

Energy Corps 2019-2020

Robin Adams
Sustainability Coordinator



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AGENDA

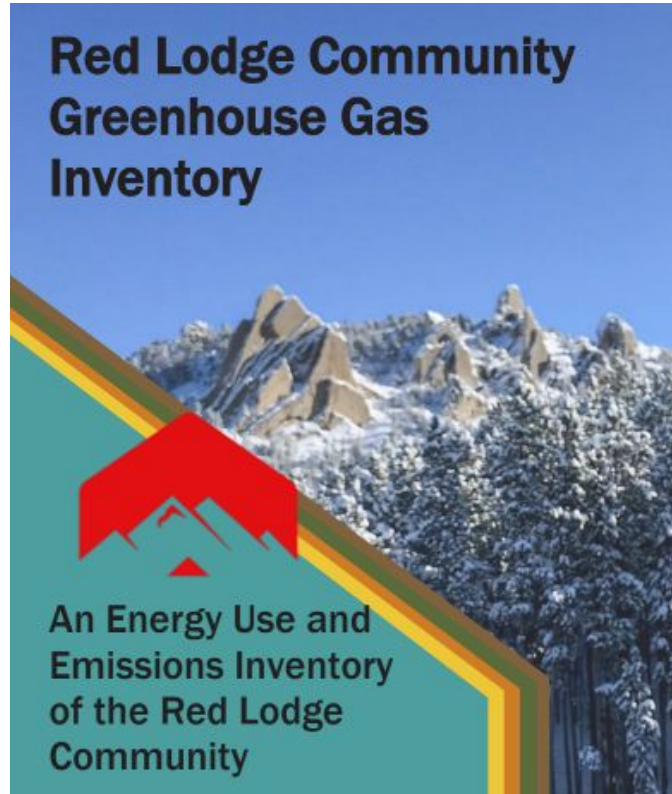
- Service Highlights
- Cost Savings
- Unfinished Business





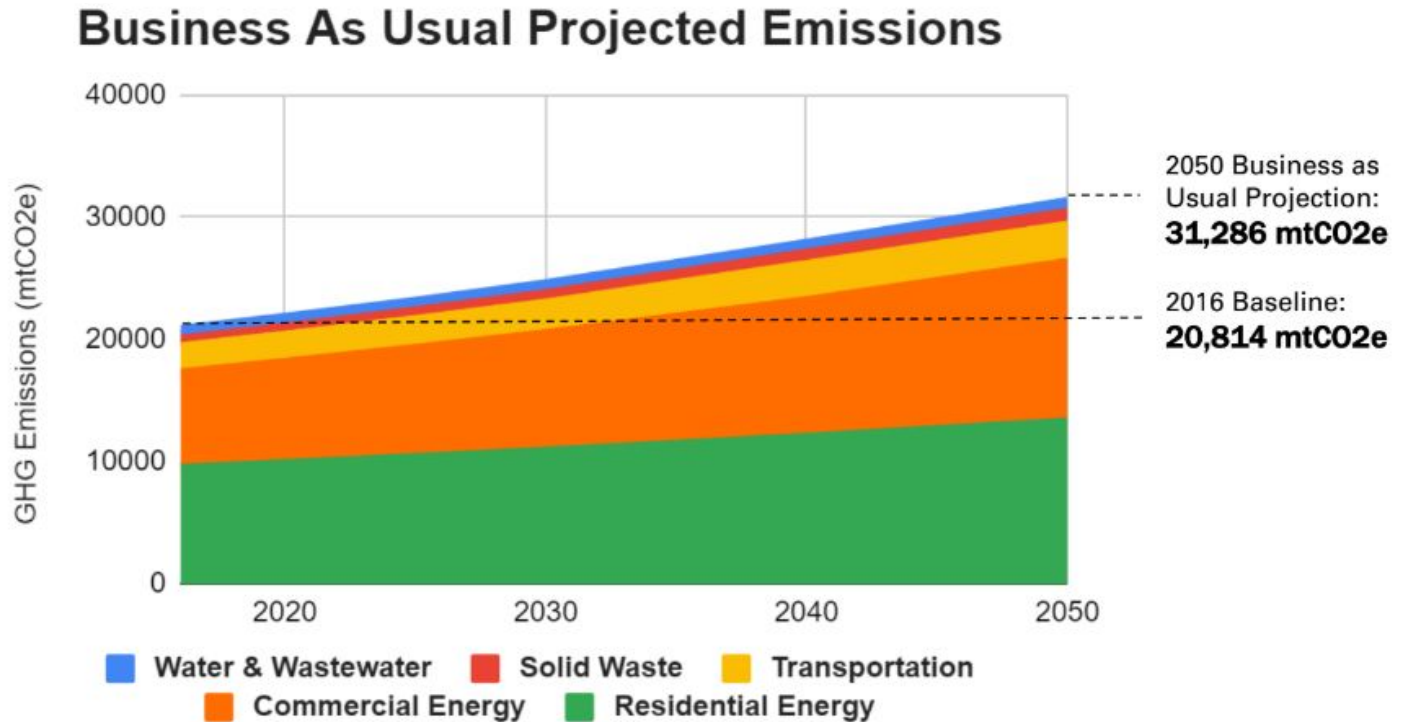
Service Highlights

Community Greenhouse Gas Inventory



- Residential Energy
- Commercial Energy
- Transportation
- Solid Waste
- Water & Wastewater

Community Greenhouse Gas Inventory



Catch the Rain

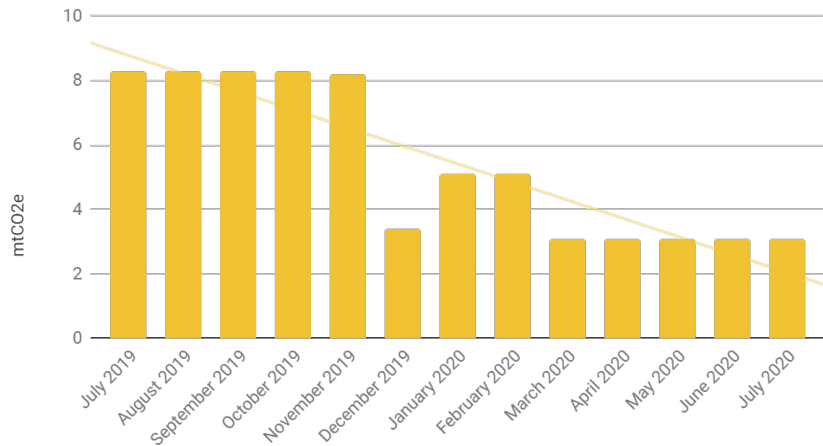
51 barrels
for
36 households



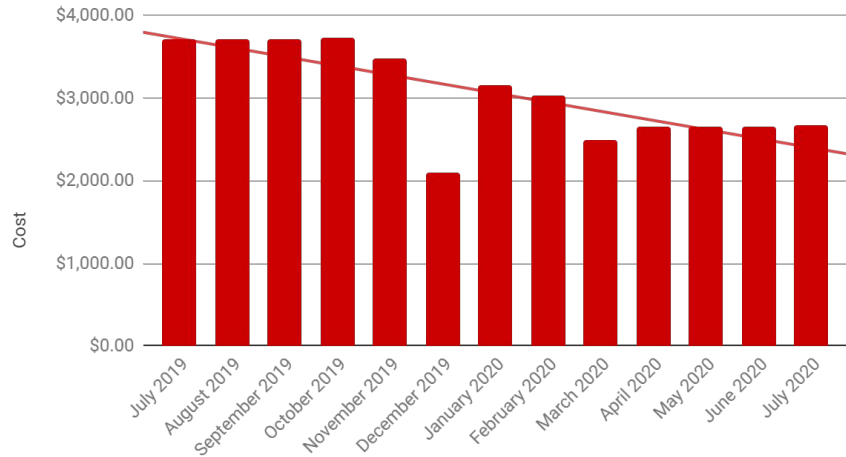
Citywide LED Retrofit



Greenhouse Gas Emissions from All Streetlights



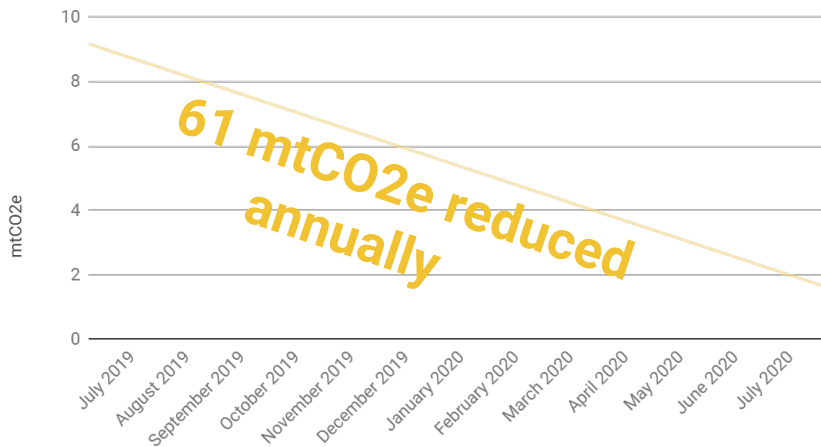
Electricity Cost for All Streetlights



Citywide LED Retrofit



Greenhouse Gas Emissions from All Streetlights



Electricity Cost for All Streetlights





Cost
Savings



City Facility Upgrades

- Citywide LED Retrofit - 2020
- Library Solar Panels - 2019
- Programmable Thermostat - 2019
- Occupancy Sensors - 2019
- Lions Park LED Retrofit - 2019
- Window Replacements - 2018
- Attic Insulation - 2018
- Grant Well and WWTP VFDs - 2018
- LED Building Retrofit - 2017
- LED Streetlight Retrofit - 2016

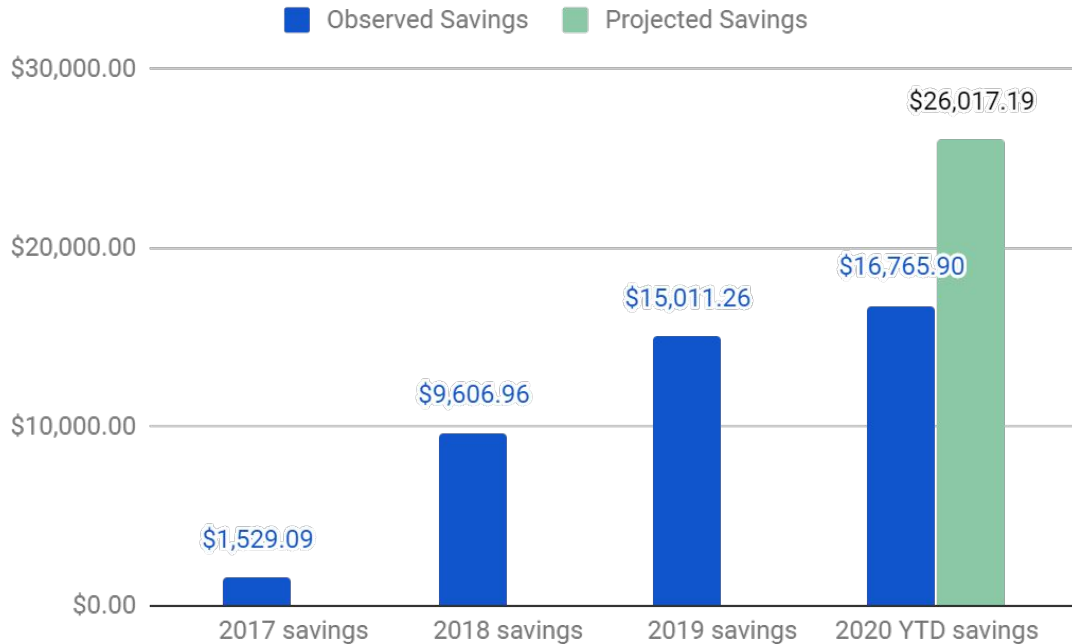




Cost Savings from Energy Projects

Project Location	Pre-Project Cost	2017 Cost	2018 Cost	2019 Cost	2020 January-July Cost	Pre-Project January-July Cost
City Hall and Police Station	\$ 6,318.26	\$ 5,984.26	\$ 5,760.26	\$ 5,566.14	\$3,600.63	\$3,977.59
Public Works Shop	\$ 6,387.29		\$ 6,255.29	\$ 5,418.32	\$3,454.78	\$4,204.72
14 Decorative Street Lights	\$ 1,701.63	\$ 506.54	\$ 519.67	\$ 527.59	\$284.74	\$1,031.47
Lions Park Ice Rink Lights	\$ 614.69			\$ 429.57	\$117.64	\$254.04
Library Solar Panels	\$ 4,491.59			\$ 4,296.45	\$1,885.49	\$2,848.48
WWTP VFDs	\$ 59,224.00		\$ 55,045.00	\$47,917.85	\$26,462.18	\$34,090.74
Grant Well VFDs	\$ 9,839.05		\$ 6,283.05	\$9,409.33	\$5,777.68	\$6,145.61
All Streetlights	\$41,853.66				\$19,324.43	\$25,120.82
Total Cost	\$ 130,430.17	\$ 128,901.08	\$ 120,823.21	\$ 115,418.91	\$ 60,907.57	\$77,673.47

Cost Savings from Energy Projects



Total Cost Savings from Energy Projects	
2017 savings	\$1,529.09
2018 savings	\$9,606.96
2019 savings	\$15,011.26
2020 January-July savings	\$16,765.90
Total Savings as of July 2020:	\$42,897.21

Project	\$ Energy Corps Brought In for City
Solarize Campaign	\$ 4,350.00
Library Solar Panels	\$ 28,000.00
WWTP VFD	\$ 5,000.00
Grant Well VFD	\$ 2,500.00
Lions Park Lights	\$ 14,063.00
EV Charging Stations	\$ 15,130.00
City Hall & PS Retrofit Rebate	\$ 5,309.00
14 Decorative Lights Replacements/Rebates	\$ 990.00
Total	\$ 75,342.00

COST TO CITY

Project Costs to City	
Occupancy Sensors	\$949.18
Programmable Thermostats	\$198.75
Lion's Park LED Retrofit	\$1,547.00
Window Replacements	\$18,385.00
Grant Well VFD	\$5,732.00
Attic Insulation	\$882.35
WWTP VFDs	\$44,614.15
LED Building Retrofit	\$16,711.87
Library Solar	\$0.00
Citywide LED Retrofit	\$0.00
total project costs:	\$89,020.30
Energy Corps Match Requirement 2015-2020	
2015	\$ 11,500.00
2016	\$ 11,500.00
2017	\$ 11,500.00
2018	\$ 11,500.00
2019	\$ 11,500.00
total matching costs:	\$ 57,500.00
TOTAL CITY INVESTMENT:	\$ 146,520.30

VALUE

Energy Corps Value 2015-2020	
Grants, Rebates and Donations for Projects	\$ 75,342.00
Documented Project Energy Savings	\$42,897.21
Total	\$ 118,239.21



At A Glance

Total City Investment: **\$ 146,520.30**

Value of Energy Projects as of 7/20:
\$ 118,239.21

Difference: **\$ 28,281.09**



At A Glance

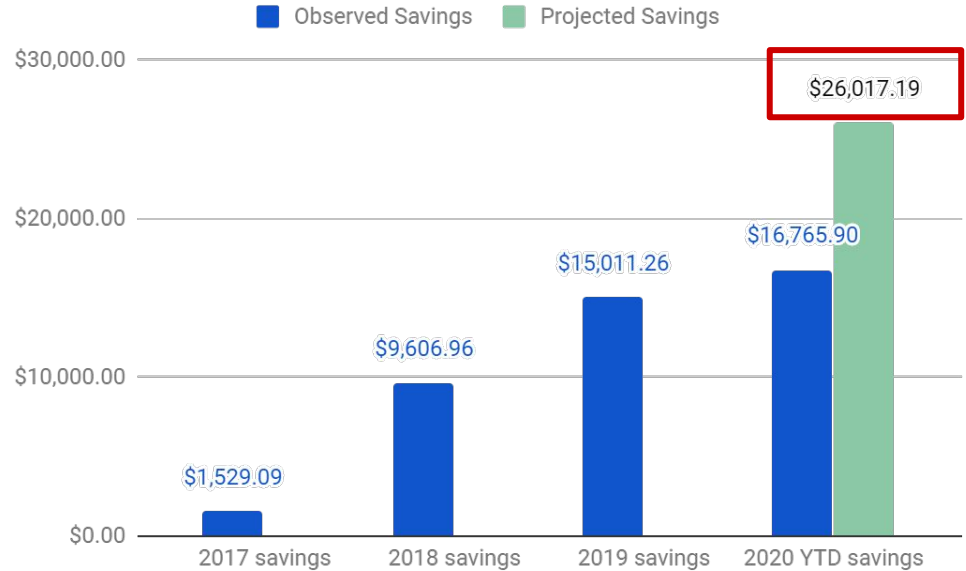
Total City Investment: **\$ 146,520.30**

Value of Energy Projects as of 7/20:
\$ 118,239.21

Difference: **\$ 28,281.09***

***1.09 year estimated payback period**

Cost Savings from Energy Projects





Unfinished Business

Remaining Tasks:

Solar Arrays for City Buildings

Goal – To reduce energy costs for City buildings.

o Work with Sustainability Board Committee to:

- Advertise an RFP and select an installer for an array on City Hall and Police Station.
- Research grants and other funding opportunities to install 5kW of solar annually.
- Conduct an Education, Outreach, and Fundraising Campaign

o Oversee and advertise the physical retrofit, track and celebrate the project.

Carry out Strategies in Energy Conservation Plan

Goal – Realize the carbon reduction goals set out in the Energy Conservation Plan.

o With the help of the Sustainability Board, implement the following:

- Occupancy Sensors at City Hall, Police Station, and Public Works
 - Electronics training of City employees
 - Install 5kW of renewable energy annually
 - Increase average vehicle fuel efficiency. This starts with a lifetime cost analysis of existing City vehicles.
- o City: Work to get strategies and projects budgeted each year.
- o City: Ensure an ICLEI membership, or other emissions tracking software, is budgeted in FY 2021-2022.
- o City: Conduct another City Baseline Assessment in 2022 for the calendar year 2021.

o City: Monitor progress and update the Energy Conservation Plan as needed.

Energy Conservation for City Buildings and Facilities

Goal – Reduce energy use at City facilities and save money.

o Upgrade light fixture at Pride Park to LED.

o Work with City staff to identify energy conservation measures that can be implemented.

o Install a new heating system and energy efficient window in the Police Station garage.

o Research additional energy conservation activities that could be conducted in City Facilities, such as Solar Bees at the wastewater treatment plant.

* LED Retrofit for Streetlights

Goal - To reduce energy costs to the City and save energy

* Retrofit the Pride park lights to LED

* Identify any other city-owned streetlights that could be retrofitted

* LED Retrofit for City Buildings

Goal - To reduce energy costs for City buildings. To improve working conditions impacting safety in Police Garage and Public Works shop.

* Identify any other lights in City buildings that could be retrofitted to meet the goal of converting every City light to LED

* Ensure that WWTP/WTP has been completed, rebates applied for from NWE, and promised monies obtained.

Earth Day

Goal – Publicize energy and conservation activities in Red Lodge and support Earth Day.

o Work with local organizations to conduct an Earth Day event every year.

Sustainability Board Responsibilities: These tasks and projects will be implemented by Sustainability Board members with support from City staff only as needed.

Electric Vehicle Charging Stations:

Goal -- To ensure the stations operate on a sustainable basis over time.

o Work with the Chamber and other groups to research additional marketing opportunities to increase electric car visitors.

o Work with the Public Works Director and the Carbon County Arts Guild snow plowing company to ensure the chargers are properly plowed out during winter.

o Determine feasibility of updating or upgrading to a supercharger facility

Community Greenhouse Gas Inventory

Goal – Support the creation of a Community Energy Conservation Plan.

o If spearheaded and supported by entities outside the City, aid community groups with the creation of a Community Energy Conservation Plan using the Red Lodge Community Greenhouse Gas Inventory.

Catch the Rain Campaign

Goal – To encourage residential stormwater diversion, water conservation, and green scaping.

o Work with King's Cupboard to obtain donated 55 gallon food-grade drums.

o Apply to the River Network Rain Barrel Workshop Grant in fall 2020.

o Conduct a 2021 Catch the Rain Campaign based on learnings from 2020.

Recycling Education and Outreach

Goal – Increase the awareness and importance of recycling and diverting waste from the waste stream.

o Assist with the tasks for the annual electronic recycling event conducted by REWIND (Recycle Electronic Waste Into New Devices).

o Work with CCRC's Red Lodge Zero committee to increase the waste diversion rate of businesses.

o Assess the feasibility of a waste audit program for businesses with Recycle Red Lodge.

Bike Share Program for Tourists and Locals

Goal – Provide active transportation options for Red Lodge residents and visitors and reduce motor vehicle traffic in the downtown area.

o Use Pedal Power as a pilot program and watch for what succeeds and what needs to be changed with assistance from the Spoke Wrench.

o Work to expand Pedal Power to the entire community gradually and in a cost-effective manner.

o Research potential grants for bike share infrastructure.

o Make sure Pedal Power bikes are transported to the Red Lodge Area Community Foundation for community use during the summer season.

o Assist BRTA with creation of and marketing for an interactive map with biking/hiking trails in the City.

Solarize 59068

Goal – To implement a solar energy group-purchasing program for residents in Red Lodge to decrease installation costs and increase the amount of solar on private homes and businesses.

o Track any lasting effects of the 2019 campaign on the general solar market in Red Lodge.

o Assess the feasibility of a 2021 campaign with the Carbon County Resource Council.

o If feasible, conduct a 2021 Solarize campaign.

Composting

Goal – Establish a community composting program.

o Help determine how to bring yard waste composting to town, focusing on private entities rather than City run compost.

Bee City USA

Goal – Designate Red Lodge as the first Bee City in Montana.

o Help the Parks Board implement the tasks and projects associated with Bee City.

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Thank You Sustainability Board!



- Energy Performance Contracting
- Community Climate Action & Resilience Planning
- Energy Conservation Plan Implementation

THANK YOU

