



City of
Blue Earth

**CITY OF BLUE EARTH
AGENDA
CITY COUNCIL WORKSESSION
MONDAY, AUGUST 3, 2020 @ 4:30 P.M.**

Call to order.

Roll call.

Old Business.

New Business.

1. Energy Insight – Energy Audit Review.

Adjourn.

By Order of the Blue Earth City Council

City Administrator Mary Kennedy

Post @ City Hall-Friday, July 31, 2020 through Monday, August 3, 2020

Distribute to Mayor & Council members-Media & file



City of Blue Earth – Energy Efficiency Summary

PREPARED BY:

BLUE EARTH LIGHT & WATER
ENERGY INSIGHT, INC

Topics of Discussion



Goals when we started



Process we planned



Status so Far



Summary of recommendations



Next Steps (Suggestions)

Goals When We Started

- Help City of Blue Earth buildings be as energy efficient as possible in a cost-effective manner
- Provide City of Blue Earth with estimate of numbers before beginning a project so they can plan accordingly





***How are we
accomplishing
goals -
Transparency***

Leveraging existing relationship with BELW to provide free electric audits for all city buildings

Leveraging existing relationship with Centerpoint Energy to provide low cost natural gas audits (Centerpoint paid for approx. 90% of audit cost) and free installation of energy efficient door sweeps, showerheads and faucet aerators.

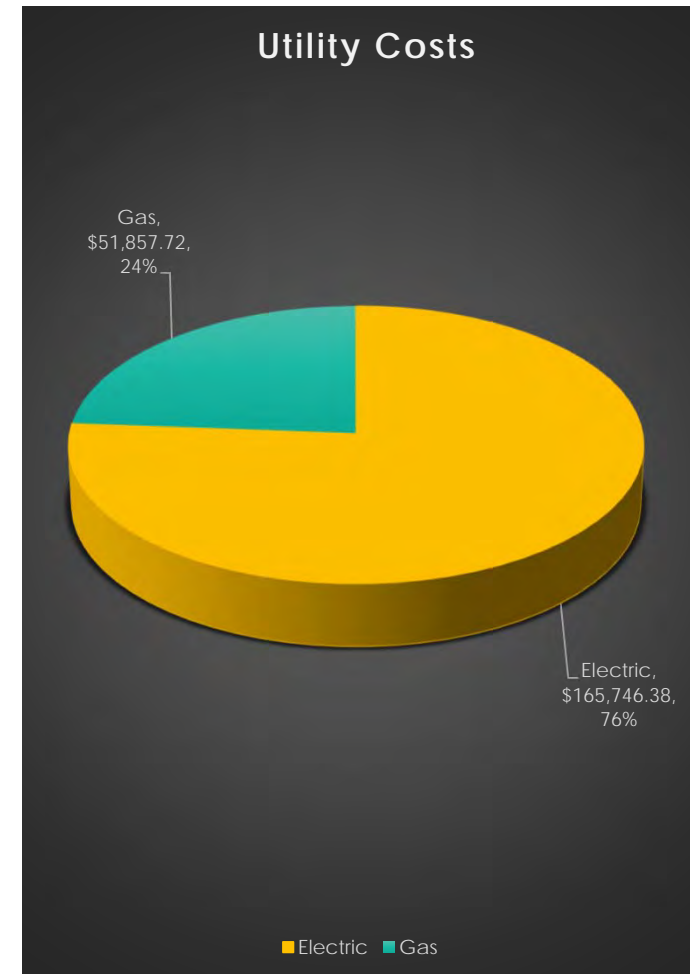
Assist city of Blue Earth to find the right balance between quality and cost of energy efficient upgrades being recommended

City of Blue Earth – Status So Far

Sr. No.	Task	Date Accomplished
1	Get NGEA applications signed	Feb '20
2	Receive Approval to Proceed with NGEAs	Feb '20
3	Begin Energy Audit Walkthroughs	April-June '20
4	Energy Insight to work on Energy Audit Reports	April-July '20
5	Deliver Energy audit reports	July 28th, 2020
6	Reports Delivered to City	August 3rd, 2020
7	Identify Top Projects	July 28th, 2020/August 3 rd , 2020
8	Acquire specs/samples where applicable	On Going
9	Assist with bids on projects	On Going

Current State of Utility Costs

- Peak kW – 576
- Annual kWh – 1,738,919
- Total Electric Cost - \$165,746.38
- Natural Gas dekatherms – 7,661 DTh
- Total Natural Gas Cost - \$51,857.72
- Total Energy Cost - \$217,604.10



Summary of Recommendations

- 130+ Recommendations from low cost/no cost to high investment were identified
- Potentially \$45,000-\$50,000 in cost savings on your utility cost. 15%-20% savings



Slide 7

MB2

Margit Barot, 7/27/2020

Direct Install



Summary of Recommendations – Lighting and Controls

- Approximate investment to make - \$115,000
- Cost savings - \$23,300 per year
- % Cost savings – 10.5%
- Payback – 5 years (Within the warranty of the lights)
- kWh savings – 223,000 kWh

Other Misc measures

- Air compressor leak checks in city garage and shops
- Low flow showerheads and faucet aerators for buildings with electric water heating
- Insulation on Garage Doors and Pipes
- Vending Miser
- Refrigeration Equipment and Controls on Liquor Store Equipment
- Requires further research on some projects
- Payback period between 1 to 10 years





Let's Recap



So far, we've identified 90+ measures



\$33,000 in cost savings



5-6 year payback (not including rebates)



LED lights will last at least 10 years. The payback period is within the warranty period for LED lights



On top of all of this, you received energy audits for all buildings at virtually no cost courtesy of your electric and natural gas companies

1

None of the numbers we provided include water savings for some measures. That will be an added benefit

2

City of Blue Earth was quoted \$800,000 for similar services to achieve same amount of savings.

3

City of Blue Earth needs to invest 75% less to achieve same amount of savings

HVAC

- We anticipate approximately \$400k-\$500k investment to replace all major HVAC equipment for City Buildings (not including the Ag Center)
- Since most HVAC equipment are at their end of life, the incremental cost to go with something efficient (for e.g. VRV heat pump systems) may be \$50k-\$100k more
- Other upgrades – High efficiency infrared heaters, pool boilers, Heat Pump Water Heaters
- Prioritize what needs immediate attention

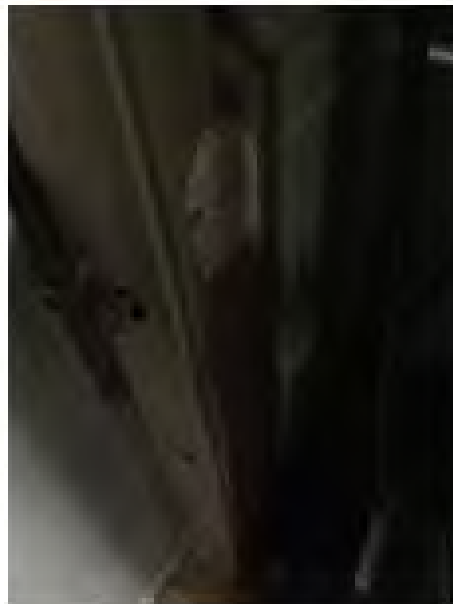
HVAC – Other issues

- A majority of city's HVAC equipment is at or close to end of life. It is a good idea to be strategic about how to replace them.



Other issues

- Senior Center Dryer Exhaust close to Furnace Intake – Potential of CO being dumped in the space



Humidity Issues and Envelope Opportunities – City Hall Basement



Next Steps

- Financing
- Prioritize and implement projects
- Further analyses of HVAC measures based on priority level