

STATUS UPDATE: ENERGY INITIATIVES

Environmental Quality & Public Works Committee

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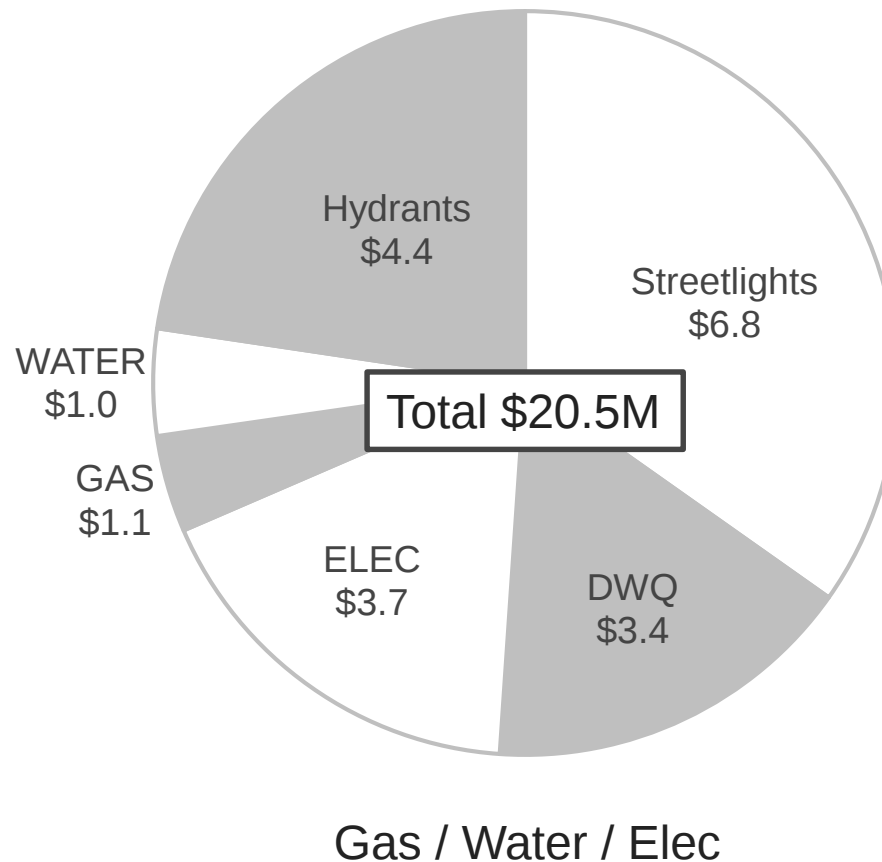


Presentation Outline

- Utility Snapshot
- EIF Projects - FY2023
- EIF Fund Balance
- Conclusions



FY2022 Utility Expenses (millions)



Prior Years

FY19	\$17.8M
FY20	\$19.7M
FY21	\$19.2M
FY22	\$20.5M
FY23*	\$21.1M

*trending estimate



FY2023 Lighting Projects

- Coroner Exterior Lighting
 - Coleman House
 - Tates Creek Proshop & Event Space
 - Coolavin Courts
 - Versailles Rd Parking Lot
-
- FY2023 rebates = \$10,771
 - LED mature technology; cost/benefit diminishing
 - Additional efficiency targeting advanced controls

EIF Investment:

\$23,216

Estimated Cost Avoidance:

\$4,491 /yr

Estimated Energy Avoidance:

36,297 kWh/yr



FY2023 Solar Projects

- Fire Station#9
- Police West Gym
- Versailles Rd Bldg#2
KU Solar Share
- Added capacity +47 kWdc
- Total capacity 100 kWdc
(5 installations; 2 virtual systems)
- FY2024 projects, approved and in process:
Tates Creek Community Center
South Base Facility

EIF Investment:

\$124,403

**Year 1 Estimated Cost
Avoidance:**

\$6,259 /yr

Estimated Energy Avoidance:

53,077 kWh/yr

Police West Gym Solar

Location: 1799 Old Frankfort Pike

Solar Array: 30 kWdc

Est Output: 33,540 kWh

Est Savings: \$3,807





Project Comparison

- Lighting
 - Simple payback = 5.2 years (self-installed)
 - EIF target < 10 years
 - Timeframe aligned to product life
- Solar PV
 - Life cycle analysis more appropriate
 - Longer equipment life (warranties up to 30 years)
 - Utility rate increases (modeling 2% per yr)
 - Typical payback around Year 16
 - Requires compatible building on non-demand rate
 - Cost recovery during warranty period ~70%

Energy Improvement Fund Balance (as of 6/26/2023)

General Services (1101, 1105)	\$10,518
Urban Services (1115, 1116)	\$30,824
Sanitary Sewer (4002, 4003)	\$263,502

- EIF-1101 to receive \$100,000 in FY24 with emphasis on solar projects. Supplemental funding likely in CY2024 from federal EECBG grant.
- EIF-1115 and EIF-4002. Funding requests have been paused. Will proceed on project basis (year to year).



Conclusions & Comments

- Energy initiatives have a localized impact
 - Electricity reductions ~25% typical
 - Do not offset energy growth in absolute terms
 - Annual investment <1% of utility costs
- Comprehensive approach would be needed to flatten or reduce trend
 - Policies for design / procurement,
 - Performance-based contracts,
 - Purchase power agreements, and/or
 - Goals / targets for LFUCG



Conclusions & Comments

- EIF projects are progressively more difficult as older equipment is replaced
- Projects having equal energy/emission benefits, but lower ROI, are not being pursued
 - Savings depend on rate structure and use profile
- Options for purchasing greener power and/or carbon offsets are expanding
 - LFUCG has unique resources for partnerships (electrical load, public land, wastewater biogas)
- EIF would need to be aligned with broader sustainability and energy goals to include decarbonization efforts
 - Governing resolution emphasizes “cost reductions & savings”

Questions?



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