



CITY COUNCIL REPORT

DATE: January 27, 2010

TO: John Szerlag, City Manager

FROM: John M. Lamerato, Assistant City Manager/Finance and Administration
Mark F. Miller, Acting Assistant City Manager/Economic Development Services

SUBJECT: Update of the Energy Efficiency and Conservation Block Grant (EECBG)

The U.S. Department of Energy granted the City of Troy \$921,000 as part of the EECBG program. The following is a status of the program:

The City prepared a strategy to spend the EECBG dollars. This strategy includes the project proposals and the Rapid Energy Assessment Program (REAP) for the cost of \$15,000. These project proposals and strategy were submitted to U.S. Department of Energy (USDOE) in December 2009. The U.S. Department of Energy has 100 days to approve this strategy. The following is a summary of the projects included in the strategy.

U.S. Department of Energy Approved Projects

- | | |
|---|------------------------|
| 1. Project and Strategy Development including the REAP. | \$15,000 |
| • Item total | <u>\$15,000</u> |

U.S. Department of Energy Pending Approval Projects

- | | |
|--|------------------------|
| 1. Wind energy projects (demonstration) | |
| ○ City Campus (2 Windspire systems, Michigan made, installed est.) | \$24,000 |
| • Item total | <u>\$24,000</u> |

This project will allow the City to analyze the performance of a Michigan-manufactured wind energy conversion system that has many benefits over traditional horizontal axis systems. These "Windspire" turbines are quieter, smaller, and less expensive to install. They operate at a low wind speed, and are simple to maintain. They will initially be used to shed small loads at the pilot locations. If successful, additional systems may be contemplated in the future.

2. LED –Lighting	
○ City Hall	\$117,000
○ City Campus Parking and Road Exterior Lighting	\$77,792
○ Police Department	\$30,860
○ Library	\$41,845
○ Courthouse Exterior	\$3,978
○ Fire Training Facility	\$21,920
● Item total	\$293,984

This project would fund LED lighting improvements throughout the City of Troy municipal campus. It is estimated that the LED installations specified here will save the City \$14,510.50 annually. The project will also significantly reduce maintenance costs. This represents a significant reduction in energy usage.

3. Energy audits for high-priority City buildings (est. \$0.14 per sq. ft., \$1,000 minimum)	
○ City Hall (130,030 sq. ft.)	\$18,204
○ DPW Garage (61,500 sq. ft.)	\$8,610
○ Fire Station 1 (6,616 sq. ft.)	\$1,000
○ Fire Station 2 (5,072 sq. ft.)	\$1,000
○ Fire Station 3 (8,700 sq. ft.)	\$1,218
○ Fire Station 4 (4,911 sq. ft.)	\$1,000
○ Fire Station 5 (6,000 sq. ft.)	\$1,000
○ Fire Station 6 (6,600 sq. ft.)	\$1,146
○ Nature Center (8,184 sq. ft.)	\$6,248
○ Library (44,630 sq. ft.)	\$6,248
○ Police and Fire Training (21,136 sq. ft.)	\$2,959
● Item total	\$42,473

Energy audits of these City facilities have been determined by the REAP and City staff to be the most pressing. A level 2 energy audit will look deeply into the existing systems and construction, as well as building usage and appliances (computer, kitchen, HVAC, etc.). An audit will allow the City to identify precisely where additional energy efficiency and conservation funds can be spent to reduce energy costs.

4. High Efficiency Vehicles (making up increment between conventional and alternative energy or hybrid vehicle additional costs, approximate cost \$6,000 per vehicle)	
○ Year 1 Ten vehicles	\$60,000
○ Year 2 Ten vehicles	\$60,000
○ Year 3 Ten vehicles	\$60,000
● Item total	\$180,000

EECBG funds can be used to pay for the difference between a traditional vehicle and a hybrid vehicle. They cannot be used to buy a vehicle outright. This measure is designed to upgrade a number of vehicles annually that the City traditionally buys anyway to hybrid models. In similar circumstances reported by the City of Troy, they doubled mileage per gallon for inspector vehicles in a single year, realizing a large savings in fuel costs.

5. City Hall Boiler Project	
o Asbestos Abatement	\$30,000
o Lochinvar natural gas boiler systems (BTU TBD)	\$90,000
o Professional assistance in design and installation	\$9,900
• Item total	\$129,900

EECBG funds can be used to pay for the upgrades to more energy efficient heating and cooling systems, and can also be used to pay for the mitigation of asbestos if it is hindering the development of such an energy efficiency project. The existing boiler at City Hall was installed in 1965 and has exceeded its useful life. The city intends to install two smaller, more efficient, LEED conscious boilers that will use significantly less energy than existing systems. Lochinvar Corporation states that their Power Fin boilers are rated at 87% efficiency.

6. Energy improvement for high-priority City buildings (remainder \$235,743 distributed on a per sq. foot basis for estimation purposes. These building-by-building distributions may be shifted or modified, based on audit results)	
o City Hall (130,030 sq. ft., 42.86%)	\$101,040.82
o DPW Garage (61,500 sq. ft., 20.27%)	\$47,789.05
o Fire Station 1 (6,616 sq. ft., 2.18%)	\$5,141.01
o Fire Station 2 (5,072 sq. ft., 1.67%)	\$3,941.24
o Fire Station 3 (8,700 sq. ft., 2.87%)	\$6,760.4
o Fire Station 4 (4,911 sq. ft., 1.62%)	\$3,816.13
o Fire Station 5 (6,000 sq. ft., 1.98%)	\$4,662.35
o Fire Station 6 (6,600 sq. ft., 2.18%)	\$5,128.58
o Nature Center (8,184 sq. ft., 2.70%)	\$6,359.44
o Library (44,630 sq. ft., 14.71%)	\$34,680.09
o Police and Fire Training (21,136 sq. ft., 6.97%)	\$16,423.89
• Item total	\$235,743

Although exact dollars cannot necessarily be identified until after the energy audits are completed, this item takes the remaining funds and divides them among the buildings identified for potential improvements. The funds can be shifted from one building to another, but this estimate is based on square footage.

Total projects cost seeking U.S. DOE approval	\$906,100
Total projects cost with U.S. DOE approval	\$15,000
Total EECBG grant	\$921,000