



Energy Initiatives

Update

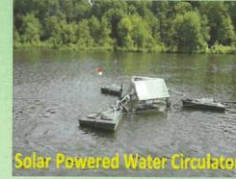
Kambiz Agazi, Environmental and Energy Coordinator

February 12, 2019

Energy Initiatives

1. Energy Efficiency Projects
2. Streetlight LED Conversions
3. Renewable Energy Initiative
4. Electric Vehicle Infrastructure Initiative

Fairfax County Operational Energy Strategy



July 10, 2018

Energy Use and Efficiency – Lighting Retrofits

Operational Energy Strategy Program:

- As part of the *FY 2018 Carryover Review* funding in the amount of \$4.5 million was approved to support the Operational Energy Strategy.
 - The Energy Strategy was adopted by the Board on July 10, 2018, and includes plans to move the County forward toward its goal of reducing energy use 20 percent by 2029.
 - Funding provides for the first-year investment in the Operational Energy Strategy and includes lighting retrofit projects throughout the County.

- Investment of \$48 million over 10 years
 - The 10-year investment for this goal is approximately \$48 million, however, by year 7, savings generated by the investment will essentially pay for the projects. The projected annual energy savings are **264 million kBtu**.

LED Lighting Retrofit Projects

FY2018 Carryover ENERGY FUND PROJECTS						
Facility Name	Address		District	Project Type	Project Cost	Estimated Project Completion
South County Human Services	8350 Richmond Highway	Alexandria	Lee	Lighting Retro	\$467,000	2019 Fall
Sully Government Center	4900 Stonecroft Blvd	Chantilly	Sully	Lighting Retro	\$148,500	2019 Winter
West Springfield Police and Fire Station	6140 Rolling Road	Springfield	Springfield	Lighting Retro	\$160,600	2019 Winter
Oakton Library	10304 Lynnhaven Place	Oakton	Providence	Lighting Retro	\$98,000	Complete
Southgate Community Center	12125 Pinecrest Road	Reston	Hunter Mill	Lighting Retro	\$128,000	Complete
Burke Centre Library	5935 Freds Oak Road	Burke	Braddock	Lighting Retro	\$91,300	Complete
Gartlan Health Center	8119 Holland Road	Alexandria	Mt. Vernon	Lighting Retro	\$217,800	Complete
James Lee Community Center	2855-A Annandale Road	Falls Church	Providence	Lighting Retro	\$154,000	Complete
Martha Washington Library	6614 Fort Hunt Road	Alexandria	Mt. Vernon	Lighting Retro	\$120,000	2019 Spring
Dolly Madison Library	1244 Oak Ridge Avenue	McLean	Dranesville	Lighting Retro	\$100,000	2019 Spring
Thomas Jefferson Library	7415 Arlington Blvd.	Falls Church	Mason	Lighting Retro	\$100,000	2019 Spring
Animal Shelter	4500 West Ox Road	Fairfax	Springfield	Lighting Retro	\$250,000	2019 Summer
Fairfax City Library	10360 North Street	Fairfax	Fairfax City	Lighting Retro	\$400,000	2019 Summer
Springfield Warehouse	6800-A Industrial Drive	Springfield	Mason	Lighting Retro	\$550,000	TBD
Park Authority Field	Address		District	Project Type	Contractor Cost	Estimated Project Completion
Oak Marr Driving Range Lighting	3200 Jermantown Road	Oakton	Providence	Lighting Retro	\$385,000	2019 Spring
Fred Crabtree Field 1 Lighting	2801 Fox Mill Road	Herndon	Hunter Mill	Lighting Retro	\$100,000	2019 Winter
South Run Park Fields 5, 6, 7/8	7550 Reservation Drive	Springfield	Springfield	Lighting Retro	\$440,000	2019 Spring
Poplar Tree Fields 1, 2 Lighting	4718 Stringfellow Road	Chantilly	Sully	Lighting Retro	\$489,800	2019 Spring
Mount Vernon Ice Rink Lighting	2017 Belle View Blvd.	Alexandria	Mt. Vernon	Lighting Retro	\$100,000	2019 Spring

Energy Use and Efficiency – Streetlight Conversions

Operational Energy Strategy Program: *As part of the FY2019 Third-Quarter Review*

- Conversion of >56,000 streetlight fixtures to LED (3,000 Kelvin Soft White Lighting) will:
 - Generate **savings of \$1.4 million** once all fixtures are converted and **remove 32.4 million pounds of CO₂e** annually
 - Payback period = 6.4 years.
 - Reduce maintenance given the longer life of LED lighting
 - Result in higher quality lighting
 - Allow dimming and automated outage reporting once smart technologies are implemented

- 1/1.0 FTE has been reassigned to:
 - Refine a workplan/schedule
 - Liaise with Board offices and Dominion Energy
 - Evaluate and recommend replacement fixtures based on technical and community needs
 - Oversee the development and implementation of Smart City technology

- Investment of \$9 million over 5 years
 - Estimated funding of \$5.9 million needed from the General Fund
 - Savings of \$3.1 million generated within the Capital Facilities utility budget over the period as fixtures are converted
 - \$1.8 million to be requested as part of the *FY 2019 Third Quarter Review*

Summary of Energy Use and Efficiency Investments

Target Range	Annual Cost	Projected Annual Energy Savings (Mil kBtu/year)	Projected Annual Cost Avoidance	Projected Life Time Cost Avoidance (10 Years)	Equivalent Emissions MT (CO ₂ e) (10 Years)
Reduce Energy Use 20% by 2029 (264 Mil kBtu)	\$4.5 Mil funded at Carryover	7.69	\$400,000	\$4.0 Mil	8,800
	\$9.0 Mil phased over 5 years (\$1.8 Mil/year)	62 at project completion (12.4/year)	\$1.4 Mil at project completion (\$280,000)	\$7.0 Mil	70,600
Total	\$6.3 Mil	20.1 Mil kBtu	\$680,000	11.0 Mil	79,400

Innovative Energy Solutions – Renewable Energy

Operational Energy Strategy Program:

Solar Project Considerations

- Schools
- RECenters
- Community Center
- Office Buildings
- Warehouse
- I-66 Transfer Station
- Fire Stations

Tentative Solar PPA RFP Timeline

Revise draft out from DPMM – 2-13-19

Comments back on draft – 2-27-19

To OCA for review –3-5-19

Final back from OCA – 3-12-19

Publish RFP – 3-18-19

Pre-Proposal Conference -4-8-19

Proposals due to DPMM - 4-26-19

First SAC meeting- 5-5-19

Award Recommendations to DPMM – 5-28-19

Contract Award – 6-5-19

Electric Vehicles (EV) – Infrastructure Deployment

Operational Energy Strategy Program:

- Requesting up to \$1.5 million over 2 years
 - \$.75 million to be requested as part of the *FY 2019 Third Quarter Review*.
 - Design/Permit/Build EV Ready Charging Stations at up to 10 county facilities with capability to charge both County government and private vehicles.
 - Facilities included in a Bond referendum will be completed in accordance with the project schedule.

Electric Vehicles (EV) – EV Infrastructure Initiative

Charging Station Considerations

- Publicly Accessible Office Buildings (i.e., Government Center complex, district government offices)
- Commuter Parking
- RECenters
- Community Centers
- Libraries

Tentative Level 2 Charging Station RFP Timeline

Finalize Draft	February 2019
Publish	April 2019
Award Recommendations	July 2019
Award	August 2019

QUESTIONS?