

# STATUS UPDATE: ENERGY INITIATIVES

*Environmental Quality & Public Works Committee*

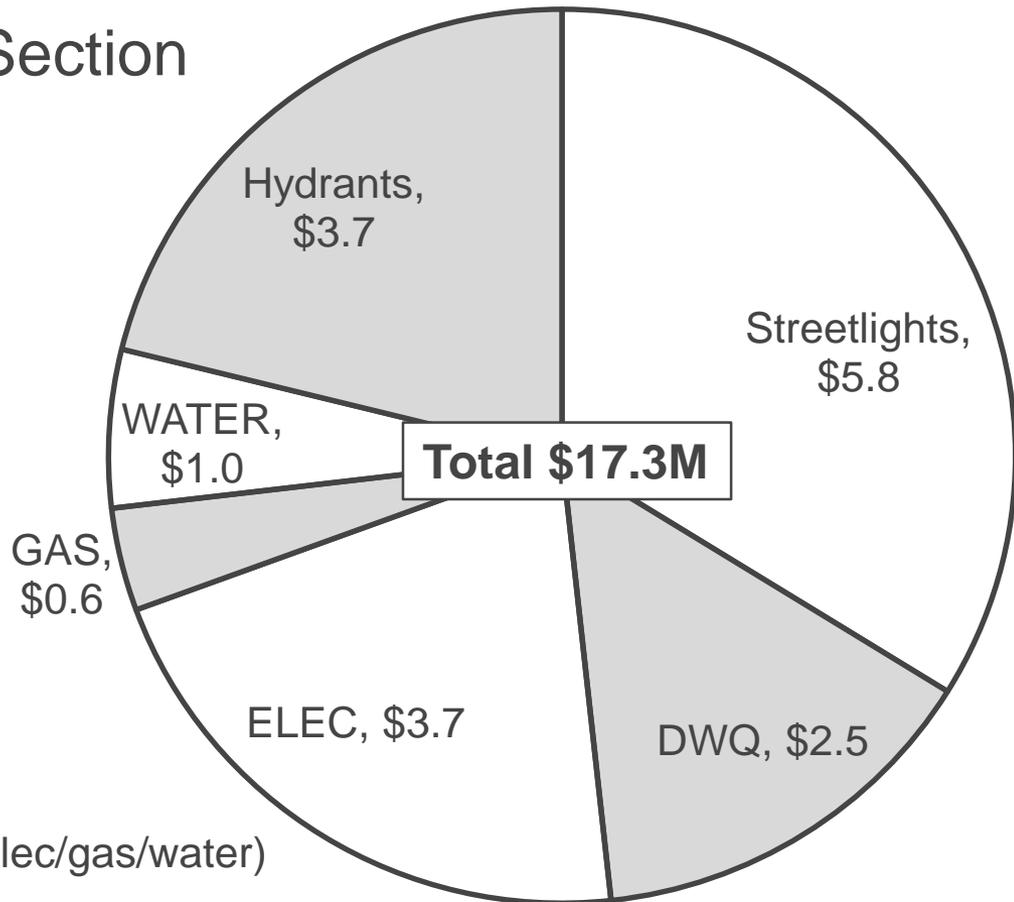
*January 24, 2017*



**LEXINGTON**

## Organization

- Division of Environmental Services
- Energy Initiatives Section
- Three FTE's



FY16 Utilities (elec/gas/water)

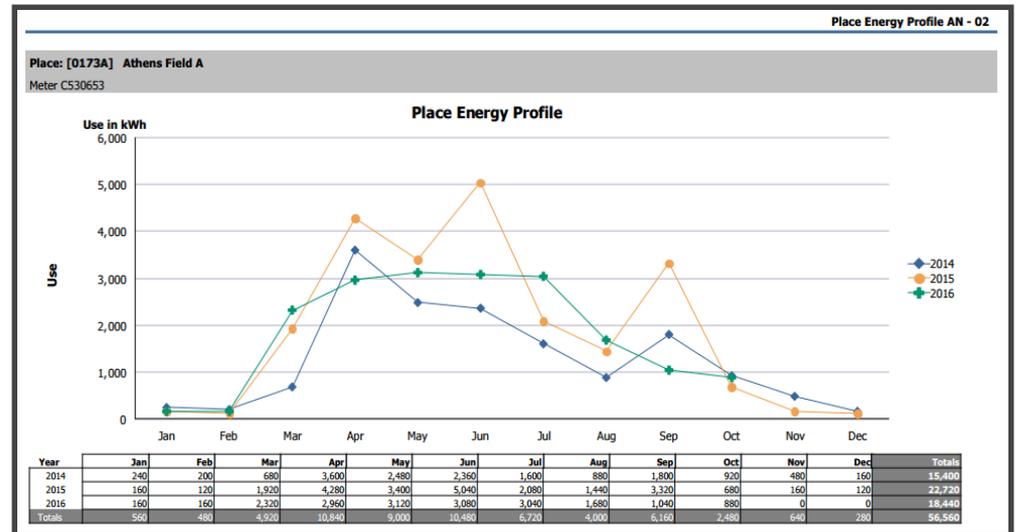


## Responsibilities

- Utility Management - elec/gas/water  
Outliers, rate analysis, budgets, tariffs
- Project Management  
Bid spec, procurement, measure/verify
- Consultation  
Building design, equipment selection, commissioning
- Building Automation Controls  
Software maintenance, fault detection
- Energy Improvement Fund  
Internal revolving loan for energy reductions

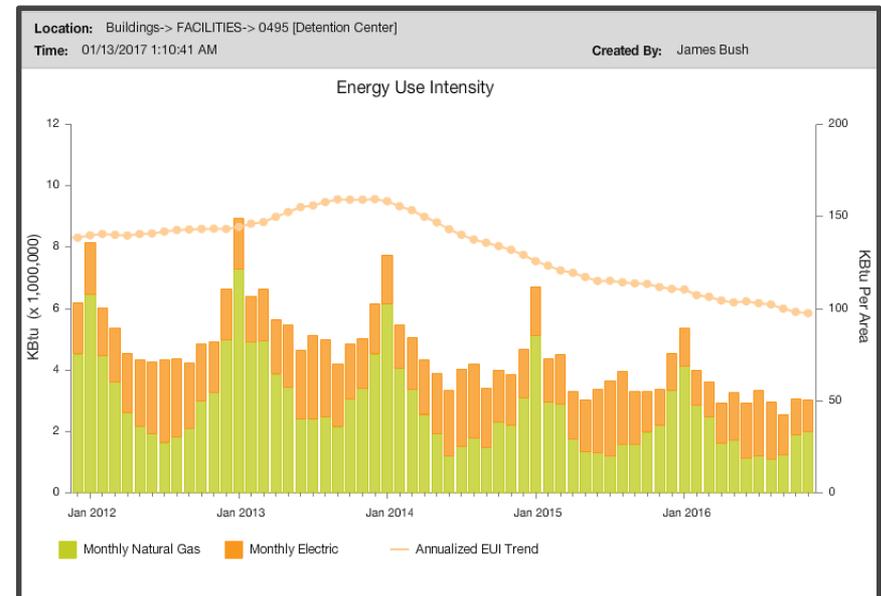
# Deployment

- Monthly Energy Team meetings  
(CAO Policy #39)
- Quarterly budget review meetings
- Monthly utility reports & meetings  
Electronic data exchange
- Coordination w/ Divisions  
Project consultation
- Committee/Council Briefings



## Project Examples

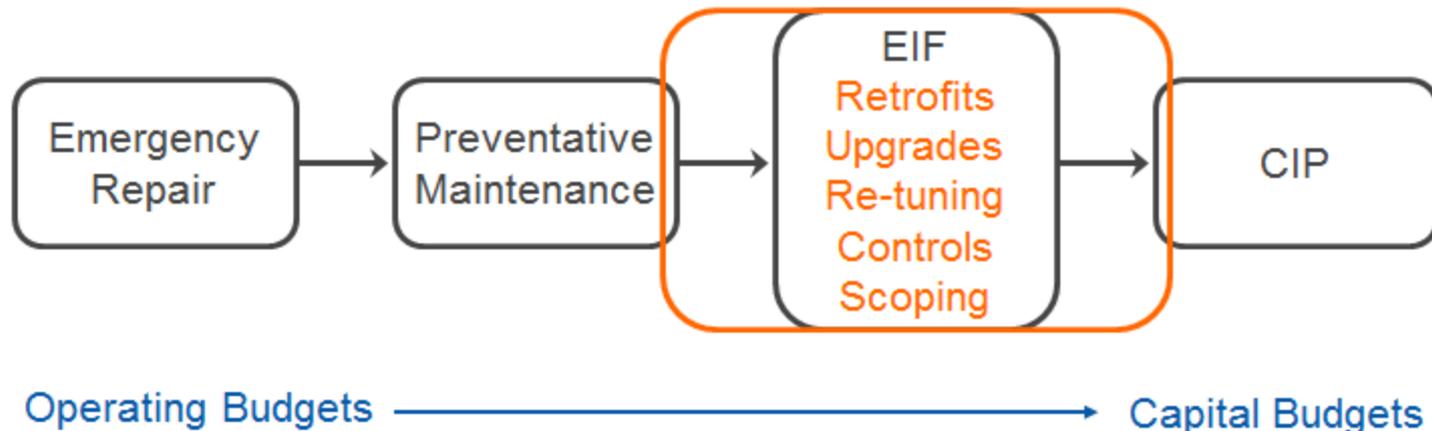
- LED Lighting Retrofits
- County Clerk HVAC Controls
- Downtown Arts Center HVAC Controls
- Detention Center ESPC
- Coroner HVAC & Lighting
- New Senior Center
- Public Safety Operations Center
- Fire Stations #2, #24





## Energy Improvement Fund (EIF)

- Internal revolving loan (Res. 219-2010)
- Savings from energy management activities fund the next project
- Seed funding from “Stimulus” Recovery Act
- Fills gap between general repair/maintenance and CIP
- Focus: proactive initiatives and improvements





## Key Points

- Projects reviewed by Energy Team
- Expenses approved by Council / Purchasing
- Annual allocations of verified savings  
Transfers from operating → capital budgets
- 10-year limitation on savings
- “Pooled” resource by FUND number
  - GS, Urban, Sewer (active)
  - PFC, Landfill (dropped)



## Funding

- Significant savings from rate analysis (“right-sizing” accounts / contracts)
- Annual savings greater than \$700,000
- Half became annual allocation of \$350,000
- Re-calculated all active accounts in 2016: Annual savings now \$1M per year
- Not including:
  - Funds 4022 (PFC) and 4121 (Landfill)
  - Savings from retrofit projects, Granvilles, bill corrections, etc.
- Bottom line: allocation ~25% of impact

## Balance Sheet

- Cumulative Since FY11

Allocations	\$2,019,309
Rebates	\$66,841
<b>SUBTOTAL</b>	<b>\$2,086,150</b>
Project Expenses	(\$1,018,364)
Released Funds	(\$103,992)
<b>BALANCE</b>	<b>\$963,794</b>

EIF = Section Code 3099

## Balance by FUND

<b>General Services (1101, 1105)</b>	<b>\$514,852</b>
Urban Services (1115, 1116)	\$5,860
Sanitary Sewer (4002, 4003)	\$443,082

### General Services

- LED lighting retrofits
- Solar PV demonstrations
- Building Automation / Adv Metering



## Balance by FUND

General Services (1101, 1105)	\$514,852
<b>Urban Services (1115, 1116)</b>	<b>\$5,860</b>
Sanitary Sewer (4002, 4003)	\$443,082

### Urban Services

- (Purchase of Granville Street Lights)
- Solid Waste LED parking lot lights
- Granville LED retrofits

## Balance by FUND

General Services (1101, 1105)	\$514,852
Urban Services (1115, 1116)	\$5,860
<b>Sanitary Sewer (4002, 4003)</b>	<b>\$443,082</b>

### Sanitary Sewers

- Biogas Utilization Study
- Pump Station Power Factor Correction



## Lessons & Insights

- Personnel limitation → hired new employee
- Bid-by-bid procurement → unit price contract
- Construction budgets → life cycle costing + EIF  
e.g. geothermal & LED at Fire Station #2
- Scale and cost can be significant:
  - Granvilles: \$475,000 saving ~\$200,000/yr
  - Detention ESPC: \$3M saving ~\$220,000/yr
  - Biogas Utilization: under investigation
- But typical project savings < \$5,000/yr → time



## Comments

- New government center impacting projects at “Main Street” buildings
- (Proceeding with Phoenix Penthouse BAS)
- Projects approached on a cost basis. No firm energy targets for either design or operation.
- No budget incentives to design/build “beyond code”, renewable goals, net-zero, etc.

# Questions?

