

26 January 2018

Ernie B. McNeely
Township Manager
Lower Merion Township
75 E. Lancaster Avenue
Ardmore PA. 19003-2323

Dear Ernie:

Thanks again for considering the team of Provident Energy Consulting and Foster Jacobs and Johnson for an exploration of energy efficiency and facility improvements at Lower Merion Township. We thought it would be helpful to highlight and clarify some of the information we supplied to the Administration and the Board of Commissioners for review, specifically related to the output of our analysis of energy cost reduction opportunities.

While the RFQ and our direct response focused on energy unit impacts such as kilowatt-hours of electricity, therms of natural gas, etc., there are certainly commensurate relationships to environmental benefits of these energy unit reductions. In fact, members of our team conducted just such a preliminary assessment for Lower Merion Township some years ago, showing the impacts of potential energy cost reduction measures on CO2 emissions. The results can be seen in the following exhibit.

Beyond that, please recognize that we customarily provide similar information to some of our governmental clients following project development efforts, allowing for a communication to the public of beneficial undertakings in the energy and environmental arena. As an example, I've provided a copy of a memo from this past November to Marianne Grace, Executive Director of Delaware County, which delineates broadly the impacts of an Energy Efficiency and Facility Improvement project Provident Energy assisted the County with a few years ago under the auspices of the Pennsylvania GESA.

Please call me with any questions or for further clarifications at your convenience.

Best regards,



Joseph S. Solomon
President

Cc: Phil Solomon, Principal Foster Jacobs & Johnson

Energy Project GHG Calculator *for the US*

Please provide data on expected energy consumption savings based on the project's characteristics for each different source.

Total Reduced
GHGs

3,044.0

tons CO₂-e

Electricity

Enter location's Zip Code:

19003

kWh

3,542,172

eGRID Subregion

RFCE

RFC East

Emission Factor

0.00081599

tons CO₂-e/kWh

Reduced GHGs

2890.4

tons CO₂-e

Natural Gas

Therms

24,058

Emission Factor

0.0053

tons CO₂-e/therms

Reduced GHGs

127.8

tons CO₂-e

Propane/LPG

Gallons

840

Emission Factor

0.0058

tons CO₂-e/gal

Reduced GHGs

4.9

tons CO₂-e

Distillate Fuel Oil (#1,2 & 4)

Gallons

2,050

Emission Factor

0.0102

tons CO₂-e/gal

Reduced GHGs

20.9

tons CO₂-e

Residual Fuel Oil (#5 & 6)

Gallons

Emission Factor

0.0119

tons CO₂-e/gal

Reduced GHGs

0.0

tons CO₂-e

CO₂ sequestered by

78,050

tree seedlings grown for 10 years in an urban scenario



CO₂ sequestered by

692

acres of pine or fir forests



CO₂ emissions from

558

passenger vehicles



CO₂ emissions from

7,079

barrels of oil consumed



CO₂ emissions from the *energy* use of

277

homes for one year



CO₂ emissions from burning

16

coal railcars



Memorandum

TO: Marianne Grace, Executive Director
FROM: Michael Lang
CC: Joseph Solomon; Michael Maddren
DATE: 19 September 2017
RE: Energy Savings Project and Program Benefits to Date

The County of Delaware undertook an energy efficiency and facility improvement project a few years ago under the auspices of the Pennsylvania Guaranteed Energy Savings Act ("GESA"). Evaluation of impacts to date indicates that the project has resulted in overwhelming success.

Prior to the GESA project, the County's energy spend was approximately \$5M, wherein the facilities used about 33M kWh of electricity and 181K DTH of natural gas.

After installation of energy efficient equipment at the Government Center/Courthouse Complex, Fair Acres, Juvenile Detention Center, County Parks, and a few other County facilities, the County now uses 27M kWh of electricity and 170K DTH of natural gas (assuming similar weather conditions); a reduction of 12.1% in kWh and 9.4% in DTH.

This reduction in energy usage also yields a significant environmental benefit, to the tune of approximately 5,000 metric tons of CO2 avoided/year, as well as many other pollutants. This equates to taking 1,066 cars off of the road annually!

Using energy rates effective at the project's inception, these usage reductions translate to energy savings of \$1M in the County's annual energy budget!

However, the reduction has not stopped there! As a result of the County forming an internal Energy Task Force overseen by Provident Energy Consulting to strategically purchase energy in retail markets, the County's 2018 energy spend will be slightly over \$3M! This represents an overall 40% reduction in the County's energy budget!

We are very pleased with our relationship with the County and look forward to working together to manage and reduce the energy budget further for years to come!

Best regards,



Michael Lang