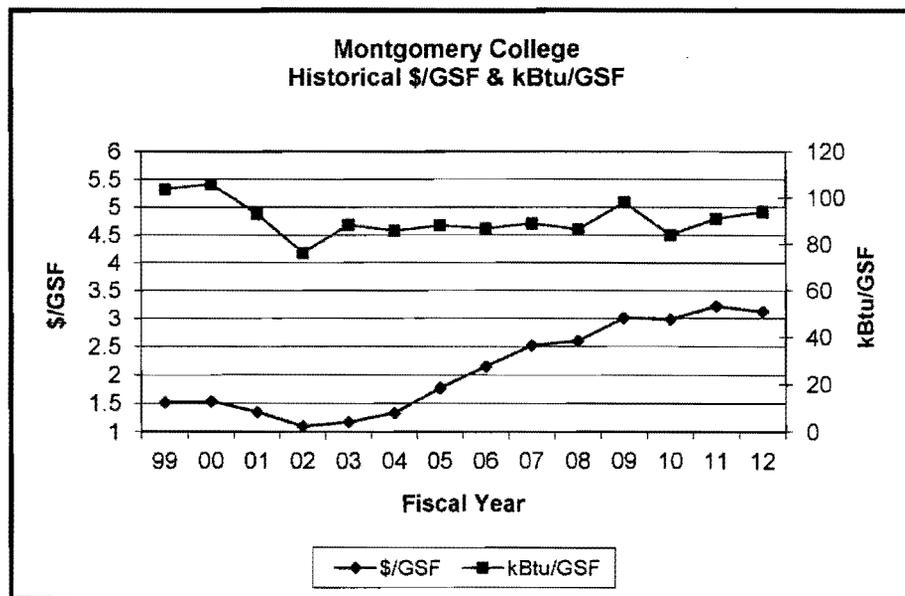
The following chart shows historical utility cost from 1997 to 2012. It should be noted that in the early years pricing was stable and remained around 2.2 million dollars annually. Early 2000s saw the introduction of deregulation with the slight dip in 2002 due to credits from the sale of PEPCO generating assets.



This stable pricing period was followed by the dramatic rise in unit costs once the Standard Offer Service price caps were removed. Coincidentally, the College began its expansion at the Takoma Park/Silver Spring Campus which increased utility consumption.

The College is requesting requested \$7,139,046 for FY 2014 Utility Operating Budget which is a 2.9% increase above FY 2013 Utility Operating Budget request. The \$385,304 increase is primarily due to increased consumption due to the addition of the Bioscience Education Center on the Germantown Campus and increased unit costs. The FY 2014 Utility Projection Report and the FY2013-2014 Utility Rates are included in Appendix A.

To understand how the College’s Utility Management Program has minimized the impact of increasing utilities the following chart compares historical costs (\$) and energy units (kBtu) normalized on a gross square foot basis (GSF). This normalization is generally referred to as energy cost index (ECI) in \$/GSF and energy use index (EUI) in kBtu/GSF. These normalizations are useful because they tends to moderate the effect of addition or deletion of building square feet. Note that the \$/GSF is similar to the escalating cost trend reflected on the previous graph showing the influence of deregulated electricity prices. The kBtu/GSF data however indicates that the College has trended toward a decrease and stabilization of its energy density. This can be an indicator that the College’s building stock is becoming more efficient by the introduction of lower energy density buildings. To some extent program savings or cost avoidance can be implied by comparing differences in costs, had the consumption remained at the high points. The dips in both data sets are the result of the College purchasing a large block of minimally condition space on the Takoma Park/Silver Spring West campus and demonstrate a constraint on this type of analysis. The minimally conditioned space has since been demolished or re-developed into the Health Science Center, Cafritz Arts Center and the Performing Arts Center. The completion of the Performing Arts Center and the installation of the Information Technology Operations Center may be the primary influence in the increased in FY2009. Inclusion of the TP/SS West Parking Garage influenced the drop in FY2010. The increasing EUI, FY2011 & FY 2012 is most likely due to the addition of the 140,700 GSF, high energy density Rockville Science Center which was opened Fall 2011. The corresponding ECI reduction is due to reductions in unit costs. Future influences will be due to the addition of the 145,139 GSF, high energy density Germantown Biosciences Education Center, scheduled to open Fall 2014.



Montgomery College

Existing Measures

Resource conservation measures implemented prior to FY 2013 (FY1998 TO FY2012)

Measures	Date Implemented (mo/yr)	Initial Cost (\$)	Annual Net Impact On Maintenance Cost (\$)	Fuel Type Affected And Units	Units Saved Per Year	Annual Cumulative Cost Savings (\$)
Lighting	Various	275,000	(10,000)	Electricity	1,214,423 kWh Maint.	191,908 10,000
HVAC & Controls	Various	1,055,000	(22,400)	Elect., N. Gas & Fuel Oil	807,307 kWh 40,187 therms Maint.	72,500 56,900 21,900
New Building Design	Various	900,000	(19,250)	Elect., N. Gas & Fuel Oil	1,489,299 kWh 39,375 therms Maint.	150,219 32,625 19,250
Central Plant Technology	Various	650,000	(22,000)	Elect., N. Gas & Fuel Oil	863,877 kWh 18,870 therms Maint.	70,202 22,518 22,000
Total		2,880,000	(73,650)		4,374,906 kWh 98,432 therms	670,022 Av. Payback 4.3 yrs

Existing measures consist of Lighting, HVAC & Controls, New Building and Renovated Building Design and Central Plant Technologies that reduce energy cost, reduce energy consumption and reduce maintenance costs.

New Measures

Resource conservation measures implemented during FY 2013(July 1, 2012 through June 30, 2013)

Measures	Date Implemented (mo/yr)	Initial Cost (\$)	Annual Net Impact On Maintenance Cost (\$)	Fuel Type Affected And Units	Units Saved Per Year	Annual Cost Savings (\$)
Lighting	Various	50,000	(1,000)	Elect.	80,000 kWh	10,400 1,000
HVAC	Various	50,000	(1,500)	Elect., N.Gas & Fuel Oil	25,000 kWh, 4000 Th	3,250 5,600 1,500
Controls	Various	25,000	(1,700)	Elect.N.Gas & Fuel Oil	20,000 kWh 4000 Th	2,600 5,600 1,000
Total		125,000	(4,200)			27,970
Simple Payback						4.5 yrs
<p>New measures consist of Lighting, HVAC & Controls, which reduce energy cost, reduce energy consumption and reduce maintenance costs.</p> <p>Not included in the above costs is a \$210,000 ARRA Stimulus lighting retrofit project in the Rockville Campus Gymnasium, including motion sensors, daylighting, & lighting level controls. The ARRA project included a window retrofit which improves envelope performance. This was funded from PLAR. The lighting project is expected to save 100,000 kWh/yr and save approximately \$20,000/year in operating costs. Participation in the PEPCO rebate program for FY2013-FY2014 will supplement College funds.</p>						

Planned Measures

This table shows information on resource conservation measures planned to be implemented in FY 2014 (July 1, 2013 through June 30, 2014)

Measures	Date Implemented (mo/yr)	Initial Cost (\$)	Annual Net Impact On Maintenance Cost (\$)	Fuel Type Affected And Units	Units Saved Per Year	Annual Cost Savings (\$)
Capital Improvement Projects:						
Lighting, HVAC & Controls	July 2012- June 2013	125,000	(4,000)	Elect., N.Gas & Fuel Oil	200,000 kWh 8,000 Th Maint.	26,000 7,520 4,000
Total		125,000	(4000)			37,520
Simple Payback						3.3 yrs.

New Construction Projects - Projected Utility Usage in FY14

ELECTRICITY					
	Net Area (Sq. Ft.)	Energy Use (kWh/SqFt)	Expected Occupancy	FY14 PrRte factor	FY 2014 Change (Kwh)
Gaithersburg Library	20,000	18.00	8/8/2013	10/12	300,000
Olney Library Renovation and Addition- Construction	4,260	18.00	8/21/2013	10/12	63,900
Animal Services and Adoption Center	34,365	25.00	9/6/2013	9/12	644,344
Wheaton Volunteer Rescue Squad,	29,000	25.00	10/1/2013	8/12	483,333
3rd District Police Station	14,226	20.00	10/26/2013	8/12	189,680
Travilah Fire Station #32	26,000	25.00	12/11/2013	6/12	325,000
Kensington Fire Station # 25 Additions	12,000	25.00	1/12/2014	5/12	125,000
Clarksburg Fire Station	22,640	25.00	3/1/2014	3/12	141,500
Scotland Neighborhood Recreation Center	7,315	19.00	6/14/2014	1/12	11,582
Colesville Depot	5,450	20.00	6/30/2014	1/12	9,083
Judicial Center Annex	203,000	20.00	9/1/2013	9/12	3,045,000
SubTotal	378,256				5,338,423
NATURAL GAS					
	Net Area (Sq. Ft.)	Therms/Ft2 ESTIMATED	Expected Occupancy	FY14 PrRte factor	FY 2014 New Usage (Therms)
Gaithersburg Library	20,000	0.48	8/8/2013	10/12	8,000
Olney Library Renovation and Addition- Construction	4,260	0.48	8/21/2013	10/12	1,704
Animal Services and Adoption Center	34,365	0.53	9/6/2013	9/12	13,660
Wheaton Volunteer Rescue Squad,	29,000	0.53	10/1/2013	8/12	10,247
3rd District Police Station	14,226	0.53	10/1/2013	8/12	5,027
Travilah Fire Station #32	26,000	0.53	10/26/2013	8/12	9,187
Kensington Fire Station # 25 Additions	12,000	0.53	12/11/2013	6/12	3,180
Clarksburg Fire Station	22,640	0.53	1/12/2014	5/12	5,000
Scotland Neighborhood Recreation Center	7,315	0.50	3/1/2014	3/12	914
Colesville Depot	5,450	0.52	6/14/2014	1/12	236
Judicial Center Annex	203,000	0.45	6/30/2014	1/12	7,613
SubTotal	378,256				64,767
WATER					
	Net Area (Sq. Ft.)	KGal/Ft2 ESTIMATED	Expected Occupancy	FY14 PrRte factor	FY 2014 New Usage (kGal)
Gaithersburg Library	20,000	0.012	8/8/2013	10/12	200
Olney Library Renovation and Addition- Construction	4,260	0.012	8/21/2013	10/12	43
Animal Services and Adoption Center	34,365	0.025	9/6/2013	9/12	644
Wheaton Volunteer Rescue Squad,	29,000	0.020	10/1/2013	8/12	387
3rd District Police Station	14,226	0.020	10/1/2013	8/12	190
Travilah Fire Station #32	26,000	0.020	10/26/2013	8/12	347
Kensington Fire Station # 25 Additions	12,000	0.020	12/11/2013	6/12	120
Clarksburg Fire Station	22,640	0.020	1/12/2014	5/12	189
Scotland Neighborhood Recreation Center	7,315	0.019	3/1/2014	3/12	35
Colesville Depot	5,450	0.025	6/14/2014	1/12	11

Judicial Center Annex	203,000	0.017	9/1/2013	1/12	288
SubTotal	378,256				2,452

<u>NEW FACILITIES - COST</u>					FY 2014
	Consumption			Rate	
electricity	5,338,423	kwh		0.1214	\$618,169
gas	64,767	Therms		1.1000	\$71,243
water	2,452	Gal (/000)		14.7200	\$36,098
					\$725,511