City of Takoma Park

LED Retrofit Projects

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MD Smart Energy Community

- Goal: Reduce per square foot electricity consumption by15% by FY 2017 – over baseline FY 2012
- Develop Projects to achieve the goal
- Grant from MEA to complete projects

Baseline Year Energy Consumption - FY 2012						
Building Type and Address	Status	Building Size	Electricity Conventional	Electricity Renewable	Electricity Total	Electricity Consumption Intensity
	Ownership	Gross Square Feet	kWh	kWh	kWh	Total kWh/SF
Community Center	City Owned	62,000	436,320	25,250	461,570	7.4447
Public Works	City Owned	21,464	128,400	0	128,400	5.9821
Heffner Park Community Center	City Owned	1,488	13,680	0	13,680	9.1935
**New Hampshire Rec Center	Leased/Owned by M-NCPPC	2,964	120,760	0	120,760	40.7422
Total		87,916	699,160	25,250	724,410	8.2398

SMEC- Project -Building

- Buildings: Completed in every feasible municipal building
  - Recreation Center (LED Retrofit)
    - Baseline: Metal Halide 200W, magnetic ballast gym light
  - Hefner Park Recreation Building (HVAC Improvements)
  - Community Center (LED Retrofit)
    - Baseline: Fluorescent, (2) 48", T-8 lamp
  - (Public Works LEED Silver Certified in 2011, low priority, but planned)


Gym Retrofit


Outdoor


Parking Lot

LED Streetlight Pilot for Flower Ave Green Street

- Transportation study showed lighting was inadequate for the entire Flower Avenue Corridor.
- Pepco LED retrofit option available.
- CDBG funds provided for project.

- 49 streetlights converted to LED.
- Mostly 70 – 100 Watt
- Energy savings estimated:
- 1 for 1 replacements – however lumens increased
- Western side LED
- Eastern side will include new decorative lamps.


LIFTALL

Project Costs*

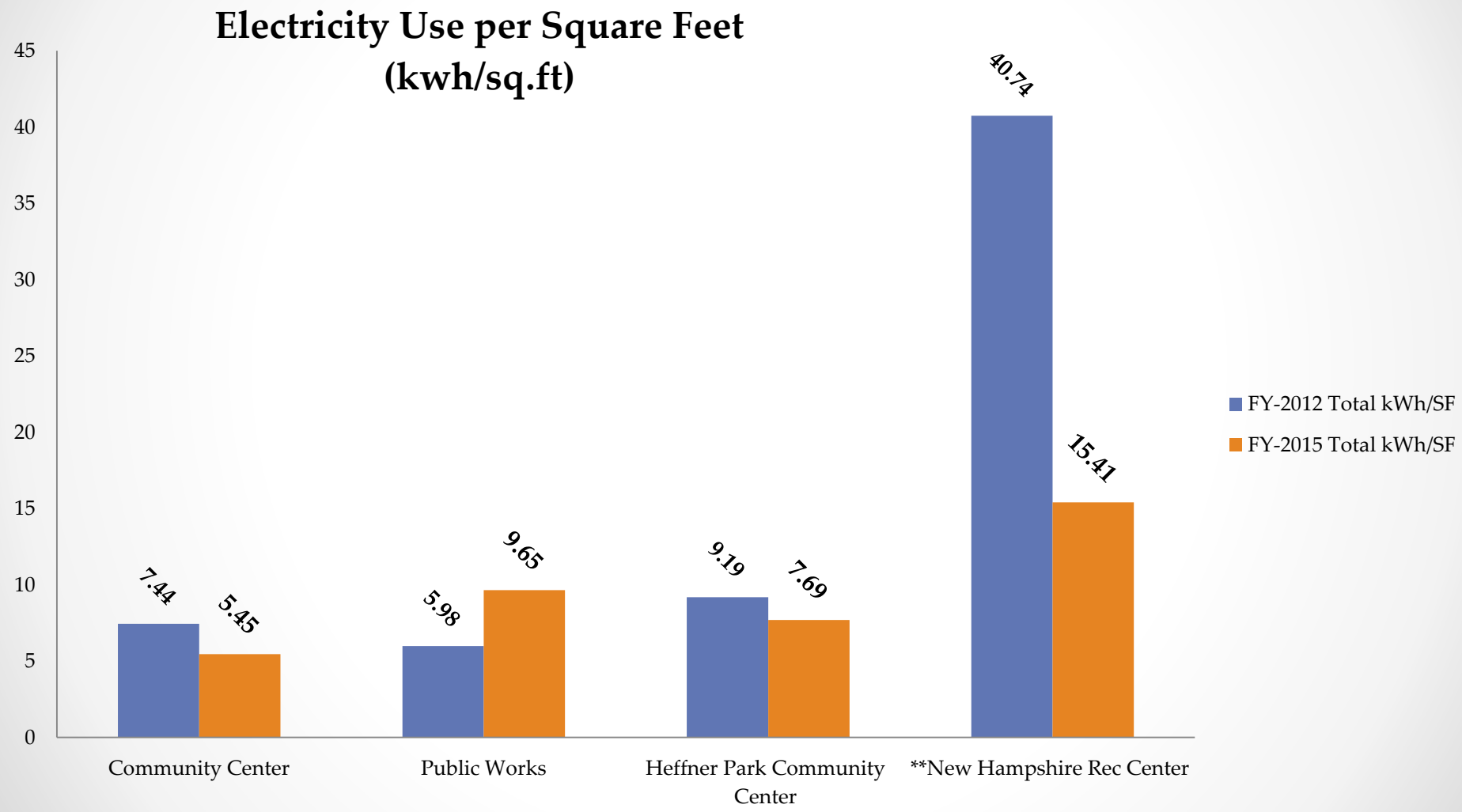
- Building LED Projects:
- Recreation Center
  - Total Cost =50,169
  - $29,191
  - Pepco Rebate: 20,978
- Community Center
  - Total Cost =$34,842
  - $13,864
  - Pepco Rebate: 20,978

- Hefner HVAC Project
  - $8,695
  - Pepco Rebate: None

- Streetlight Pilot Project:
  - $77,549.00
  - Rebate TBD

*All project costs covered by MEA or CDBG grants

Building Energy Savings



Streetlight Energy Savings

Existing Fixture	Wattage	Number	Proposed Fixture	Wattage	Number
High Pressure Sodium	100	9	LED-ACUITY AEL	100	9
High Pressure Sodium	150	6	LED-ACUITY AEL	70	5
High Pressure Sodium	100	28	LED-ACUITY AEL	70	28
High Pressure Sodium	250	6	LED-ACUITY AEL	70	6
High Pressure Sodium	250	1	LED-ACUITY AEL	100	1

Project annual KWh saving = 20,012 KWh

Lessons Learned / Reactions

- Buildings:
  - Initial retrofits had to be adjusted – "too bright"
  - Lesson – must complete a proper lighting study to look at
    - Color temperature, lumens, directional spray
  - Positive feedback on the updated, modern fixtures
  - Dimming capability is a positive
  - No humming/buzzing is a positive
  - Cost savings positive
  - Brighter, more inviting, easier to see
  - Funding projects is difficult, rely on grants not CIP budget typically
  - Creating attractive grant proposals without very large gains difficult, especially after achieving initial 15% reduction in energy use.

Lessons Learned / Reactions

- Streetlights:
  - Residents have not noticed or at least have not commented
  - Staff is pleased with aesthetic and performance SO FAR
  - Financial savings positive
  - Encouraged to complete more comprehensive street lighting retrofits
  - Eventually, "smart" controls will be available for dimming, reporting, real-time monitoring
  - Rebate process was not as easy or transparent
  - Still a new process for Pepco and municipalities