T&E COMMITTEE #3
April 16, 2015

Worksession

MEMORANDUM

April 15, 2015

TO: Transportation, Infrastructure, Energy & Environment Committee

FROM: Keith Levchenko, Senior Legislative Analyst

SUBJECT: **FY16 Operating Budget**: Utilities Non-Departmental Account (NDA)

Council Staff Recommendation:

- **Council Staff is awaiting further information from Executive Branch Staff and does not have a budget recommendation at this time.**
- **Include Paragraph 69 (from the FY15 County Government Appropriation Resolution) in the FY16 County Government Appropriation Resolution.**
- **The Committee should discuss environmental sustainability efforts, benchmarking, and reporting requirements across all agencies after budget.**

Attachments to this Memorandum

- County Executive's FY16 Recommended Budget Section for Utilities (©1-8)
- Agency Utility Cost and Usage Trends (©9-15)
- Resolution 17-1111 Excerpt: Paragraph 69 (payment of financing costs for ESCO projects) (©16)
- List of New County Government Construction Projects by Utility Type (©17)
- Excerpts from Agency Resource Conservation Plans and Other Documents
  - Montgomery College: ©18-21
  - Montgomery County Public Schools (MCPS): ©22-29
  - Maryland-National Park and Planning Commission (M-NCPPC): ©30-33
  - Washington Suburban Sanitary Commission (WSSC): ©34-40

Executive Branch Staff Participants Include:

- David Dise, Director, Department of General Services (DGS)
- Beryl Feinberg, Deputy Director, DGS
- Greg Ossont, Deputy Director, DGS
- Eric Coffman, DGS
- Victor Sousa, DGS
- Michael Yambrach, DGS
- Angela Dizelos, Office of Management and Budget

Agency Representatives Attending Include:

- Sean Gallagher, Assistant Director, Department of Facilities Management (MCPS)
- Rob Taylor, Energy Manager, Washington Suburban Sanitary Commission (WSSC)
- Arnold Ramsammy, Assistant Division Chief, Facilities Management Division, M-NCPPC
- Richard Anderson, Energy Management Consultant, CQI Associates
- Mike Whitcomb, Energy Manager, Montgomery College
- Crissie Manfre, Utility Analyst, Montgomery College

Background

As part of the annual Operating Budget review process, the Council reviews utility costs across all agencies and policy issues associated with utility[1] 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 procurement issues as well as energy conservation and renewable energy initiatives. 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 FY16. Energy efficiency measures are also taken into account. 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.

Council Staff received resource conservation plans (RCPs) from Montgomery College, M-NCPPC, and WSSC. MCPS provided a link to its new Environmental Sustainability Management Plan. Excerpts from these plans are attached. Council Staff has not yet received the County Government RCP. Other agency materials (such as agency expenditure/energy usage history) are attached as well. Council Staff suggests that a more detailed review of these plans (as well as other related plans under development by the agencies[2]) be done by the T&E Committee after budget. Agency staff will be available at the T&E meeting to provide their perspectives on their agencies' energy procurement experience and energy conservation and retrofit work.

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[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.

[2] WSSC is finalizing a 10 year Strategic Energy Plan that should be rolled out in June 2015. WSSC also is in the process of updating its greenhouse gas (GHG) emission inventories by June 30, 2015 and its 20 year plan of action is being updated.

Fiscal Summary
(All Agencies)

The FY16 budgets for utilities by agency as presented in the County Executive's FY16 Recommended Budget are summarized below.

Table 1:
Utility Costs by Agency

Agency	Actual FY13	Actual FY14	Approved FY15	CE Rec FY16	FY16 % of Total	Change (FY16 vs. FY15) $$	Change (FY16 vs. FY15) %
County Government	29,746,317	32,613,501	33,391,564	34,657,829	31.8%	1,266,265	3.8%
MCPS	35,779,753	39,444,381	35,692,609	38,802,112	35.6%	3,109,503	8.7%
Montgomery College	7,096,728	6,992,988	7,613,648	7,840,755	7.2%	227,107	3.0%
WSSC	23,062,585	24,934,389	23,246,536	23,783,400	21.8%	536,864	2.3%
M-NCPPC	2,819,826	2,915,931	3,969,940	3,885,680	3.6%	(84,260)	-2.1%
Total	**98,505,209**	**106,901,190**	**103,914,297**	**108,969,776**	**100.0%**	**5,055,479**	**4.9%**

NOTE: The Montgomery College Actual FY13 number should be $6,581,843, according to Montgomery College's utility reports. The M-NCPPC numbers also do not match information provided by M-NCPPC staff.

Overall, utility costs are recommended to increase by $5.05 million (4.9 percent). MCPS (the largest energy user) is projecting the largest increase (8.7 percent), which drives up the average increase. Taking MCPS out of the calculation, agency energy budgets are projected to increase by an average of 2.9 percent. County Government (the next largest energy user after MCPS) is projecting an increase of 3.8 percent.[3]

The FY16 increase follows upon a significant decrease from the FY14 actual to FY15 approved (-$2.99 million or a 2.8 percent decrease).

The following chart presents utility costs by type.

Table 2:
Utility Costs by Type (All Agencies)

Type of Utility	Actual FY13	Actual FY14	Approved FY15	CE Rec FY16	FY16 % of Total	Change (FY16 vs. FY15) $$	Change (FY16 vs. FY15) %
Electricity	81,373,607	89,669,362	84,775,729	88,412,632	81.1%	3,636,903	4.3%
Water and Sewer	6,596,903	5,845,484	7,281,311	7,901,492	7.3%	620,181	8.5%
Fuel Oil	453,420	445,650	561,100	629,426	0.6%	68,326	12.2%
Natural Gas	9,831,287	10,600,338	10,972,661	11,603,681	10.6%	631,020	5.8%
Propane	249,992	340,356	323,496	422,545	0.4%	99,049	30.6%
Total	**98,505,209**	**106,901,190**	**103,914,297**	**108,969,776**	**100.0%**	**5,055,479**	**4.9%**

As in past years, electricity costs (81.1 percent of the total) and natural gas costs (10.6 percent of the total) account for the bulk of all utility costs. Across all agencies, all of the types of utility costs are projected to increase from FY15 approved levels. Charts for each agency presenting utility costs and consumption trends are attached on ©9-15.

[3] 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 to itself over time is a fairer measure of progress.

County Government facility utility costs in FY15 are expected to be higher than budget. This is entirely due to consumption, since unit costs are fixed by contract. Electricity costs are projected to be about $600,000 higher than budgeted. Natural gas costs are about $380,000 higher. FY16 totals are expected to be close to the latest FY15 projections. Council Staff did not receive information on streetlights and streetlamps yet and is therefore unable to comment on energy and cost trends in those areas.

Montgomery College's FY16 utility cost increase is due to both consumption increases (due to the return to service of the Rockville Campus Science West building renovation and 28,176 GSF addition and addition of the 310,000 GSF Rockville Campus North Garage) and a 2.5% percent increase in electricity unit costs.

M-NCPPC staff has previously noted that its fluctuations have been the result of several factors, including: weather fluctuations which can dramatically affect water usage in Parks; and significant decreases in energy unit costs in FY13 followed by substantial increases in energy unit costs in FY14.

Fiscal Summary:
(General Fund Non-Departmental Account)

The County owns, operates, and/or maintains 412 facilities totaling 9,759,852 square feet. The Department of General Services manages the payment for 1,321 separately metered utility accounts for these facilities. The Utilities Non-Departmental Account (NDA) budget funds 804 of these accounts, in addition to 68,426 streetlights and 832 traffic-controlled signalized intersections.

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 $387,758 (of 1.5 percent) as shown on the following chart. This increase is similar to last year's.

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

	Actual	Actual	Approved	CE Rec	FY16	Change (FY16 vs. FY15)	
Type of Utility	FY13	FY14	FY15	FY16	% of Total	$$	%
Electricity	19,560,557	20,756,510	21,490,160	21,821,289	85.2%	331,129	1.5%
Water and Sewer	1,528,193	1,630,635	1,676,271	1,701,615	6.6%	25,344	1.5%
Fuel Oil	83,127	132,406	210,000	213,171	0.8%	3,171	1.5%
Natural Gas	1,478,902	1,928,192	1,797,702	1,824,910	7.1%	27,208	1.5%
Propane	29,669	52,125	60,000	60,906	0.2%	906	1.5%
Total	**22,680,448**	**24,499,868**	**25,234,133**	**25,621,891**	**100.0%**	**387,758**	**1.5%**

Electricity (which makes up 85.2 percent of all expenditures) and natural gas (which makes up 7.1 percent of all expenditures) are both up.

Interestingly, the FY13 actuals shown above were about $3.5 million (13.3 percent) below the FY13 Approved Budget. While the FY14 actuals are about 8.5 percent higher than the FY13 actuals, they are about 5 percent below the original FY14 budget. These fluctuations up and down are indicative of the challenge in predicting energy costs, even with fixed price contracts.

The Executive's Recommended Budget provides a crosswalk from FY15 to FY16 (see chart at the bottom of the page on ©4). The changes are relatively small compared to past years and include:

- $222,798 for renewable energy costs: Last year, the Council enacted Bill 9-14, which requires the County to purchase the equivalent of 100 percent of its energy from renewable energy sources within two years. The Council ultimately approved sufficient funds in the FY15 budget to achieve a 100 percent purchase during FY15. Council Staff has asked Executive Branch staff for clarification on this point and what is assumed within the base budget for FY15.

- $113,184 increase in costs based on estimated consumption and unit costs: Council Staff has asked for more information from Executive Branch staff on this item.

- $56,604 for new buildings opening (either during FY15 or during FY16): DGS provided a detail sheet (see ©17) breaking out the square footage, estimated energy usage, and costs for DGS' new building openings. The facilities involved include: The Colesville Depot, Silver Spring Library, North Potomac Recreation Center, Ross Boddy Recreation Center, Silver Spring Transit Center, and Glenmont Fire Station #18.

- $4,828 in cost savings from ESCO contracts. This savings, which is net of debt service costs associated with the project, is related to the retrofit work done at 401 Hungerford Drive.[4]

Not included above is the fact that the Council reduced the Utilities NDA by $830,000 last year ($1.0 million cut with $170,000 added back for clean energy purchases). Given that the FY15 to FY16 crosswalk does not show a large cost increase from FY15, much of that $1.0 million cut must have been absorbed somehow through savings in energy costs.

Council Staff has asked Executive Branch staff to provide further details as to how the Utilities NDA budget assumptions have changed from the FY15 approved budget.

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 achieved. Up until FY15, County Government had moved up to a 30 percent level of clean energy purchases.

Last year, the Council enacted Bill 9-14, which requires the County to purchase the equivalent of 100 percent of its energy from renewable energy sources within two years.

DGS provided the following information regarding agency clean energy purchases for FY15:

Montgomery County currently is purchasing renewable energy credits equivalent to 50% of electricity consumption. Currently these credits are sourced from windfarms located in other states. The table below outlines the volume purchased by the County for its operations and its purchasing partners.

[4] The FY15 County Government Appropriation Resolution (Paragraph 69) allows transfers from the Utilities NDA to the Debt Service Fund to cover the financing of energy-related equipment where the energy savings are guaranteed by an energy services contract and the savings are equal to or greater than the debt service costs.

Participant	Consumption 2015 (kWh)	FY15 Allocation (%)	FY15 REC volumes	
MCG	205,000,000	50	102,500.00	$126,075.00
MCPS	230,000,000	20	46,000.00	$56,580.00
MCC	45,000,000	100	45,000.00	$55,350.00
MMCPPC	52,000,000	50	26,000.00	$31,980.00
City of Rockville	16,000,000	100	16,000.00	$19,680.00
City of Gaithersburg	6,543,333	30	1,963.00	$2,414.49
City of Takoma Park	1,800,000	100	1,800.00	$2,214.00
Town of Somerset	73,333	30	22.00	$27.06
Chevy Chase Vill. V	44,000	50	22.00	$27.06
			239,307.00	$294,347.61

Montgomery County has issued a Request for Energy Proposals (RFEP). The RFEP seeks the vendor who will provide renewable energy credits equivalent to 100% of the County Government's electricity consumption. The RFEP includes MCPS, MNCPPC, Montgomery College, agencies and municipalities. Responses will be required by May and an award is anticipated by June.

WSSC (not shown above) purchases about 30% of its power through a direct purchase agreement with a wind power supplier and another 3 percent from its solar projects.

MCPS noted in a separate response to Council Staff that it is currently at 33 percent in FY15 and plans to be at 35 percent in FY16.

As noted above, Montgomery College is already at 100 percent during FY15 and M-NCPPC is at 50 percent.

As part of the Council's budget actions for FY15, the Council reduced the Utilities NDA budget by $1.0 million in order to encourage the County to aggressively pursue energy efficiency opportunities. However, $170,000 was added back to cover the cost for the County to purchase renewable energy credits equivalent to 100% of the County Government's electricity consumption in FY15. However, that purchase will happen now for FY16 (with the County at 50 percent purchases in FY15). DGS staff will be available at the meeting to discuss the schedule for renewable energy credit purchases.

DGS' cost estimate for the FY16 renewable energy credit purchases at 100% is $295,545 and notes a difference from the FY15 budget of $222,798, as shown below.

Renewable Energy: $222,798

	FY15 CC Approved	FY16 CE Rec	Difference
Renewable Energy	$72,747	$295,545	$222,798

This information is from the FIS for renewable energy mandating 100% by FY16.

DGS calculated the expected cost of renewable energy based on the commodity cost history, changes in renewable energy credit values and the anticipated increase in credit volume changes due to consumption and new facilities. Based on market conditions, these calculations are consistent with the fiscal impact calculations provided for Council Bill 9-14.

Council Staff is still working with Executive staff to understand the FY15 baseline numbers and FY16 projections.

Electricity and Natural Gas Procurement for County Government

During last year's budget process, Council Staff suggested an after-budget T&E Committee meeting to discuss County Government energy procurement. However, T&E was not able to schedule and hold this meeting. The Committee has previously expressed an interest in DGS exploring different electricity purchasing options such as cooperative energy purchasing and wholesale block purchasing (which MCPS and WSSC utilize).

The County's prior fixed price energy supply contract expired in January 2015. The County executed a one-year extension (to expire in January 2016) to provide time for the County to finalize its on-site renewable energy projects, since these projects will ultimately affect the volume and schedule the County uses as a basis for its energy purchase.

Council Staff asked DGS to provide an update on its review of energy procurement strategies. DGS provided the following information on its work to date:

Electricity:

DGS is taking advantage of favorable pricing for energy supply from solar and other renewable energy sources. DGS is focused on solar projects that can be classified under the Maryland Net Metering program. Net metering allows the County to purchase electricity from specific, onsite and remotely located, solar photovoltaic projects at a low rate. Energy sourced from virtually net metered facilities are treated the same as solar photovoltaic projects located behind the utility meter, avoiding distribution and other costs.

For energy supply not generated via distributed solar photovoltaic system on County properties, DGS will issue and award an RFP in summer of 2015 for an advisor who will develop and administer the RFP and contract County energy supply. The County, as part of its updated electricity purchasing strategy, plans to seek long term supply from local and regional clean energy projects to supply 50 to 70% of energy needs. The remaining 25 to 50% may be secured via fixed price contract or indexed to the market contract.

Other agencies and municipalities will be invited to join in this purchase.

Natural Gas:

The County contracted Washington Gas Energy Services (now WGL). The contact has long-term options for natural gas supply. The County is currently benefiting from historic low natural gas prices. County staff are evaluating options to contract for whole or partial natural gas supply for multiple years to take advantage of advantageous pricing.

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 ultimately approved an FY13 Energy Tax that included a 10 percent reduction off of the 2010 increase. A similar scenario in FY14 played out with the Executive recommending no change in the energy tax rate and the Council approving a 10 percent reduction off of the 2010 increase.

For FY15, the County Executive again recommended no change in the energy tax rate. The Council ultimately approved a 7 percent reduction off of the 2010 increase.

On April 14, the Council introduced legislation to again reduce the revenue received from the 2010 energy tax by up to 10 percent. If this reduction is approved, County revenue would be reduced by an estimated $11.5 million, although there would be some offsetting savings in agency utility budgets. Council Staff has asked the agencies (MCPS, Montgomery College, WSSC, and DGS) to provide an estimate of potential savings. Based on responses from agency staff, savings of approximately $514,000 across all agencies would be realized.

Depending on the outcome of the energy tax legislation, agency energy budgets, County Government special funds, and the Utilities NDA could see some savings.

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 and at how the agencies compare to national averages.

This year, draft Resource Conservation Plans and other energy usage information came to Council Staff too late for this kind of analysis as part of the Utilities budget review.

Last year, Council Staff suggested that a T&E Committee discussion after budget of benchmarking and reporting (for energy as well as other sustainability-related issues) across all agencies would be worthwhile. Unfortunately, the T&E Committee schedule ultimately could not accommodate this discussion. Such an after-budget discussion is recommended again.

County Government Facility Retrofits, Microgrids, and Solar Power Initiatives

As mentioned earlier, debt service and other costs associated with these ESCO projects can be paid for by dollars transferred out of the Utilities NDA per Paragraph 69 in the FY15 County Government Appropriation Resolution (see ©16). Council Staff is supportive of including Paragraph 69 in the FY16 and future appropriation resolutions.

DGS provided the following information regarding its planned ESCO projects and other initiatives going forward:

	Department	Project	ESCO GC	Status	Estimated Value (millions)
1	GGOVT	COB	NORESCO	TBD	TBD
2	HHS	401 Hungerford Drive	JC	Complete	$4.1 (firm)
3	HHS	1301 Piccard Drive	AMERESCO	IGA (received)	$3.6
4	HHS	8818 Georgia Ave	ESG	IGA	TBD
5	Corrections	Pre-Release Center	ESG	IGA	TBD
6	Library	Twinbrook Library	ESG	IGA	TBD
7	Library	Kensington Park Library	ESG	IGA	TBD
8	Recreation	Longwood CRC	ESG	IGA	TBD
9	DOT	Streetlight	NORESCO	Scoping Study	$19.8 million*
10	Recreation	Olney Pool	TBD	FY16/17	TBD
11	Library	Aspen Hill	TBD	FY16/17	TBD
12	Library	Davis Library	TBD	FY16/17	TBD
13	Library	Little Falls Library	TBD	FY16/17	TBD
14	Recreation	MLK Pool	TBD	FY18/19	TBD
15	Recreation	Shriver Aquatic Center	TBD	FY18/19	TBD
16	Recreation	Gaithersburg Pool	TBD	FY18/19	TBD
17	Corrections	Clarksburg MCCF	TBD	FY18/19	TBD
*Based on preliminary audit of streetlights. Final costs may change.					

Energy Performance Contracting Update and Solar Initiatives and the NDA

DGS has completed 401 Hungerford, received the investment grade audit (IGA) for 1301 Piccard, and is expecting IGA's for six additional projects in April for the Energy Performance Contracting (EPC) initiative in FY15. Costs for the ESCO projects are paid for out of the Capital Budget in the Energy Systems Modernization project.

The EPC initiatives and public private partnerships are funded through the Utilities Non-Departmental Account and other utility budgets. Once a project is complete, monies are transferred from the NDA to the County's debt service funds to support the bonds or master leases that financed the projects

Similarly, under the solar power purchase (SPPA) initiative, DGS has contracted with a partner that will design, build, finance, own, operate and maintain solar projects on County facilities. The County will purchase the power generated at significantly lower cost than other purchasing options through a long term contract (e.g., 20 years). The County reduces the amount of energy purchased through conventional sources, while expanding the amount of clean energy installed in Maryland. These programs provide contract opportunities for local firms, including minority, female and disabled owned companies. The upcoming microgrid project will be developed and funded by a similar mechanism. The Recommended budget is based on anticipated utility needs and requires a consistent level of funding to leverage third party financing that backs the PPAs.

Summary of EPC Projects:

The County received a total of $1 million in grant funds over the last two years. These funds have been used for electric vehicles, electric vehicle charging stations, fleet sharing initiatives, hybrid drive conversions. The second year funding will be used for light emitting diode (LED) exterior lighting installations and combined heat and power in County facilities. The County will use $205,000 of state to buy down the costs of the County's first combined heat and power system at the Pre-Release Center. Combined Heat and Power systems cleanly convert natural gas to provide electricity and heat to a facility, offsetting the need for inefficient central plant sourced power. The MSEC funds will augment funds sourced from energy savings to buy-down the cost of the project.

Montgomery County Microgrid Initiative

The Department of General Services has also launched an innovative project to identify a third party that will design, build, finance, own, operate and maintain natural gas fired generation, solar, energy storage, energy efficiency measures and advanced controls on critical County facilities. The objective is to provide uninterruptible and flicker free electricity to County facilities. The County anticipates these facilities will operate independently, sourcing electricity from the utility grid only when economically advantageous or during planned maintenance cycles.

The County identified three critical projects listed in the table below and issued a request for energy proposals in April of 2014. Fourteen responses were received and the County shortlisted six vendors, final cost and price proposals are expected April, 23, 2015. The successful vendor will be awarded in selected in May with contract negotiations occurring over the summer. The County expects construction to require 12 to 18 months after the conclusion of negotiations.

List of Microgrid Projects

	Department	Project
1	Police/FRS/DOT	201 Edison Park (PSHQ
2	DFMS/Transit	EMTOC
3	Corrections	MCCF

Solar Projects

The estimated savings, as currently contracted, are $471,855 in the first full year of operations; savings will persist for 20 years with 0% escalator. Savings are based on preliminary system designs developed at the contract phase; final designs will vary due to site and engineering considerations.

Partial savings were included in the FY16 budget to cover the costs of transferring a Capital Project Manager from CIP to General Fund. $107,383 was transferred from the utility NDA to accommodate this position.

Construction of the projects will begin in summer of 2015. The final operation date may be impacted by construction and utility interconnection delays. Savings, beyond those needed to

accommodate the Capital Project Manager, have not been counted in the FY16 budget as many projects may not be complete, commissioned and generating until FY17. The majority of savings are not expected to accrue until FY17.

DOT issued an RFEP for garage mounted solar, the solicitation was ultimately canceled due to a lack of interested bidders. Feedback indicates that the construction risks, engineering, logistics and other issues related to parking structures is difficult for the industry to implement cost effectively. DOT and DGS are reviewing lessons learned from the solicitation and other solar projects to identify options.

List of Contracted Solar Projects, Anticipated Generation and Estimated Annual Savings

Solar Photovoltaic System Estimated Size, Generation and Annual Savings **Note: First full year of operations is expected to be FY17.**				
Facility	**Size (KW-DC)**	**Size (kW-AC)**	**Estimated Generation (kWh)**	**Estimated Annual Savings**
County Correctional Facility	3282	2840	4,372,197	$304,387
New Liquor Warehouse	1131	945	1,413,600	$63,612
Holiday Park Senior Ctr.	501	460	654,135	$50,368
Up-County Regional Services Center	98	84	119,939	$6,381
Rockville Library	85	72	107,586	$8,177
Silver Spring Civic Building at Veterans Plaza	72	68	89,662	$6,097
Bauer Rec. Center	62.5	60	79,250	$5,944
Potomac Community Center	55	48	68,585	$3,772
Jane Lawton Rec. Center	42	40	52,563	$4,258
Kidstop Childcare Center	31	24	38,478	$3,117
Fire Station #31, Rockville	46	39	55,154	$4,964
Gaithersburg Library	103.5	88	125,339	$10,779
	5,509	4,768	7,176,488	$471,855

Council Staff Recommendations

Accurately predicting energy costs from year to year is problematic, given the many moving parts (unit costs for energy, changes in gross square feet of conditioned space, aging of equipment and buildings, the impacts of energy conservation efforts and retrofit projects, and major changes in weather conditions). On top of these variables, in each of the past few years, the Council has reduced funding from the Executive's Recommended amount for the Utilities NDA ($1.0 million last year) to encourage more aggressive energy conservation efforts.

In addition, Council Staff is still waiting for additional information from Executive Branch staff to clarify a number of budget issues with the Utilities NDA.

Given these factors, Council Staff is not in a position to confirm whether the County Executive's recommended funding level for the Utilities NDA is the "correct" amount to budget or not at this time. Council Staff will continue to work with Executive Staff to get the information

needed and will provide further information to the Committee prior to Council review of the Utilities Budget NDA in May.

However, since the Utilities NDA is the subject of a direct appropriation, the Council is assured that the funding approved for this NDA is going for energy procurement or for the financing of ESCO projects. Excess funding (if any) will revert to General Fund balance. Assuming DGS is successful in the implementation of many of the energy conservation and clean energy projects listed earlier, the amount of dollars transferred out of the NDA for that purpose will rise and County energy usage (and costs paid out of the NDA to purchase energy) will decline.

Council Staff recommends:

- **Including Paragraph 69 (from the FY15 County Government Appropriation Resolution) in the FY16 County Government Appropriation Resolution**
- **Having the Committee discuss environmental sustainability efforts, benchmarking, and reporting requirements across all agencies after budget.**

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

The County owns, operates, and/or maintains 412 facilities totaling 9,759,852 square feet. The Department of General Services manages the payment for 1,321 separately metered utility accounts for these facilities. The Utilities non-departmental account (NDA) budget funds 804 of these accounts, in addition to 68,426 streetlights, and 832 traffic-controlled signalized intersections.

BUDGET OVERVIEW

The FY16 Recommended Budget for the tax supported Utilities non-departmental account (NDA) is $25,621,891 an increase of $387,758 or 1.5 percent from the FY15 Approved Budget of $25,234,133. Allocation of these utilities expenditures is approximately: electricity, 85.4 percent; natural gas, 7.0 percent; water and sewer, 6.5 percent; and fuel oil, 0.8 percent, and propane, 0.2 percent.

The FY16 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 $74,311,947 which includes the entire bi-county area of WSSC.

The FY16 Recommended tax supported budget for Utilities Management, including both the General Fund NDA ($25,621,891) and the other tax supported funds ($3,710,379), is $29,332,270, an increase of $1,266,265 or approximately 4.5 percent from the FY15 Approved utilities budget. The FY16 Recommended budget for non-tax supported utilities expenditures is $5,325,559, no change from the FY15 Approved Budget.

In both the tax and non-tax supported funds, utilities expenditures result primarily from higher commodity unit costs due to market price fluctuations; 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. Energy conservation and cost-saving measures (e.g., new building design, lighting technology, and energy and HVAC management systems) are assumed to offset increased utility consumption for new facilities and higher unit costs.

Unleaded gasoline, diesel, and compressed natural gas fuels are purchased from various providers, and are budgeted in theDepartment of General Services, Division of Fleet Management Services; not the General Fund Utilities NDA. The 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 FY15 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, WSSC (bi-county), 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 Angela Dizelos of the Utilities at 240.777.6028 or 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 FY14	Budget FY15	Estimated FY15	Recommended FY16	% 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	24,499,868	25,234,133	25,234,133	25,621,891	1.5%
Capital Outlay	0	0	0	0	—
County General Fund Expenditures	***24,499,868***	***25,234,133***	***25,234,133***	***25,621,891***	***1.5%***
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	0	0	0	0	—
Capital Outlay	0	0	0	0	—
Grant Fund MCG Expenditures	***0***	***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	—
DEPARTMENT TOTALS					
Total Expenditures	**24,499,868**	**25,234,133**	**25,234,133**	**25,621,891**	**1.5%**
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	***0***	***0***	***0***	***0***	—

FY16 RECOMMENDED CHANGES

	Expenditures	FTEs
COUNTY GENERAL FUND		
FY15 ORIGINAL APPROPRIATION	**25,234,133**	**0.00**
Other Adjustments (with no service impacts)		
Increase Cost: Renewable Energy	222,798	0.00
Increase Cost: Due to unit costs and consumption changes	113,184	0.00
Increase Cost: New buildings opening	56,604	0.00
Decrease Cost: ESCO Utility Savings	-4,828	0.00
FY16 RECOMMENDED:	**25,621,891**	**0.00**

FUTURE FISCAL IMPACTS

Title	CE REC. FY16	FY17	FY18	($000's) FY19	FY20	FY21
This table is intended to present significant future fiscal impacts of the department's programs.						
COUNTY GENERAL FUND						
Expenditures						
FY16 Recommended	**25,622**	**25,622**	**25,622**	**25,622**	**25,622**	**25,622**
No inflation or compensation change is included in outyear projections.						
Subtotal Expenditures	***25,622***	***25,622***	***25,622***	***25,622***	***25,622***	***25,622***

COUNTY UTILITIES EXPENDITURES

EXPENDITURES BY DEPARTMENT/AGENCY

	ACTUAL FY13	ACTUAL FY14	APPROVED FY15	RECOMMENDED FY16	CHANGE BUD/APPR	% CHANGE REC/APPR
COUNTY GOVERNMENT TAX SUPPORTED OPERATIONS						
NON-DEPARTMENTAL ACCOUNT						
Facilities	13,487,035	15,372,911	15,061,601	16,449,359	1,387,758	9.2%
Traffic Signals and Streetlighting	9,193,413	9,126,957	10,172,532	9,172,532	(1,000,000)	-9.8%
GENERAL FUND NDA EXPENDITURES	22,680,448	24,499,868	25,234,133	25,621,891	387,758	1.5%
OTHER TAX SUPPORTED OPERATIONS						
Transit Services	73,694	291,007	91,730	276,200	184,470	201.1%
Recreation	2,755,137	3,116,581	2,740,142	3,434,179	694,037	25.3%
SUBTOTAL	2,828,831	3,407,588	2,831,872	3,710,379	878,507	31.0%
TOTAL TAX SUPPORTED	25,509,279	27,907,456	28,066,005	29,332,270	1,266,265	4.5%
COUNTY GOVERNMENT NON-TAX SUPPORTED OPERATIONS						
Fleet Management Services	1,069,366	1,350,157	1,630,392	1,630,392	0	0.0%
Parking Districts	2,183,187	2,299,158	2,598,489	2,598,489	0	0.0%
Liquor Control	852,105	899,856	865,810	865,810	0	0.0%
Solid Waste Services	132,380	156,874	230,868	230,868	0	0.0%
TOTAL NON-TAX SUPPORTED	4,237,038	4,706,045	5,325,559	5,325,559	0	0.0%
SUMMARY - COUNTY GOVERNMENT						
TOTAL TAX SUPPORTED	25,509,279	27,907,456	28,066,005	29,332,270	1,266,265	4.5%
TOTAL NON-TAX SUPPORTED	4,237,038	4,706,045	5,325,559	5,325,559	0	0.0%
TOTAL COUNTY GOVERNMENT	29,746,317	32,613,501	33,391,564	34,657,829	1,266,265	3.8%
OUTSIDE AGENCIES TAX AND NON-TAX SUPPORTED OPERATIONS						
Montgomery County Public Schools	35,779,753	39,444,381	35,692,609	38,802,112	3,109,503	8.7%
Montgomery College	7,096,728	6,992,988	7,613,648	7,840,755	227,107	3.0%
Washington Suburban Sanitary Commission	23,062,585	24,934,389	23,246,536	23,783,400	536,864	2.3%
M-NCPPC	2,819,826	2,915,931	3,969,940	3,885,680	(84,260)	-2.1%
TOTAL OTHER AGENCIES EXPENDITURES	68,758,892	74,287,689	70,522,733	74,311,947	3,789,214	5.4%
TOTAL UTILITIES EXPENDITURES	98,505,209	106,901,190	103,914,297	108,969,776	5,055,479	4.9%

COUNTY UTILITIES EXPENDITURES

EXPENDITURES BY ENERGY SOURCE

	ACTUAL FY13	ACTUAL FY14	APPROVED FY15	RECOMMENDED FY16	CHANGE BUDGET/REC	% CHANGE BUDGET/REC
COUNTY GOVERNMENT TAX SUPPORTED OPERATIONS						
NON-DEPARTMENTAL ACCOUNT						
Electricity	19,560,557	20,756,510	21,490,160	21,821,289	331,129	1.5%
Water & Sewer	1,528,193	1,630,635	1,676,271	1,701,615	25,344	1.5%
Fuel Oil	83,127	132,406	210,000	213,171	3,171	1.5%
Natural Gas	1,478,902	1,928,192	1,797,702	1,824,910	27,208	1.5%
Propane	29,669	52,125	60,000	60,906	906	1.5%
GENERAL FUND NDA EXPENDITURES	22,680,448	24,499,868	25,234,133	25,621,891	387,758	1.5%
OTHER TAX SUPPORTED OPERATIONS						
Electricity	1,805,671	2,126,218	1,832,172	2,437,831	605,659	33.1%
Water & Sewer	472,923	539,650	360,090	525,138	165,048	45.8%
Fuel Oil	81,133	78,790	0	96521	96,521	#DIV/0!
Natural Gas	437,411	590,644	639,610	591,314	(48,296)	-7.6%
Propane	31,693	72,286	0	59,575	59,575	#DIV/0!
SUBTOTAL	2,828,831	3,407,588	2,831,872	3,710,379	878,507	0.0%
TOTAL TAX SUPPORTED	25,509,279	27,907,456	28,066,005	29,332,270	1,266,265	4.5%
NON-TAX SUPPORTED OPERATIONS						
Electricity	3,762,544	4,188,447	4,685,740	4,685,740	0	0.0%
Water & Sewer	99,596	107,825	186,590	186,590	0	0.0%
Fuel Oil	0	2,918	0	0	0	#DIV/0!
Natural Gas	374,898	406,855	452,189	452,189	0	0.0%
Propane	0	0	1,040	1,040	0	0.0%
TOTAL NON-TAX SUPPORTED	4,237,038	4,706,045	5,325,559	5,325,559	0	0.0%
SUMMARY - COUNTY GOVERNMENT						
Electricity	25,128,772	27,071,175	28,008,072	28,944,860	936,788	3.3%
Water & Sewer	2,100,712	2,278,110	2,222,951	2,413,343	190,392	8.6%
Fuel Oil	164,260	214,114	210,000	309,692	99,692	47.5%
Natural Gas	2,291,211	2,925,691	2,889,501	2,868,413	(21,088)	-0.7%
Propane	61,362	124,411	61,040	121,521	60,481	99.1%
TOTAL COUNTY GOVERNMENT	29,746,317	32,613,501	33,391,564	34,657,829	1,266,265	3.8%
OUTSIDE AGENCIES TAX AND NON-TAX SUPPORTED OPERATIONS						
Electricity	56,244,835	62,598,187	56,767,657	59,467,772	2,700,115	4.8%
Water & Sewer	4,496,191	3,567,374	5,058,360	5,488,149	429,789	8.5%
Fuel Oil	289,160	231,536	351,100	319,734	(31,366)	-8.9%
Natural Gas	7,540,076	7,674,647	8,083,160	8,735,268	652,108	8.1%
Propane	188,630	215,945	262,456	301,024	38,568	14.7%
SUBTOTAL	68,758,892	74,287,689	70,522,733	74,311,947	3,789,214	5.4%
TOTAL UTILITIES EXPENDITURES						
Electricity	81,373,607	89,669,362	84,775,729	88,412,632	3,636,903	4.3%
Water & Sewer	6,596,903	5,845,484	7,281,311	7,901,492	620,181	8.5%
Fuel Oil	453,420	445,650	561,100	629,426	68,326	12.2%
Natural Gas	9,831,287	10,600,338	10,972,661	11,603,681	631,020	5.8%
Propane	249,992	340,356	323,496	422,545	99,049	30.6%
TOTAL UTILITIES EXPENDITURES	98,505,209	106,901,190	103,914,297	108,969,776	5,055,479	4.9%

County Govt

UTILITIES BUDGET REQUEST – FY16

DEPT. NAME
DIVISION NAME
ORG. CODE
INDEX CODE
SUBOBJECT CODES

JUSTIFICATION/DESCRIPTION:

UTILITY TYPE	Actual FY 2014	Budget FY15	Projected FY15	[illegible]
ELECTRICITY				
COST	$11,189,312	$11,005,790	$11,610,316	$10,175,660
KWH's (000's)	93,791,381	90,002,985	94,946,668	95,415,661
COST/KWH	0.1193	0.1223	0.1223	0.1272
WATER & SEWER				
COST	$1,546,263	$1,670,271	$1,633,370	$1,670,271
GALLONS (000's)	101,899	104,829	102,513	103,306
COST/GALLON	15.1745	15.9332	15.9332	16.7299
FUEL OIL #2				
COST	$132,405	$210,000	$247,031	$210,000
GALLONS	35,375	51,006	60,000	60,000
COST/GALLON	3.7429	4.1172	4.1172	4.3230
NATURAL GAS				
COST	$1,928,192	$1,789,102	$2,161,631	$1,789,102
THERMS (000's)	1,835,499	1,621,996	1,959,730	1,897,140
COST/THERM	1.0505	1.1030	1.1030	1.1361
PROPANE				
COST	$52,125	$60,000	$80,640	$60,000
GALLONS	13,574	14,881	20,000	14,159
COST/GALLON	3.8400	4.0320	4.0320	4.2336
Other Utilities	$138,066	$0	$140,000	$1,922,343
Professional services	$0	$0	$50,000	$0
Contract & Services	$0	$50,000	$50,000	$50,000
Printing/Duplication	$961			$0
Charges from SWS	$261,251	$276,438	$276,438	$276,438
Travel				
Training and Educational				
Renewable Energy	$67,275	$0	$294,398	$295,545
TOTAL COSTS	$15,315,849	$15,061,601	$16,543,824	$16,449,359

(9)

Montgomery College
Office of Central Facilities
FY 2016
Utility Projection Report
January 29, 2015

	ACTUAL FY2010 (9)	ACTUAL FY2011	ACTUAL FY2012	ACTUAL FY2013	ACTUAL FY2014	PROJECTED FY2015 (1)	CONS.CHNG. FY15-16	UNIT.CHNG. FY15-16	PROJECTED FY2016 (1)
ELECTRICITY									
kWh	36,078,995	38,465,527	40,088,577	41,050,962	43,235,645	45,100,000	1,620,200	45,100,000	46,720,200
Cost($)	5,676,658	6,263,080	6,254,507	5,362,803	5,723,494	6,023,600	216,395	6,270	6,241,820
UNIT($/kWh)	0.1573	0.1628	0.1560	0.1306	0.1324	0.1336	0.1336	0.0001	0.1337
N.GAS(Firm)									
Therms(thm)	232,517	349,253	369,409	438,338	540,878	619,000	6,000	619,000	625,000
Cost($)	338,415	480,084	427,656	427,246	518,208	650,000	6,300	18,520	675,000
Unit($/therm)	1.46	1.37	1.16	0.97	0.96	1.05	1.05	0.03	1.08
N.GAS(Irate)									
Therms(thm)	425,119	393,165	384,121	371,190	358,797	388,000	(11,300)	388,000	376,700
Cost($)	537,805	523,477	362,790	312,933	278,361	333,750	(9,720)	0	323,960
Unit($/therm)	1.27	1.33	0.94	0.84	0.78	0.86	0.86	(0.00)	0.86
WATER									
kilogallons	29,184	32,889	39,546	34,530	30,903	33,741	(1,046)	33,741	32,695
Cost($)	136,169	185,050	262,548	242,172	226,908	259,416	(8,042)	77,452	326,425
Unit($/kgal)	4.67	5.63	6.64	7.01	7.34	7.69	7.69	2.30	9.98
SEWER									
kilogallons	23,024	26,184	29,665	25,649	22,133	25,953	(1,898)	25,953	24,055
Cost($)	132,631	166,029	200,955	198,861	201,888	245,141	(17,928)	29,440	254,500
Unit($/kgal)	5.76	6.34	6.77	7.75	9.12	9.45	9.45	1.13	10.58
NO.2 FUEL OIL									
Gallons(gal)	29,048	28,393	30,054	9,503	9,563	3,500	0	3,500	3,500
Cost($)	76,477	84,321	102,671	30,487	33,850	10,500	0	1050.00	11,550
Unit($/gal)	2.63	2.97	3.42	3.21	3.54	3.00	3.00	0.30	3.30
PROPANE									
Gallons(gal)	2,249	2,617	1,964	2,452	2,926	2,926	(426)	2,926	2,500
Cost($)	6,854	9,527	7,086	7,341	10,279	9,516	(1,365)	(738)	7,500
Unit($/gal)	3.05	3.38	3.61	2.99	3.51	3.25	3.25	(0.25)	3.00
TOTAL COST($)	6,905,009	7,711,568	7,618,213	6,581,843	6,992,988	7,531,923	185,621	131,994	7,840,755
Wind Power	(5)	(6)	(7)	(8)	(10)	(11)	N/A	N/A	(12)
Total Cost	6,905,009	7,711,568	7,618,213	6,581,843	6,992,988	7,531,923	185,621	131,994	7,840,755
Approved Budget	7,514,720	8,321,690	8,467,369	6,940,471	7,139,046	7,613,648			7,840,755
Suplus/(Deficit)	609,711	610,122	849,156	358,628	146,058	81,725			0

NOTES:

1. Projections based upon 12/4/2014 Utility Rates including $85,000 COR water rate increase revised 1/10/2015.
2. FY2005 & 2006 Electrical includes $19,269 for 5% Wind Power Purchase @1.498 cents/kWh
3. FY2007 & FY2008 Electrical includes $46,974 for 10% Wind Power Purchase @ 1.498 cents/kWh
4. FY2009 Electrical includes $32,055 for 71 % Wind Power Purchase @ 0.13 cents/kWh
5. FY2010 Electrical includes $48,159.00 for 75% Wind Power Purchase @ 0.18 cents/kWh
6. FY2011 Electrical Includes $8,188 for 20% Wind Power Purchase @ 0.106 cents/kWh
7. FY2012 Electrical Includes $9,734 for 20% Wind Power Purchase @ 0.117 cents/kWh
8. FY2013 Electrical includes $7,802.00, 20% Wind Power Purchase @ 0.094 cents/kWh.
9. FY2010 Does Not Include $87,500 PEPCO Generation Credit. Surplus actually $695,869.
10. FY2014 Electrical includes $9,545.00 for 20% Wind Power Purchase @ $0.115 cents/kWh
11. FY2015 Electrical includes $55,350 for 100% Wind Power Purchase @ $0.123 cents/kWh
12. FY2016 Electrical includes $57,810 for 100% Wind Power Purchase @ .123 cents/kWh

Montgomery College

(10)

MCPS UTILITIES - FY12-16

AGENCY
MCPS

JUSTIFICATION/DESCRIPTION:

UTILITY TYPE	Actual FY12	Actual FY13	Actual FY14	Budgeted FY15	Projected FY15	Estimate FY16
Electricity						
COST	$26,901,447	$26,241,597	$30,309,132	$25,366,177	$26,282,020	$27,525,752
KWH's (000's)	217,010,471	219,894,411	234,747,040	222,608,334	235,118,168	230,623,005
COST/KWH	0.124	0.124	0.135	0.120	0.116	0.125
WATER AND SEWER						
COST	$2,779,790	$3,649,480	$2,822,355	$3,884,804	$3,798,420	$4,268,644
GALLONS (000's)	457,619	404,310	383,404	401,819	397,974	411,507
COST/GALLON	6.07	7.75	7.36	9.00	9.54	9.71
FUEL OIL #2						
COST	$160,002	$55,998	$149,094	$142,000	$100,146	$170,783
GALLONS	32,950	16,823	45,921	45,921	40,104	45,921
COST/GALLON	3.52	3.33	3.33	3.90	2.50	2.75
NATURAL GAS						
COST	$6,959,959	$5,953,788	$6,114,326	$6,207,672	$6,407,672	$6,664,508
THERMS (000's)	5,049,227	5,755,217	6,269,869	5,981,845	6,587,170	6,351,670
COST/THERM	1.38	1.03	0.98	1.05	0.97	1.10
PROPANE						
COST	$73,771	$53,848	$60,096	$91,956	$36,389	$78,622
GALLONS	36,708	35,688	39,771	39,311	30,304	39,311
COST/GALLON	2.01	1.51	2.42	2.66	1.20	2.00
TOTAL COSTS	**$36,874,969**	**$35,954,711**	**$39,455,003**	**$35,692,609**	**$36,624,647**	**$38,708,309**

M-NCPPC

3. (ALL) If your RCP does not include actual and projected energy usage totals for Actual FY12, Actual FY13, Actual FY14, Budget/Estimated FY15, and Projected FY16, please provide this.

M-NCPPC Response:

The chart which follows provides the data requested. FY 2015 data is shown as the actual cost to date and the projection to date for the year.

	2012	2013	2014	2015	2016
Budget	$4,018,250	$3,830,300	$3,883,000	$3,839,900	$3,894,900
Actual Cost	$3,328,505	$2,956,475	$3,789,800	$1,828,600 to Date	NA
			Projection	$3,431,300 For year	NA

4. (All) Please provide your latest estimate for utility costs for your agency by type for FY15.

M-NCPPC Response:

The estimated cost to date is as follows.

	Cost To Date
Electricity	$ 1,234,270
Natural Gas	$ 149,920
Propane	$ 48,920
Oil	$ 1,790
Water & Sewer	$ 383,670
Wind Power	$ 10,120
Total	$ 1,828,690

5. (Outside Agencies) Please confirm the budget numbers presented for your agencies on pages 68-7 and 68-8 in the County Executive's Recommended Operating Budget are accurate. I know in past years there have been some discrepancies. See link below: (http://www.montgomerycountymd.gov/OMB/Resources/Files/omb/pdfs/FY16/psprec/utl-1.pdf)

M-NCPPC Response:

The budget data as shown on page 67-6 for Recommended FY15 in the amount of $3,951,897 is consistent with the budget projection in the RCP as modified by the Director in the final budget submission.

	2014							
ELECTRICITY	**Budget kWh**	**Actual kWh**	**Budget G&T**	**Budget Dist**	**Budget Energy Tax**	**Facility Adjustments**	**Budget TOTAL**	**Actual TOTAL**
WTP	100,207,540	100,085,012	$ 7,870,300	$ 1,142,366	$ 1,810,416	$ -	$ 10,823,083	$ 11,341,586
WWTP	77,793,472	69,800,395	$ 5,907,228	$ 1,187,711	$ 811,717	$ (192,000)	$ 7,714,655	$ 7,531,821
WWPS	15,704,518	13,709,219	$ 1,233,151	$ 179,032	$ 155,506		$ 1,567,688	$ 1,711,190
WPS	15,500,000	10,411,036	$ 1,217,370	$ 176,700	$ 180,470		$ 1,574,540	$ 1,348,296
FO	16,000,000	16,794,827	$ 1,256,420	$ 182,400	$ 225,562		$ 1,664,382	$ 2,192,037
TANK	850,000	830,690	$ 66,725	$ 9,690	$ 11,983		$ 88,398	$ 120,233
DAM	250,000	213,274	$ 19,625	$ 2,850	$ 3,524		$ 25,999	$ 31,778
VALVE	125,000	202,055	$ 9,813	$ 1,425	$ 1,762		$ 13,000	$ 32,153
Electricity SUBTOTALS	226,430,530	212,046,508	$ 17,580,632	$ 2,882,173	$ 3,200,941	$ (192,000)	**$ 23,471,746**	$ 24,309,093
						Adjustments:	$ -	$ -
Electricity TOTALS						Total Cost:	**$ 23,471,746**	$ 24,309,093
Electricity Unit Price						$/kWh	$ 0.1037	$ 0.1146
OTHER FUEL								
Natural Gas	**Budget Therms**	**Actual Therms**	**Budget Supply**	**Budget Dist**	**Budget Energy Tax**		**Budget TOTAL**	**Actual TOTAL**
Interruptible	228,399	18	$ 100,267	$ 19,048	$ 13,635		$ 132,951	$ 165.38
Firm (Small)	316,744	343,937	$ 182,128	$ 115,928	$ 38,413		$ 336,469	$ 323,603.97
	545,143	343,955	$ 282,395	$ 134,977			**$ 469,420**	$ 323,769
						Adjustments:	$ -	$ -
Natural Gas TOTALS	545,143	343,955	282,395	134,977		Total Cost:	**$ 469,420**	$ 323,769
Natural Gas Unit Price						$/Therm	$ 0.8611	$ 0.9413
Other Fuels	**Budget Gal**	**Actual Gal**	**Budget Rate**	**Actual Rate**			**Budget TOTAL**	**Actual TOTAL**
Fuel Oil #2	22,000	12,000	$ 4.000	$ 3.583			$ 88,000	$ 43,000
Diesel Fuel	48,000	15,000	$ 4.500	$ 4.000			$ 216,000	$ 60,000
Propane	10,000	3,000	$ 3.000	$ 3.000			$ 30,000	$ 9,000
							$ 334,000	$ 112,000
						Adjustments:	$ -	$ -
Other Fuel TOTALS	80,000	30,000				Total Cost:	**$ 334,000**	$ 112,000
Other Fuel Unit Price						$/gal	$ 4.18	$ 4
GRAND TOTAL							$ 24,275,166	$ 24,744,863

MSSC

	2015							
ELECTRICITY	**Budget kWh**	**Actual kWh**	**Budget G&T**	**Budget Dist**	**Budget Energy Tax**	**Facility Adjustments**	**Budget TOTAL**	**Actual TOTAL**
WTP	101,886,100	68,747,900	$ 7,274,668	$ 1,528,292	$ 1,778,240	$ -	$ 10,581,199	$ 6,182,431
WWTP	76,244,850	44,020,055	$ 5,422,149	$ 1,298,199	$ 773,819	$ -	$ 7,494,167	$ 3,954,472
WWPS	15,699,672	8,328,897	$ 1,131,868	$ 235,495	$ 150,671		$ 1,518,034	$ 904,913
WPS	15,500,000	6,789,581	$ 1,106,700	$ 232,500	$ 175,712		$ 1,514,912	$ 696,668
FO	15,500,000	11,426,209	$ 1,115,500	$ 232,500	$ 211,490		$ 1,559,490	$ 896,870
TANK	850,000	1,122,573	$ 62,050	$ 12,750	$ 11,598		$ 86,398	$ 116,442
DAM	5,000	183,404	$ 365	$ 75	$ 68		$ 508	$ 36,409
VALVE	6,300	100,950	$ 460	$ 95	$ 86		$ 640	$ 19,728
Electricity SUBTOTALS	225,691,922	140,719,569	$ 16,113,759	$ 3,539,905	$ 3,101,684	$ -	**$ 22,755,348**	$ 12,807,933
						Adjustments:	$ -	$ -
Electricity TOTALS						Total Cost:	**$ 22,755,348**	$ 12,807,933
Electricity Unit Price						$/kWh	$ 0.1008	$ 0.0910
OTHER FUEL								
Natural Gas	**Budget Therms**	**Actual Therms**	**Budget Supply**	**Budget Dist**	**Budget Energy Tax**		**Budget TOTAL**	**Actual TOTAL**
Interruptible	-	-	$ -	$ -	$ -		$ -	$ 338.96
Firm (Small)	319,716	278,638	$ 223,801	$ 63,943	$ 9,444		$ 297,188	$ 273,882.09
	319,716	278,638	$ 223,801	$ 63,943			**$ 297,188**	$ 274,221
						Adjustments:	$ -	$ -
Natural Gas TOTALS	319,716	278,638	223,801	63,943		Total Cost:	**$ 297,188**	$ 274,221
Natural Gas Unit Price						$/Therm	$ 0.9295	$ 0.9841
Other Fuels	**Budget Gal**	**Actual Gal**	**Budget Rate**	**Actual Rate**			**Budget TOTAL**	**Actual TOTAL**
Fuel Oil #2	20,000	-	$ 4.000	$ -			$ 80,000	$ -
Diesel Fuel	22,000	-	$ 4.500	$ -			$ 99,000	$ -
Propane	5,000	-	$ 3.000	$ -			$ 15,000	$ -
							$ 194,000	$ -
						Adjustments:	$ -	$ -
Other Fuel TOTALS	47,000	-				Total Cost:	**$ 194,000**	$ -
Other Fuel Unit Price						$/gal	$ 4.13	$ -
GRAND TOTAL							$ 23,246,537	$ 13,082,154

WSSC

(14)

	2016							
ELECTRICITY	Budget kWh	Actual kWh	Budget G&T	Budget Dist	Budget Energy Tax	Facility Adjustments	Budget TOTAL	Actual TOTAL
WTP	101,548,840	-	$ 7,482,119	$ 1,523,233	$ 1,764,957	$ -	$ 10,770,309	$ -
WWTP	71,470,285	-	$ 5,516,212	$ 1,212,696	$ 799,449	$ -	$ 7,528,357	$ -
WWPS	15,557,063	-	$ 1,276,896	$ 233,356	$ 170,193		$ 1,680,446	$ -
WPS	10,304,000	-	$ 759,199	$ 154,560	$ 133,960		$ 1,047,719	$ -
FO	16,800,000	-	$ 1,334,220	$ 252,000	$ 235,434		$ 1,821,654	$ -
TANK	850,000	-	$ 76,755	$ 12,750	$ 11,912		$ 101,417	$ -
DAM	225,000	-	$ 20,318	$ 3,375	$ 3,153		$ 26,846	$ -
VALVE	200,000	-	$ 18,060	$ 3,000	$ 2,803		$ 23,863	$ -
Electricity SUBTOTALS	216,955,188	-	$ 16,483,778	$ 3,394,970	$ 3,121,861	$ -	**$ 23,000,609**	$ -
						Adjustments:	**$ 344,000**	$ -
Electricity TOTALS						Total Cost:	**$ 23,344,609**	$ -
Electricity Unit Price						$/kWh	$ 0.1076	$ -
OTHER FUEL								
Natural Gas	Budget Therms	Actual Therms	Budget Supply	Budget Dist	Budget Energy Tax		Budget TOTAL	Actual TOTAL
Interruptible	-	-	$ -	$ -	$ -		$ -	$ -
Firm (Small)	322,732	-	$ 209,776	$ 93,592	$ 37,969		$ 341,337	$ -
	322,732	-	$ 209,776	$ 93,592			**$ 341,337**	$ -
						Adjustments:	$ -	$ -
Natural Gas TOTALS	322,732	-	209,776	93,592		Total Cost:	**$ 341,337**	$ -
Natural Gas Unit Price						$/Therm	$ 1.0577	$ -
Other Fuels	Budget Gal	Actual Gal	Budget Rate	Actual Rate			Budget TOTAL	Actual TOTAL
Fuel Oil #2	20,000	-	$ 4.000	$ -			$ 80,000	$ -
Diesel Fuel	-	-	$ -	$ -			$ -	$ -
Propane	5,000	-	$ 3.500	$ -			$ 17,500	$ -
							$ 97,500	$ -
						Adjustments:	$ -	$ -
Other Fuel TOTALS	25,000	-				Total Cost:	**$ 97,500**	$ -
Other Fuel Unit Price						$/gal	$ 3.90	$ -
GRAND TOTAL							$ 23,783,446	$ -

WSSC

(15)

68. This resolution appropriates $204,252,969 as the FY 2015 Employee Health Benefit Self Insurance Fund Appropriation. The Director of Finance must transfer $10,056,754 from the Employee Health Benefit Self Insurance Fund to the General Fund during FY 2015.

69. This resolution appropriates $25,234,133 to the Utilities Non-Departmental Account (NDA) for the cost of electricity, natural gas, and other energy-related use and operating costs. When the County executes an Energy Services Agreement for capital renovations to energy related equipment to produce long-term utility savings in County facilities, the County Executive may transfer up to $5 million from this Account to the Debt Service Fund to pay principal and interest related to the energy-related equipment. The following conditions apply to the use of this transfer authority:

(a) The program must not require any new FY 2015 tax-supported appropriation or future tax-supported funds.
(b) The annual savings provided under the Energy Services Agreement are guaranteed by the Energy Services Company that the County contracts with and the savings and any additional revenue that result from the Energy Services Agreement are equal to or greater than the debt service costs related to the capital renovations over the life of the project financing.
(c) The Executive must notify the Council in writing within 30 days after each transfer.

70. This resolution appropriates $1,381,347 for inflation adjustments for tax-supported contractors with the Department of Health and Human Services (DHHS) and to eligible contractors with the Department of Housing and Community Affairs that are providing Special Needs Housing programs. Any inflation adjustment awarded under this paragraph must not exceed 3% of the total contract price. Any contract funded by a non-County grant is not eligible for an inflation adjustment under this paragraph. Each contractor must meet the following eligibility criteria.

(a) Non-profit service provider, or
(b) Contract that provides meals on wheels, court appointed special advocates, direct mental health services to seniors, and homeless outreach.
(c) The increase is to the General Fund value of the contract (Grant Fund value not included).
(d) The contract must not be in its first year or have an automatic inflation adjustment built into the contract.
(e) This increase does not apply to contracts for Montgomery Cares (except administration) or Care for Kids (except for the services associated with the Latino Health Initiative) as their budgets have been adjusted for expected FY 2015 levels of service.
(f) This increase does not apply to contracts that are a specific match to a grant.
(g) This increase does not apply to contracts covered by the DD Supplement as it has been adjusted for FY 2015.
(h) This increase does not apply to contracts covered by the Residential Treatment Provider Supplement. This resolution appropriates $30,513 to increase the Residential Treatment Provider Supplement.

DGS New Construction Projects

New Construction Projects - Projected Utility Usage in FY15 and FY16

ELECTRICITY	Net Area (Sq. Ft.)	Energy Use (kWh/SqFt)	Occupied Year	FY	FY15 PrRte factor	FY16 PrRte factor	FY 2015 Change (KwH)	FY 2016 Change (KwH)	FY15 Costs	FY16 Costs
Scotland Neighborhood Recreation Ce	7,315	19.00	10/23/2014	FY15	4/12	8/12	46,328	92,657	$5,665	$11,784
Colesville Depot	5,450	20.00	12/15/2015	FY16	0/12	7/12	0	63,583	$0	$8,164
Silver Spring Library	17,650	19.18	12/17/2014	FY15	7/12	5/12	197,474	141,053	$24,148	$18,111
North Potomac Rec Center	48,084	17.00	1/8/2016	FY16	0/12	7/12	0	476,833	$0	$61,224
Ross Boddy Rec Center	8,764	19.20	3/1/2016	FY16	0/12	7/12	0	98,157	$0	$12,603
Silver Spring Transit Center	225,332	3.35	12/3/2014	FY15	11/12	3/12	691,957	506,997	$84,614	$65,097
Glenmont FS #18	21,000	20.00	1/30/2016	FY16	0/12	7/12	0	245,000	$0	$31,457
SubTotal	720,773						935,759	1,624,280	$114,427	$208,439

NATURAL GAS	Net Area (Sq. Ft.)	Therms/Ft2 ESTIMATED	Occupied Year	FY	FY14 PrRte factor	FY15 PrRte factor	FY 2015 New Usage (Therms)	FY 2016 New Usage (Therms)	FY15 Costs	FY16 Costs
Scotland Neighborhood Recreation Ce	7,315	0.48	10/23/2014	FY15	4/12	8/12	1,170	2,341	$1,291	$2,711
Colesville Depot	5,450	0.48	12/15/2015	FY16	0/12	7/12	0	1,526	$0	$1,767
Silver Spring Library	17,650	0.60	12/17/2014	FY15	7/12	5/12	6,178	4,413	$6,814	$5,110
North Potomac Rec Center	48,084	0.53	1/8/2016	FY16	0/12	7/12	0	14,866	$0	$17,217
Ross Boddy Rec Center	8,764	0.53	3/1/2016	FY16	0/12	7/12	0	2,710	$0	$3,138
Silver Spring Transit Center	225,332	0.52	12/3/2014	FY15	11/12	3/12	107,408	29,293	$118,474	$33,927
Glenmont FS #18	21,000	0.53	1/30/2016	FY16	0/12	7/12	0	6,493	$0	$7,519
SubTotal	720,773						114,756	61,640	$126,579	$71,391

WATER & SEWER	Net Area (Sq. Ft.)	KGal/Ft2 ESTIMATED	Occupied Year	FY	FY14 PrRte factor	FY15 PrRte factor	FY 2015 New Usage (kGal)	FY 2016 New Usage (kGal)	FY15 Costs	FY16 Costs
Scotland Neighborhood Recreation Ce	7,315	0.012	10/23/2014	FY15	4/12	8/12	29	59	$466	$979
Colesville Depot	5,450	0.012	12/15/2015	FY16	0/12	7/12	0	38	$0	$638
Silver Spring Library	17,650	0.025	12/17/2014	FY15	7/12	5/12	257	184	$4,101	$3,076
North Potomac Rec Center	48,084	0.020	8/9/2015	FY16	0/12	7/12	0	561	$0	$9,385
Good Hope Rec Center	4,000	0.020	1/8/2016	FY17	0/12	0/12	0	47	$0	$781
Wheaton Library and Rec Center	30,000	0.020	3/1/2016	FY18	0/12	0/12	0	350	$0	$5,855
Silver Spring Transit Center	225,332	0.000	12/3/2014	FY15	11/12	3/12	83	23	$1,316	$377
Glenmont FS #18	21,000	0.012	1/30/2016	FY16	0/12	7/12	0	147	$0	$2,459
SubTotal	702,395						369	1,408	$5,884	$23,551

Total Cost	FY15	FY16
Electricity	$114,427	$208,439
Gas	$126,579	$71,391
Water Sewe	$5,884	$23,551
Total Cost	$246,890	$303,380

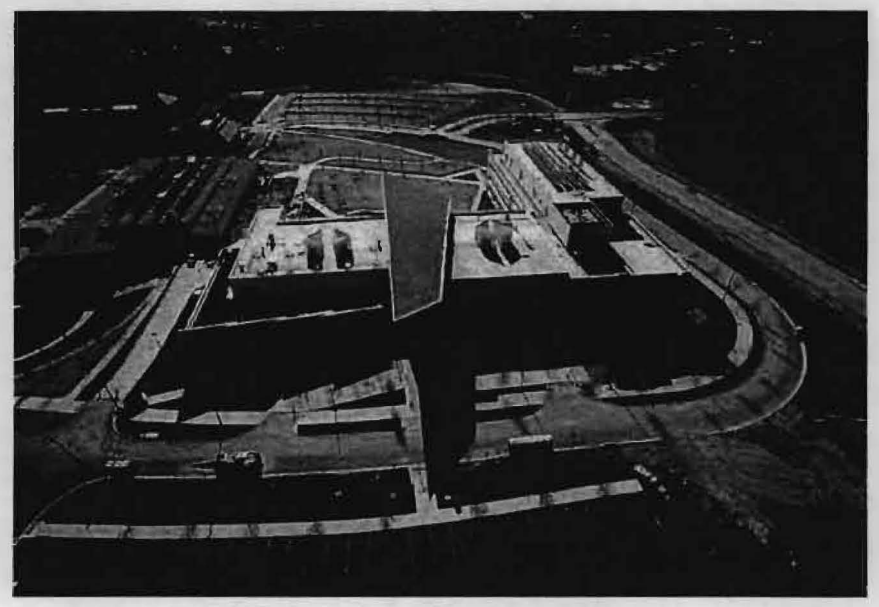
8. (DGS) What has been your actual energy cost savings experience at the HHS headquarters after the completion of the ESCO pilot project (The estimated savings noted last year was $159,784). What was the total amount spent on the project and the current assumed payback period for the project?

Estimated Net 401 Hungerford Energy Performance Contract Savings after Debt Service $4,828

	Measured Utility Savings	Payment to Johnson Ctrls (Perf Mgmt)	Utility Savings - (real dollars)	FY16 Budget Adjustment
Base Year FY15	$179,574	$19,790	-$159,784	-$4,828

Montgomery College
endless possibilities

RESOURCE CONSERVATION PLAN
FY 2016



Germantown Campus

Bioscience Education Center Construction Site

LEED Targeted Gold
High Performance Green Building
Opened Fall 2014

Prepared by
Office of Central Facilities
January 2015

Montgomery College FY16 RCP (Excerpt)

EXECUTIVE SUMMARY

The Resource Conservation Plan (RCP) has been prepared by Montgomery College's Office of Central Facilities to support the College's FY 2016 Energy Conservation Capital Improvements Program (CIP) and Utility Operating Budget requests for funding. Published annually this plan provides historical background and discusses FY2014-FY2015 accomplishments and FY2015-2016 plans.

This document describes the Montgomery College Resource Conservation Program that includes master planning, utility management, benchmarking, sustainable building design, energy conservation activities, transportation fleet management, waste recycling and program outreach and awareness. Included are descriptions of the resource conservation organization, discussion of current and historical utility consumption and costs, resource conservation program accomplishments and future plans. Tables and graphs present information on historical utility consumption and utility budget estimates while Capital Improvement Program (CIP) Project Description Forms (PDF) that relate to the College's Resource Conservation efforts are discussed and included in the appendices.

Since 2002 the College has seen a 61% increase in building space as the College continues to expand to meet the demands of its educational programs. The table summarizes active construction projects.

Campus	Building	Gross. Sq.Ft. (GSF)	New(N) Renovation(R) Addition(A)	Status	Open Date	LEED
RV	Science East(SE) North End Science(SC)	60,793 (+7,056)	R,A	Opened	Spring 2014	Gold Targeted
GT	Bioscience Education Center	139,982	N	Opened	Fall 2014	Gold Targeted
TP/SS	P3	18,013 (+3,000)	R,A	Construction	Fall 2015	Silver Targeted
RV	Science(SW)	70,164 (+28,176)	R,A	Construction	Fall 2016	Gold Targeted
RV	North Garage(NG)	310,000 922 Parking	N	Design/Bid	Fall 2016	Gold Equivalent Targeted/20 EV Charging Stations
GT	Science and Applied Studies(SA)	65,015	R,A	Design	Spring 2018	Gold Targeted
RV	New Student Services	125,322	N	Design	Winter 2019	Gold Targeted
Total		789,289				

Historically, all buildings regardless of function have been optimized to meet the project requirements while minimizing environmental impacts. LEED Gold certification exceeds the County legislated LEED Silver building code requirements and also exceeds the requirements of the 1985 Building Energy Performance legislation.

The College continues to implement recommendations in the Collegewide Master Plans and Utility Master Plans on all three campuses while at the same time preparing new and expanded master plans for the out-years. Master planning is an important tool using Integrated Lifecycle Management (ILM) practices to ensure that sustainability issues are fully examined and properly integrated into the fabric of the institution.

The College participates in the joint agency procurement of deregulated electricity, natural gas and wind generated renewable energy certificates (REC). Starting in FY 2015, the College meets or exceeds County legislated mandates by purchasing at least 100% of its electricity in the form of RECs.

The College continues to participate as a member of various County sponsored sustainability and energy committees and national engineering and professional society committees. The College encourages faculty, staff, student and public participation in our sustainability efforts via social media, electronic newsletter articles and the student sponsored MC Green Club. Interdepartmental coordination continues to increase, providing more opportunities for College stakeholders to participate. In Fall 2011 the College organized the MC Green Team, which is tasked with expanding resource conservation program outreach efforts throughout the College community. The College offers credit and non-credit academic and continuing education courses in subjects related to green collar jobs, sustainable design, green business practices and the LEED Rating System.

Montgomery College is requesting $125,000 for the FY2016 College Energy Management Capital Improvements Program (CIP) for a new Utility Analyst position and various energy projects while the FY 2016 operating budget includes funding for one Energy Manager position. These requests are the same as in past fiscal years. Energy and sustainability opportunities are also integrated into various building renovation and equipment replacement projects which are funded by various capital and operating budgets. The FY2016 utility operating budget request $7,840,755 a 3% increase from the FY 2015 request, primarily due to increased unit costs and increased consumption due to new building construction.

Montgomery College is dedicated to implementing and maintaining a sustainable, life cycle cost-effective, low risk resource conservation program. Although all energy conservation and environmentally friendly opportunities are considered, only those opportunities which are of the appropriate level of technology, have a high probability of success and meet the lowest net present value criteria will be implemented. To ensure that the resource conservation program is operating as predicted, measurement and verification protocol are implemented and appropriate databases are maintained and buildings are benchmarked. The goal of the program is to provide safe, comfortable, economical and environmentally friendly facilities, which will enhance the learning environment and contribute to student success at Montgomery College.

Rockville Campus (clockwise bottom left) Science West, Science East and Science Buildings

LEED Gold Acquired or Targeted Green Building Design

New Measures

Resource conservation measures implemented during FY 2015(July 1, 2014 through June 30, 2015)

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

New measures consist of Lighting, HVAC & Controls, which reduce energy cost, reduce energy consumption and reduce maintenance costs.

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 FY2015-FY2016 will supplement College funds.

Planned Measures

This table shows information on resource conservation measures planned to be implemented in FY 2016 (July 1, 2015 through June 30, 2016)

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 2015	45,000	(4,000)	Elect., N.Gas & Fuel Oil	200,000 kWh 8,000 Th Maint.	5,000 2,520 2,000
Utility Analyst	July 2015	80,000	0	0	0	0
Total		125,000	0			9,520
Simple Payback						13.1 yrs.

Initial investment in Utility Analyst salary is eventually expected to save 2-5% of utility budget as implementation of additional energy efficiency measures become effective.

MONTGOMERY COUNTY PUBLIC SCHOOLS, ROCKVILLE, MARYLAND

FY 2014
Environmental Sustainability
MANAGEMENT PLAN

2013 DISTRICT SUSTAINABILITY AWARD WINNER
U.S. DEPARTMENT OF EDUCATION
GreenRibbonSchools

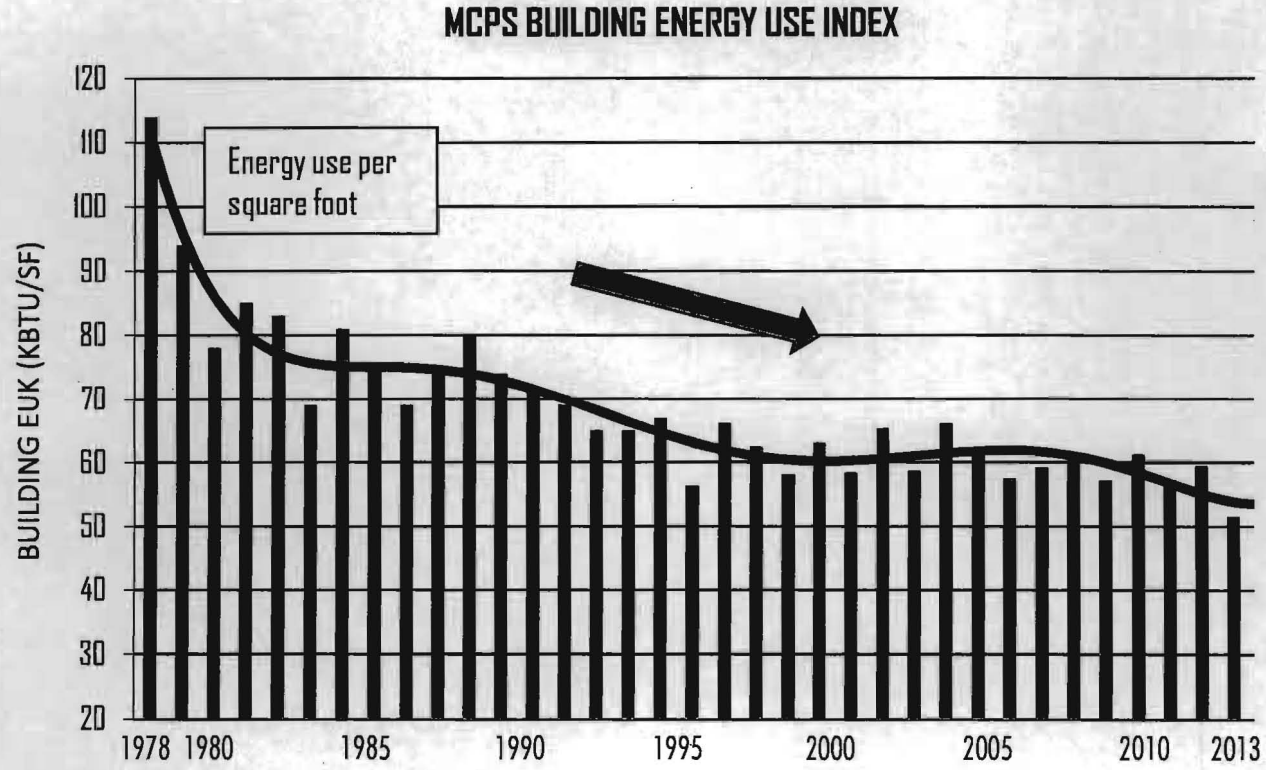
Malcolm Baldrige
National Quality Award
2011 Award Recipient

MONTGOMERY COUNTY PUBLIC SCHOOLS
ROCKVILLE, MARYLAND

Energy and Natural Resource Conservation

MCPS HAS BEEN A NATIONAL LEADER in using technology to conserve natural resources for almost 35 years. From installing the latest lighting technology to maximizing efficiency in classroom heating and cooling, MCPS has reduced energy use and associated greenhouse gas emissions substantially.

BUILDING ENERGY USE INTENSITY (EUI) is useful to show how efficiently a building uses energy. MCPS's sustained reductions in energy consumption over 35 years is the payoff from consistent investments in energy efficiency and a commitment to environmental responsibility.

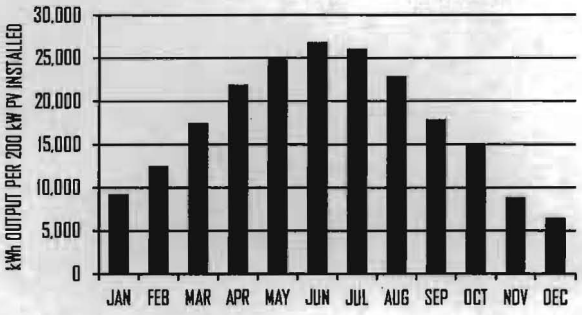


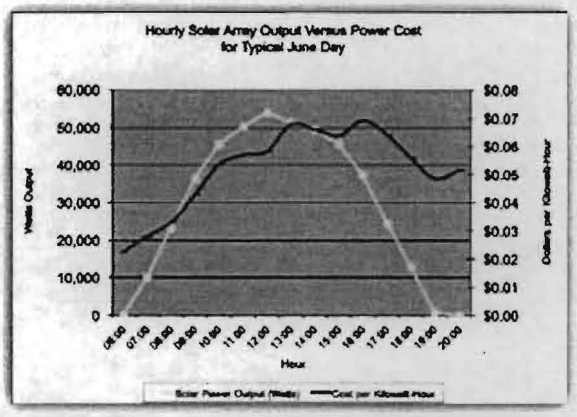
Solar Power Purchase Agreements

MCPS has established power purchase agreements (PPA) for on-site electric renewable energy generation. 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.

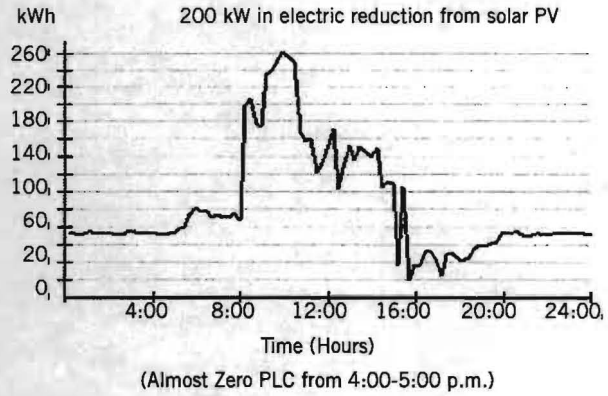
ANNUAL kWh OUTPUT OF STANDARD SOLAR 200 kW ARRAY





Schools	Capacity (kWAC)	Number of Panels	Completion Date
Clarksburg HS	260	1,466	01/23/2009
Lakelands Park MS	133	770	02/10/2009
College Gardens ES	86	497	02/12/2009
Richard Montgomery HS	135	784	06/30/2009
Francis Scott Key MS	100	564	12/20/2009
Quince Orchard HS	319	1,799	12/20/2009
Sargent Shriver ES	80	495	12/20/2009
Parkland MS	151	851	01/20/2010
Total:	**1,264**	**7,226**	

SAMPLE PROFILE FOR LAKELANDS PARK MS



(Almost Zero PLC from 4:00-5:00 p.m.)

MCPS expects to deter a significant fraction of the Peak Load Contribution (PLC) for our schools by 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 sample profile for Lakelands MS, 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.[4]

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 of installed capacity. The combination of these solar arrays is predicted to produce a capacity charge cost avoidance of approximately $150,000 in FY 2014. A list of the existing systems is provided in the table on page 18.

MCPS is using very efficient 25-watt fluorescent lamps and electronic ballasts systemwide to reduce the lighting energy by more than 30%. This represents more than $2 million per year of cost avoidance.

Peak Load Management

PJM Interconnection, LLC (PJM) is the independent system operator of the electric grid that serves MCPS. A significant charge instituted by PJM is the Peak Load Contribution (PLC) charge. This charge is assessed against all consumers of electric power on the five days of the summer when demand for power is at the maximum on the PJM system. This charge is based on each consumer's demand for electric power that coincides with PJM's five peak hours. The purpose of the charge is to recover the cost to have full generation and transmission capacity available for the highest demand periods. These PLC charges vary from year to year. They typically amount to 10 to 15 percent of MCPS's cost for electricity—$2.7 million to $4 million. Charges based on the summer 2012 assessments will be especially high with the potential of increasing MCPS's electricity cost by $4.5 million between FY 2013 and FY 2014.

To defray part of these additional charges, MCPS has developed a program to reduce peak electrical demands at facilities during the summer afternoon hours when the charges are most likely to be set. The program uses energy management systems to curtail central plant chillers and pumps to many facilities during the peak demand hour each weekday, while SERT "energy sweepers" simultaneously walk the facility to turn off unnecessary lights and plug loads.

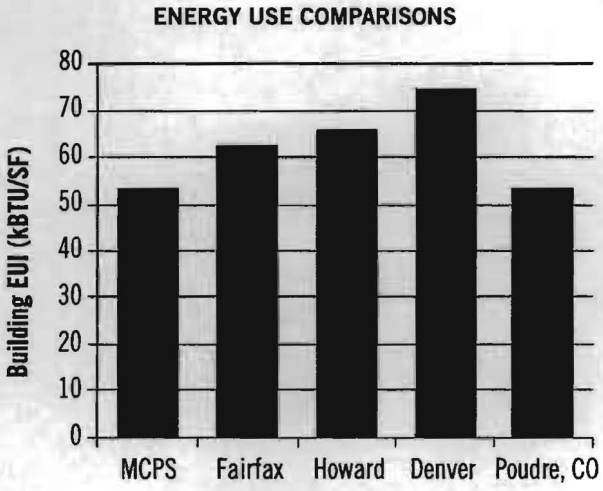
Peak load management (PLM) efforts were enhanced with the installation of advanced electric meters that record use in 15-minute intervals. MCPS personnel review the performance of schools at the critical hours on a weekly basis for compliance with PLM directives. Where compliance was not achieved or other scheduling problems were observed, correctional measures were undertaken and tracked to completion in a database. Cost avoidance for the efforts during the summer of 2013 was $1.7 million.

Utility Procurement

MCPS controls utility costs through competitive procurement of deregulated energy supplies. Since 2007, MCPS has procured 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 the PJM Independent System Operator. PJM operates the electric grid for a large portion of the eastern United States. Recently, MCPS 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.

MCPS UTILITY COST AND CONSUMPTION SUMMARY FY 2011–2013

Utility Type	Fiscal Year 2011	Fiscal Year 2012	Fiscal Year 2013
Electricity			
$ COST	29,302,712	26,901,447	27,562,712
KWHs	224,133,756	217,940,231	219,894,411
Fuel Oil			
$ COST	152,177	160,002	14,383
GALLONS	37,906	32,950	4,205
Natural Gas			
$ COST	9,373,578	6,959,959	6,062,834
THERMS	6,523,832	5,049,227	5,755,217
Propane			
$ COST	74,176	73,771	50,477
GALLONS	35,736	36,708	34,520
Water & Sewage			
$ COST	2,510,325	2,779,790	3,055,972
Kgals	401,051	394,479	404,310
Total Cost $	41,412,968	36,874,969	36,746,378



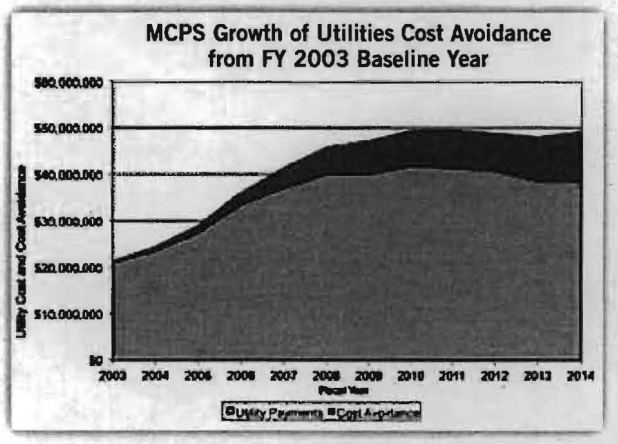
Lighting and Energy Retrofits

MCPS has administered an energy retrofit program since the 1980s. In the 1980s, the primary focus of the energy retrofit program was to install energy management systems to schedule and control the HVAC systems. In the 1990s, the energy retrofit program was expanded to include lighting retrofits. Most Montgomery County public schools have been retrofitted with T-8 lamps and electronic ballasts. In addition, mercury vapor fixtures have largely been replaced with metal halide fixtures, incandescent fixtures were changed to compact fluorescent, and incandescent exit signs were changed to LED signs. During the 1990s, MCPS received more than $2 million of utility company rebates to help finance the energy retrofit program.

A second generation of lighting retrofits occurred in 2006 and 2007 and primarily focused on replacing 32-watt T-8 lamps with 25-watt T-8 lamps. These higher-efficiency lamps have substantially longer life and reduced energy consumption by 25 percent without a noticeable reduction in illumination. Financing was provided by the Maryland Energy Administration and has allowed MCPS to make the 25-watt T-8 lamp its standard lamp for four-foot fluorescent fixtures. After the two lighting retrofit initiatives, the lighting systems are approximately 40 to 50 percent more energy-efficient, contributing to the overall MCPS energy performance in the middle 50s kBTU/SF per year, which is a 30 percent overall improvement since 1989.

Another energy conservation opportunity was the unreliable electro-mechanical time clocks that operated all exterior lighting for schools. These clocks waste energy as pins become loose, power failures cause loss of time, and the clocks do not compensate for monthly changes in sunrise/sunset times. As a result, lights were frequently on when not needed, resulting in the waste of a substantial amount of energy. In 2006–2007, MCPS installed digital astronomical time clocks, designed for exterior lighting in all schools. These electronic clocks have digital accuracy, daily sunrise/sunset adjustments, seven-day capacitor backup for power outages, and are programmable through a laptop computer.

The most recent retrofit initiative is to develop a program for the use of LED technology. The retrofit of auditorium and parking lot lighting is the best current school application of the LED technology. As a pilot project, two auditoriums and two parking lots currently are in the process of being retrofitted with LED light fixtures.



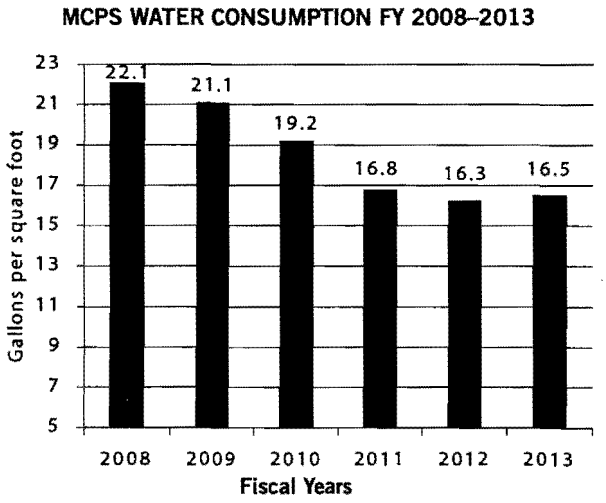
Relocatable Classroom HVAC Control

MCPS has nearly 500 relocatable classrooms, the energy equivalent of six elementary schools, and needed a means of scheduling the HVAC units. A first-of-its-kind application was developed by MCPS using Carrier's "Broadcast Energy Savings" (BES) technology. MCPS and Carrier jointly developed the approach in which an Internet interface allows MCPS to control the HVAC schedules and thermostat setpoints at all relocatables. This project has large savings because the control of relocatable classrooms was originally done through manual thermostats and ran constantly. The use of conventional seven-day programmable thermostats is impractical because of the inability to verify programs at more than 400 locations and the inability of seven-day programmable thermostats to schedule holidays, breaks, and summer closings. The BES interface supports a 24-hour override to a setback temperature, or "snow day" command,

allowing MCPS to shut down relocatables and save energy opportunistically. This system makes it feasible to efficiently control large numbers of relocatable classrooms, with a payback of under a year. Since the deployment of this control network, MCPS has been shifting to green relocatable classrooms that have HVAC controls that "learn" schedules through occupancy sensors and include many other energy-efficient and sustainable features.

Water Conservation

Water consumption is monitored and SERT facilitators conduct quarterly inspections and refer water conservation opportunities to the school staff or the Division of Maintenance as needed. Water conservation has been integrated into the elementary curriculum. In addition, water-efficient devices are standard on all new construction projects. Many



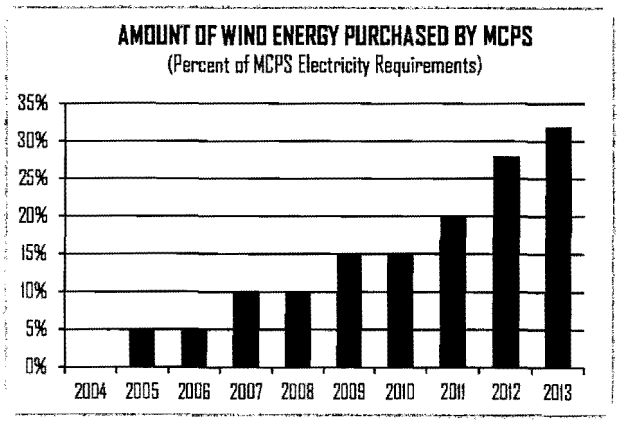
schools also have been retrofitted with low-flow devices. Since 2010, SERT has focused on water conservation at high schools because they are the largest per capita users of water and use large amounts for irrigation. Since 2008, SERT has achieved a 20 percent reduction in high school water use.

Forest Conservation

The Montgomery County Forest Conservation Law aims to save, maintain, and plant forested areas for the benefit of county residents and future generations. For each revitalization/expansion and addition project, MCPS completes forest conservation requirements to meet these stringent regulations. Forest-conservation measures for individual projects may include on-site retention in an undisturbed condition (on-site easement), off-site reforestation using a designated forest mitigation bank, or acquisition of an off-site protective easement for existing forested areas not currently protected. Currently, MCPS has brought under forest-conservation easements more than 44.3 acres on Board of Education property and has more than 21.8 acres of off-site forest conservation credits.

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.



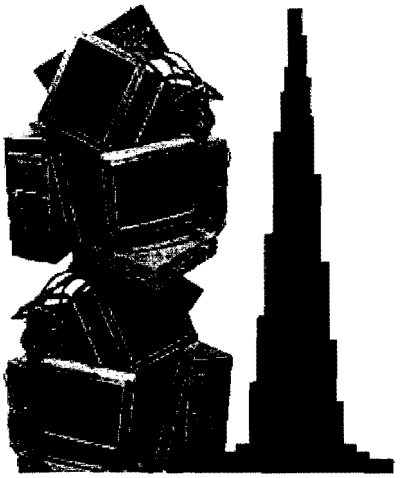
Stormwater Management

MCPS is one of the first school districts in the country to become an MS4 co-permittee *(www6.montgomerycountymd.gov/dectmpl.asp?url=/content/dep/water/npdes.asp)*.

MCPS has formal agreements with Montgomery County Government (MCG) regarding stormwater management roles and responsibilities, including the maintenance of existing stormwater management facilities. MCPS reports annually to MCG, in compliance with the agreements and in support of the MS4 permit. In the 2011 MCG report *(www6.montgomerycountymd.gov/content/dep/downloads/npdes/NPDESrpt2011.pdf)*, see pages III-30–35 for the MCPS annual report. This report details MCPS interagency SWM coordination, Fats, Oils, and Grease program participation, structural and nonstructural SWM facility maintenance, pollution-prevention training, spill-prevention control and countermeasure plans, industrial facility compliance activities, a listing of SWM measures in facility projects, and integrated pest management.

Information Technology

MCPS has taken advantage of information technology to implement several actions to improve environmental sustainability. MCPS purchases energy-efficient computers and monitors when new computers are needed. The school system also has made it standard practice to set computers to shut down automatically daily when not in use, to save energy. Virtualization of servers reduces the number of servers and the associated power consumption and infrastructure needs. Use of digital curriculum, wireless technology, and electronic devices reduces the amount of paper consumed. Desktop workstations are cleaned, repaired, and refurbished to allow for reuse, substantially reducing the number of new computers purchased. It is all part of our effort to design 21st century classrooms that maximize the flexibility and efficiency of space in schools, while promoting digital working environments that cut down on material needs such as paper.



MCPS has cleaned, repaired, or refurbished more than 9,000 desktop computers, which, if stacked on top of each other, would be taller than the tallest building in the world—Burj Khalifa, in Dubai.

Current Strategies and Measures

- Systemwide retrofit of lighting systems with electronic ballasts, 25-watt T-8 lamps in existing buildings
- Energy management controls of the HVAC systems in all schools
- Electronic control of HVAC in all relocatable classrooms
- Retrofit of electronic astronomical time clocks to control all parking lot lights
- Peak load management of summertime electric demand
- Hosting 1.2 megawatts of solar photovoltaic systems on eight schools through power purchase agreements
- Piloting LED lighting in auditoriums and parking lots
- Virtualization of servers to reduce the number of servers and the associated power consumption and infrastructure needs.
- Power management protocols to turn off computers when not in use.
- Use of digital curriculum, wireless technology, and electronic devices to reduce the amount of paper consumed.
- Desktop workstations that are cleaned, repaired, and refurbished to allow for reuse, reducing the number of new computers purchased substantially.

Goals

- Maximize building energy efficiency, achieving a systemwide building energy use of 45 kBtu per square foot per year by 2024
- Complete installation of building energy management systems in all buildings by 2024
- Increase the use of renewable energy sources
- Achieve a sustained reduction of energy use by computers and other equipment that plug in
- Reduce greenhouse gas emissions from electricity use by 15 percent by 2024
- Reduce water consumption by 20 percent by 2024

Strategies/Actions

- Proceed with LED lighting retrofit projects in areas most appropriate and cost effective for LED lighting systems, including auditoriums, parking lots, and security lighting. Continue to monitor the reliability and improvements in LED technology and evaluate the use of this technology in additional applications.
- Develop the systems needed to access Smart Meter electrical data for use in Peak Load Management, energy-efficient operations, energy-building investigations, and the validation of utility billing.
- Continue to coordinate with the private sector to explore cost-effective power purchasing agreements and other public-private partnerships that further sustainable goals.
- Monitor individual building energy and water performance to identify high-utility users for further investigation and appropriate actions.
- Employ energy audits and re-commissioning in buildings that have sustained high levels of energy use.
- Implement server virtualization and other emerging technologies to improve the energy efficiency of MCPS data operations.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MONTGOMERY COUNTY

RESOURCE CONSERVATION PLAN

FISCAL YEAR 2016

DEPARTMENT OF PARKS

DEPARTMENT OF PLANNING

FEBRUARY 5, 2015

RESOURCE CONSERVATION PLAN

SUMMARY

Agency	**Maryland-National Capital Park and Planning Commission**		
Number of Facilities	398 Facilities that have utilities	Change in number of facilities in 2013	0
Total square feet	1,205,420	Change in total ft^2 in 2013	0
Average operating hrs./year	Varies	Change in avg. operating hrs./year in 2013	None
Other changes effecting energy consumption	The implementation of a comprehensive energy management and water conservation program for the Department of Parks by the three operating Divisions: North Parks Region, South Parks Region, and Enterprise Operations contributed to additional consumption reductions at the following park facilities: **Acres of Parkland: 35,266** Total Developed Acres: 8,950 Total Set Aside for Preservation: 26,316 **Parks: 418** Stream Valley: 38 Regional: 5 Recreational: 11 Conservation: 20 Neighborhood Conservation Areas: 40 Recreation/non-recreation facilities: 6 Urban: 27 Neighborhood: 95 Local: 149 Special: 25 Historical/Cultural: 2 **Park Facilities** Event Centers:5 Lakes: 4 Boating Facilities: 2 Paved Trails: 73.5 miles Natural Surface Trails: 138.9 miles Campgrounds: 2 Formal Gardens: 2 Nature Centers: 4 Park Activity Buildings: 20 Permitted Picnic Shelters: 193 Historic Resources: 157 Playgrounds: 291 Maintenance Facilities: 10 Ice Rinks: 2 Gymnasium: 1 Exercise Courses: 13 Tennis Centers Indoors: 2 Tennis Courts: 307 Athletic Fields: 299 Football/Soccer: 64 Basketball Courts: 207 Equestrian Centers: 6 Open Picnic Areas: 117 Miniature Trains: 2 Carousel: 1		

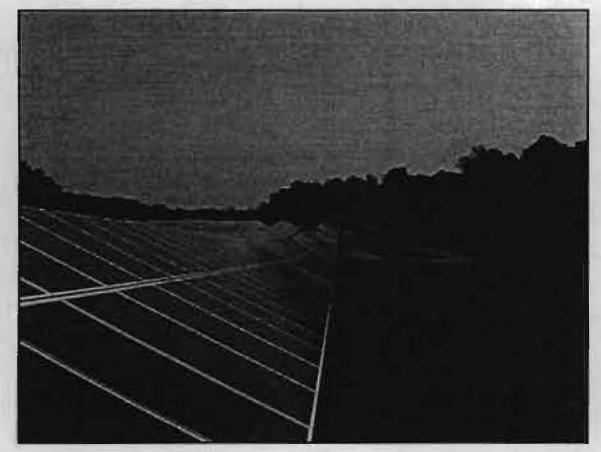
New Resource Conservation Measures Fiscal Year 2015
Being Implemented July 1, 2014 through June 30, 2015

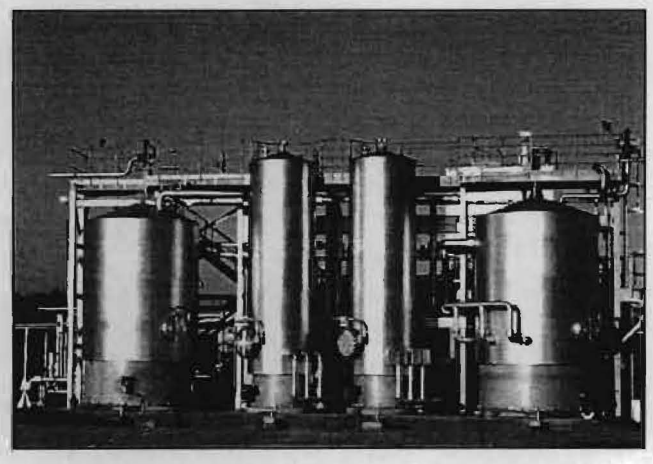
Measures - Planned:	Projected completion date	Projected initial cost ($)	Projected maintenance cost ($)	Fuel type(s) effected and units	Estimated units saved per year	Projected annual cost savings ($)
Capital Improvement Projects:						
Equipment Replacement Projects Local & Non-Local	Entire Year	$50,000 est.	$20,000 on Annual Service Costs	Electricity, Natural Gas, and Propane	100,000 kWh,10,000 therm & 1000 Pounds	$16,000 est. Annual Cost Avoidance
Equipment Replacement Projects – Brookside Gardens	**Entire Year**	**$450,000 est.**	**$35,000 on Annual Service Costs**	**Electricity, Natural Gas**	**236,000 kWh,27,000 therm**	**$56,000 est. Annual Cost Avoidance**
Controls Improvements Local & Non-Local	Entire Year	$10,000 est.	NA	Electricity	15,000 kWh & 1,000 therm	$4,000 est. Annual Cost Avoidance
Lighting Projects Local & Non-Local	Entire Year	$20,000 est.	NA	Electricity, and Natural Gas	15,000 kWh	$6,000 est. Annual Cost Avoidance
CIP Projects Sub-total		**$530,000**	**$55,000**			**$66,000**
Operations and Maintenance:						
Best Management Practices Programs	Entire Year	$15,000	NA	Electricity, Natural Gas, and Propane	23,000 kWh,900 therm & 200 Pounds	$4,000 Annual Cost Avoidance
Operations and Maintenance Improvement Programs	Entire Year	$20,000	NA	Electricity, Natural Gas, and Propane	39,000 kWh, 1,300 therm & 300 Pounds	$6,000 est. Annual Cost Avoidance
O&M Total		**$35,000**	**NA**			**$10,000**
Totals		**$565,000**	**$55,000**			**$76,000** **7.4 yr. ROI**

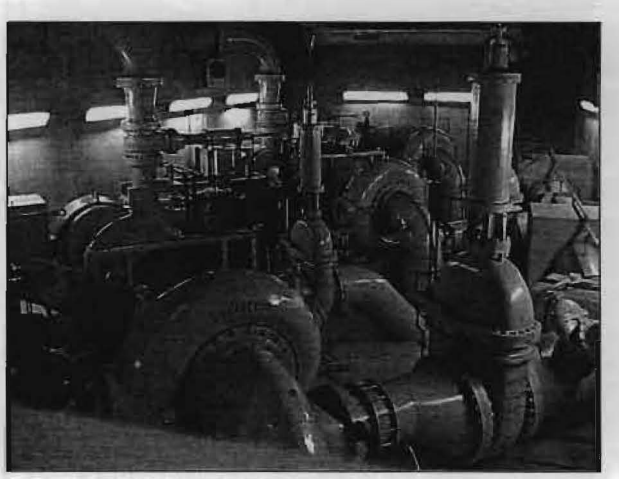
Planned Resource Conservation Measures Fiscal Year 2016
July 1, 2015 through June 30, 2016

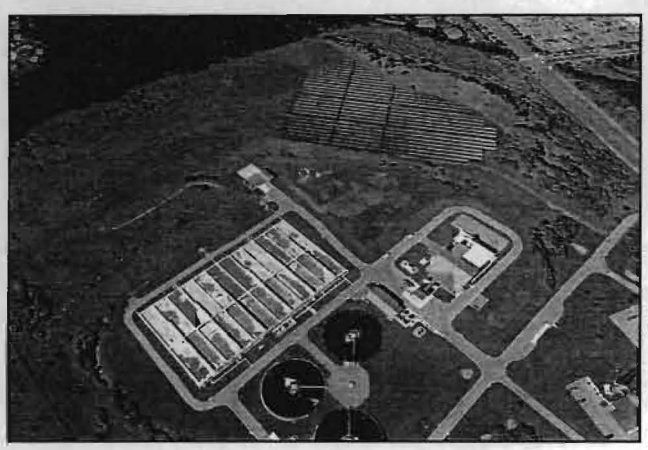
Measures - Planned:	Projected completion date	Projected initial cost ($)	Projected maintenance cost ($)	Fuel type(s) effected and units	Estimated units saved per year	Projected annual cost savings ($)
Capital Improvement Projects						
Equipment Replacement Project - Local & Non-Local	Entire Year	$50,000 est.	$5,000 on Annual Service Costs	Electricity, Natural Gas, and Propane	50,000 kWh, 5,000 therm & 500 Pounds	$8,000 est. Annual Cost Avoidance
Controls Improvements- Local & Non-Local	Entire Year	$10,000 est.	NA	Electricity	7,000 kWh & 400 therm	$2,000 est. Annual Cost Avoidance
Lighting Projects- Local & Non-Local	Entire Year	$20,000 est.	NA	Electricity	20,000 kWh	$6,000 est. Annual Cost Avoidance
CIP Projects Sub-total		**$80,000**	**$5,000**			**$16,000**
Operations and Maintenance						
Best Management Practices Programs	Entire Year	$15,000	NA	Electricity, Natural Gas, and Propane	20,000 kWh, 400 therm & 100 Pounds	$1,000 Annual Cost Avoidance
Employee Training and Participation Programs	Entire Year	$5,000	NA	Electricity, Natural Gas, and Propane	2,000 kWh, 100 therm	$600 Annual Cost Avoidance
Operations and Maintenance Improvement Programs	Entire Year	$15,000	NA	Electricity, Natural Gas, and Propane	10,000 kWh, 400 therm	$2,400 est. Annual Cost Avoidance
O&M Total		**$35,000**	**NA**			**$4,000**
Totals		**$115,000**	**$5,000**			**$20,000** **5.8 yrs. ROI**

WASHINGTON SUBURBAN SANITARY COMMISSION
RESOURCE CONSERVATION PLAN
FY 2016









Rob Taylor
Energy Manager

March 20, 2015

WASHINGTON SUBURBAN SANITARY COMMISSION
FY 2016
RESOURCE CONSERVATION PLAN

Summary

The information on this page reflects the facilities owned or operated
By WSSC as of the end of **FY 14 (June 30, 2014)**

Number of Facilities	210	Change in number of facilities	+0
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 14)	percent change from actual FY 13	total cost (actual FY 14) $	percent change from actual FY 13
Electricity	kWh	212,022,000	+2%	$24,306,000	+7%
Natural Gas (firm)	therms	344,000	+9%	$324,000	+3%
Natural Gas (Irate)	therms	0	N/A	$0	N/A
Diesel Fuel (generators)	gallons	15,000	+0%	$60,000	+25%
Fuel Oil #2	gallons	12,000	-37%	$43,000	-47%
Propane	gallons	3,000	0%	$9,000	+50%
Water/Sewer	gallons	N/A	N/A	N/A	N/A
Total				**$24,742,000**	

35

WASHINGTON SUBURBAN SANITARY COMMISSION
FY 2016
RESOURCE CONSERVATION PLAN

Planned Measures

This table shows information on resource conservation measures planned
To be implemented in FY 16 **(July 1, 2015 through June 30, 2016)**

Measures - Planned: (for FY16)	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	$0
Operations and Maintenance:						
Solar PV PPA- Ph. II: Seneca & Western Branch	6/30/15	$0 to WSSC	$0	Electricity	0	$157,000
Total, O&M		$0	$0	Electricity	0	$157,000
Page Total		**$0**	**$0**	**Electricity**	**0**	**$157,000**
Description of Activities:						
See narrative						

Energy Performance Program (Energy Efficient Equipment Upgrades)

Phase IF (Piscataway, Parkway, Potomac, WPS, WWPS, FO):
In March, 2014, WSSC awarded an Energy Performance Contract (Phase IF) for an engineering feasibility study to analyze and develop a scope of work for energy efficient equipment upgrades at HQ, field offices, WWTP, WTP, WPS and WWPS. Projected scope of work includes aeration upgrades (blowers, fine bubble diffusers, mixers) and peak-shaving/backup generator at Piscataway WWTP, aeration upgrades (blowers, fine bubble diffusers) at Parkway WWTP, variable speed drives at Potomac WFP, HVAC and lighting upgrades at HQ, depots, WPS and WWPS. Expected duration of Phase IF is 18 months; projected award of Phase IIF (detailed design, construction, monitoring & verification, and guaranteed energy savings) is October 2015. Projected capital cost is $20 million, with $2,000,000/yr. in estimated energy savings.

Strategic Energy Plan
In February 2015, WSSC completed the development of a 10 year Strategic Energy Plan (SEP). The first draft of the SEP is being vetted internally by WSSC stakeholders and will be rolled out in June 2015. The SEP analyzes the opportunities and sets specific goals for future energy performance gains in the five categories that make up energy management at WSSC:

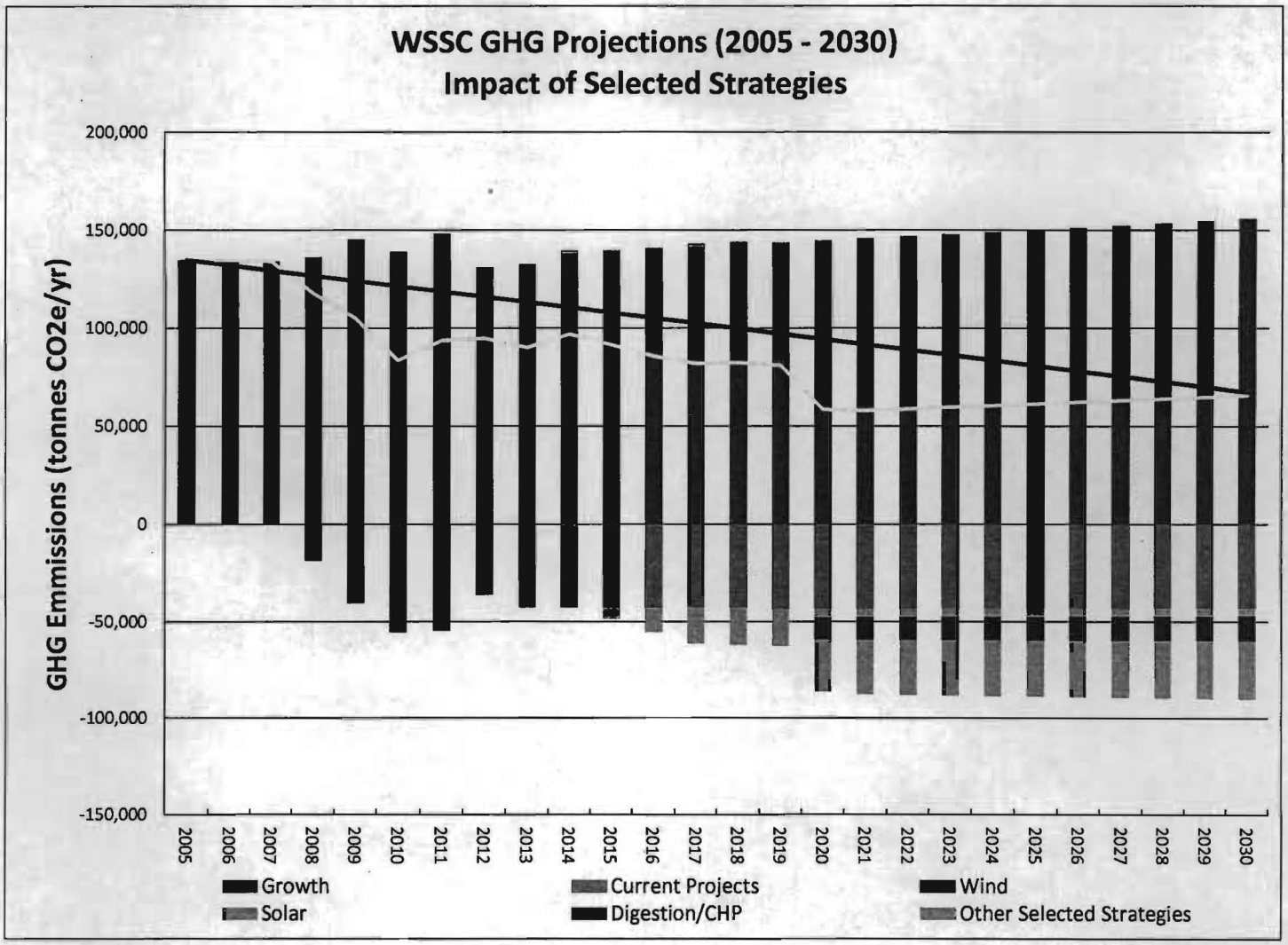
- Supply side initiatives – energy procurement options multiplied following electricity deregulation; WSSC has used aggregate purchasing, customized supply, and wind power procurement.
- Demand side management – includes Energy Performance Contracting (EPC), PJM load response program, Derceto pumping optimization, energy efficiency design review, energy conservation, peak-shaving
- Renewable energy strategy – Rocky Gorge hydro generation upgrades, wind generation procurement
- GHG Inventory & Action Plan – establishment of inventory and GHG baseline
- Tracking & Reporting – Energy Information System (EIS) – history from EDC invoice verification, CEPS verification, wind data management, budget development, GHG data mgmt.

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 2013. GHG emission inventories are being prepared for CY 2014 and should be completed by 6/30/15. The 20-yr plan of action is being updated through CY 2014 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. The objective is to insure that we are on target to meet the reduction goals and to update the mitigation measures (projects and programs) that will help achieve these objectives.

The strategies selected, in conjunction with the renewed wind contract, will result in a reduction of 89,800 tonnes of CO2e in annual GHG emissions by the year 2030. This represents 102 percent of the reduction

needed to meet the stated goal of ten percent reduction every 5 years over the 2005 inventory. The largest component of the GHG reduction total is the implementation of a renewed wind contract, which at 42,720 tonnes CO_2e per year is 49 percent of the total proposed reduction. Implementing the proposed strategies will have an estimated total life-cycle cost of $47 million by 2030. The figure below shows the GHG projections with the proposed strategy reductions. The figure identifies in different categories the impact of the renewed wind contract, the solar PV projects and Anaerobic Digestion/CHP. All the other strategies combined are shown under the "Other Selected Strategies" category.



Solar PV PPA Project

On Oct. 1, 2013, Standard Solar began operating, on behalf of Washington Gas Energy Systems, a 2 MW PV plant at Western Branch Wastewater Treatment Plant (WWTP), located in Upper Marlboro, and a 2 MW PV array at Seneca WWTP, located in Gaithersburg. Project design and construction for both sites was completed in only 8 months. Standard Solar maintains solar power equipment at the plants; Washington Gas Energy Systems, Inc. owns the projects.

The two plants generated approximately 39 million kWh during FY 2014, 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.

In FY'15, WSSC investigated potential sites for an additional 4 MW of solar PV power (split between 2 MW in Montgomery County and 2 MW in Prince George's County). The Montgomery County site chosen was the Seneca WWTP, and the Prince George's County site was Western Branch WWTP. The RFP is being developed, and the project should be advertised by 6/1/15. Estimated award of the new PPA is expected to be 12/15/15, with operation beginning 12/15/16. Each site will be aggregate net metered, that is, the majority of the output will be exported to the Pepco grid and credited to other WSSC Pepco electric accounts.

Piscataway Bioenergy Project

WSSC plans to save costs and benefit the environment by embarking on a project named "The Piscataway Bio-Energy Project", employing Anaerobic Digestion/Combined Heat and Power"(AD/ CHP) that will create energy out of sewage. Based on a conceptual plan completed in 2011 funded by a DOE grant, a new AD/CHP facility will be constructed at the Piscataway Wastewater Treatment Plant in Southern Prince George's County that will convert *biosolids* from several WSSC wastewater treatment plants into electricity and heat. This AD/ CHP facility will use two technologies called mesophilic anaerobic digestion and thermal hydrolysis to generate the synthetic gas that will run engine generators. The engine generators in turn will generate heat and power for the plant's use as well as export. An Acquisition Consultant is being retained by WSSC to assist the Commission is determining the optimal project delivery methods for each facet of the project. A Program Manager/Bridging Consultant will be brought on line by December 2015. The entire project is projected to be on-line by 2020.

ACTIVITY ANALYSIS: FY'16 Budget

Energy Component:	Units Estimated	Unit Type	$ Requested
Electricity	216,955,188	kWh	$23,344,609
Natural Gas	322,732	Therms	$341,377
Fuel Oil #2	20,000	Gallons	$80,000
Propane	5,000	Gallons	$17,500
			$23,783,446

WASHINGTON SUBURBAN SANITARY COMMISSION
FY 2016
RESOURCE CONSERVATION PLAN

Montgomery County/Prince George's County Energy Tax

Montgomery County Energy Tax (electricity) rate remained at $.0217/kWh for FY'15, and is assumed to be at that level for FY'16. Prince George's County Energy Tax (electricity) rate was $.0065/kWh in FY'15 and is assumed to be at that level for FY 16. Both these tax projections are included in the Electricity cost line item in the above table.

Historical Data	FY '09 Actual	FY '10 Actual	FY '11 Actual	FY '12 Actual	FY '13 Actual	FY '14 Actual	FY '15 Projected	FY'16 Projected
Projected	509,133	509,133	509,133	509,133	509,133	509,133	509,133	509,133
Water Treated (MG)	59,240	61,576	63,875	62,050	62,233	62,415	62,050	60,590
Water Pumped- Boosted (MG)	13,159	18,601	18,640	13,000	14,000	20,000	20,000	14,000
Waste Water Pumped (MG)	30,711	33,856	30,649	35,260	34,229	31,324	31,353	33,840
Waste Water Treated (MG)	22,517	25,207	25,376	27,130	28,189	28,174	27,488	27,682

1. Water Pumped, Treated, Waste Water Pumped, Treated:
   Historical kWh/MG indices have been applied to projected treatment and pumping efficiencies (MG/kWh), based on WSSC-Budget Group's projected FY'15 and FY'16 flows for water treatment and wastewater treatment plants; $/kWh projected rates for FY'16 were based on actual and/or forward electricity block bid or market prices, adjusted for PJM generation capacity auction prices and then applied to each category of facilities (WTP, WWTP, WPS, etc.) to estimate total projected cost.

2. Field Offices:
   Historical kWh/SF indices have been applied to projected SF to determine projected FY'16 kWh; kWh were adjusted for changes in efficiency and creep in energy usage per square foot; $/kWh projected rates for FY'16 were based on Standard Offer Service (SOS) rate projections from Pepco and BGE and forward block rates taken from the electricity market, adjusted for PJM generation capacity auction prices and applied to total SF to estimate total cost.

3. Dams, WWMVs, PRVs and Tanks:
   Electric consumption was projected based on kWh 5 year historical averages; kWh total was applied to latest $/kWh SOS rate projections to estimate total cost. FY'16 SOS rates are expected to be lower than FY'15 due to continued depressed natural gas rates and weak electricity demand.

The increase in the FY'16 vs FY'15 energy budget is due to Constellation Energy's anticipated 3.2% increase in electric supply price in FY'16, prompted by an increase in natural gas prices. Additionally, the mild summer 2014 temperatures resulted in decreased opportunity to proactively lower peak electric demands at production facilities, which is expected to increase Potomac WFP's Peak load contribution by 20%. This will result in higher FY'16 electric capacity charges.