



Energy Corps City Council Update

February 25, 2020
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Cost Savings Update

Project Building	Pre-EnergyCorps Cost (2016)	2017 Savings	2018 Savings	2019 savings	Total Savings
City Hall and Police Station	\$ 6,318.26	\$ 334.00	\$ 558.00	\$ 752.12	\$ 1,644.12
Public Works Shop	\$ 6,387.29	na	\$ 132.00	\$ 968.97	\$ 1,100.97
14 Decorative Street Lights	\$ 1,701.63	\$ 1,195.09	\$ 1,181.96	\$ 1,174.04	\$ 3,551.09
Lions Park Ice Rink Lights	\$ 614.69	na	na	\$ 185.12	\$ 185.12
Library Solar Panels	\$ 4,491.59	na	na	\$ 195.14	\$ 281.22
Total					\$ 6,762.52

Cost Savings Update

Project Building	Pre-EnergyCorps Cost (2017)	2018 Savings	2019 savings	Total Savings
WWTP VFDs	\$ 59,224.00	\$ 4,179.00	\$11,306.15	\$ 15,485.15
Grant Well VFDs	\$ 9,839.05	\$ 3,556.00	\$429.72	\$ 3,985.72
Total				\$ 19,470.87

Carnegie Library SunPower

*Projected Annual MWh Production - **14 MWh***

August 2019-February 2020 MWh: **3.4 MWh**

*Projected Annual Cost Savings - **\$1,773***

August 2019-February 2020 Cost Savings: **\$356.84**

*Projected Annual CO2 Emission Saved: **21,823 lbs CO2e***

August 2019-February 2020:



Perspective Check:

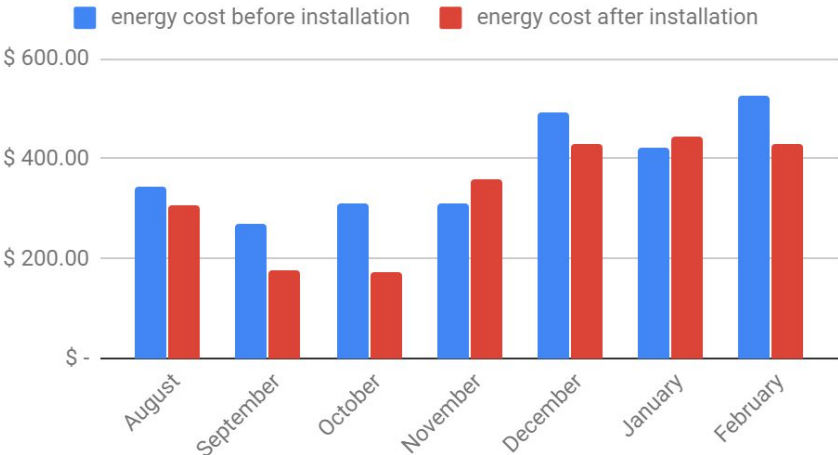
In 2016, the City of Red Lodge's operations were responsible for **1,910 metric tons** of carbon dioxide equivalents (mtCO2e).

In 2018, the City adopted a goal to reduce these emissions by **10% by 2021** and **50% by 2040**.

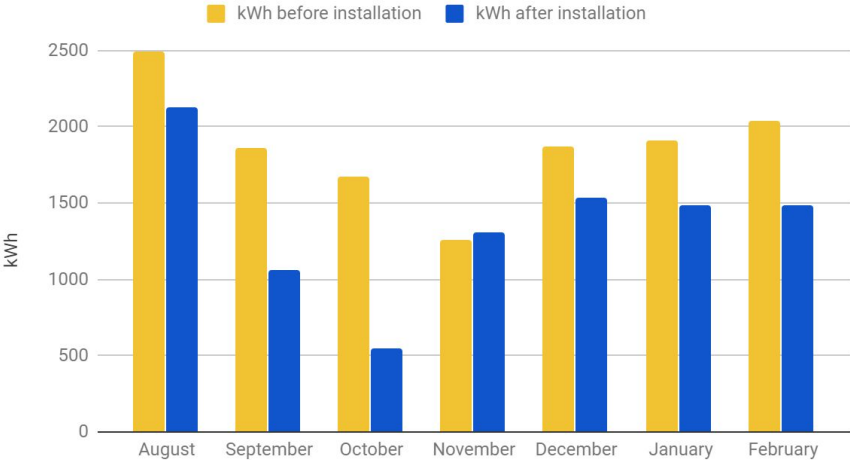
If the array performs as expected, by 2021 the array will have reduced the City's emissions by **21.6 metric tons**, or **1%** of the City's 2016 level of emissions.

Carnegie Library SunPower

Carnegie Library SunPower Cost Savings



Carnegie Library SunPower Energy Savings



Carnegie Library SunPower



February 2020



August 2019

LED Retrofit for Streetlights

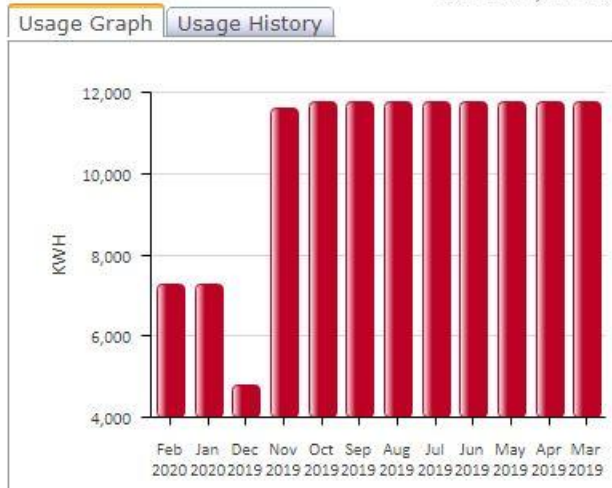
- NorthWestern Energy LED Retrofit
 - 148/236 utility-owned lights have been retrofitted to LED by NorthWestern Energy.
 - **Annual Projected Savings:**
 - **Cost: \$9,000**
 - **Electricity: 86,388 kWh**
 - **Emissions: 61 mtCO2e**
- City-Owned Lights
 - Replaced the 19 bulbs that were out on 3rd-8th streets on Broadway, applied for rebates
 - Monitoring Lion's Park LED retrofit energy and cost savings
 - Cost/Benefit Analysis for Pride Park



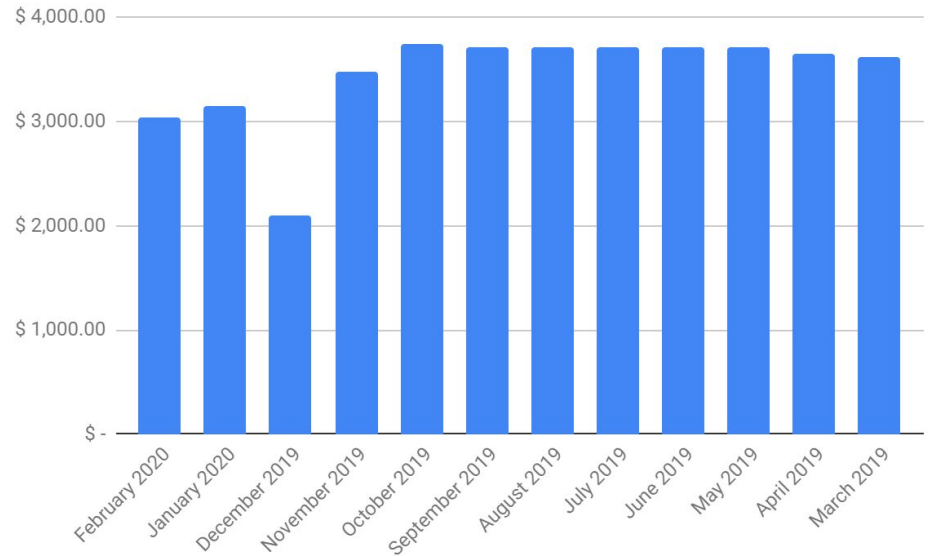
Above: Replacing City-owned bulb with a 3000k LED on the corner of 8th and Broadway

	Cost Savings*	kWh Savings*	CO2 lbs Reduction*
December	\$1,383.19	7,001	4,661
January	\$373.66	4,506	3,000
February	\$468.32	4,506	3,000
Totals:	\$2,225.17	16,013	10,661

kWh Usage of All Streetlights



Cost of All Streetlights



*after 148/236 lights have been installed

Sustainability Board

Corey Thompson: Chair

Wanda Thomas: Vice-Chair

The purpose of the City of Red Lodge Sustainability Board is to assist the Mayor, City Council, and City staff in implementing the strategies of the City of Red Lodge [Energy Conservation Plan](#). The overall goal of the Energy Conservation Plan is to reduce the City government's energy use, energy costs, and greenhouse gas emissions.

<http://cityofredlodge.net/sustainability-board/>



Solarize 59068

- **\$4,535.00** of funding from DEQ
- **8** Outreach Events & Strategies
- **111** Free Site Assessments Completed
- **25** Contracts Signed
- **120** kilowatts of power installed
- **221,343** pounds of CO2 emissions prevented annually
- **\$17,111** of total estimated value annually for homeowners
- **\$2,000+** in permitting fees to the City of Red Lodge Building Department



Water Bottle Filling Station

- All funds have been raised, machine has been ordered and is currently in the Public Works Shop
- Location: near the ATM at the corner of 11th and Broadway
- Installation to take place this spring
- Assisting RYLA students with marketing and filling in details as needed



Earth Day 2020*

April 25th, 2020

Parks Clean-Up: **10am** Skate Park

Block Party: **12pm-3pm** Lion's Park

Passive House Tour: **4pm** 93 W Palisade
Basin Dr

*in the works: free movie at Roman
Theater earlier in the week, Earth Day Trivia
Night



Rain Barrel Workshop



- Organized by Energy Corps member with Sustainability Board support
- King's Cupboard has donated 30 drums
- Applied to River Network, Lion's Club, and Pro Cut Green Fund grants
- Workshop date is **May 16th**

Other Duties

- EV Charging Stations
- LED Retrofits for City Buildings
- Community Greenhouse Gas Inventory
- Energy Conservation for City Buildings
- Bee City USA
- Energy Monitoring
- City Representative on:
 - Carbon County Resource Council
 - Beartooth Front Community Forum
 - Recycle Red Lodge
- High School Green Team Co-Advisor
- Bike Share Program
- Community Composting
- City Website Sustainability Page upkeep

Energy Corps Connections Developed

Red Lodge Groups

A&S
Beartooth Electric Co-Op
Beartooth Front Community Forum
Bee City USA
Carbon County Resource Council
King's Cupboard
Library Board
Material Girls of Red Lodge
Parks, Trees, and Recreation Board
Recycle Red Lodge
Red Lodge Chamber of Commerce
Red Lodge Electric
Red Lodge Zero Committee
Refills Not Landfills
REWIND
RLACF
RLHS Green Team
Roosevelt Center
Solarize Ambassadors
Sustainability Board
Yellowstone Wildlife Sanctuary

Other Montana Groups

AERO
City of Bozeman
City of Great Falls
City of Missoula
City of Whitefish
Climate SMART Montana
Montana Health Professionals for a Healthy Climate
Montana Renewable Energy Association
National Center for Appropriate Technology
Northern Plains Resource Council
NorthWestern Energy
Yellowstone Valley Citizens Council

Out of State/National Groups

NLine Energy
Cushing Terrell
DEQ
Mountain Pact
River Network

Sustainability

[Home / Sustainability](#)

Red Lodge is a small mountain town defined by values of community and environmental quality. Because of this, The City of Red Lodge has long been committed to environmental protection and sustainability. In order to achieve these goals, the City employs an Energy Corps AmeriCorps member to coordinate energy and sustainability related projects.

The Energy Corps AmeriCorps project is an initiative of the National Center for Appropriate Technology (NCAT) in cooperation with The Corporation for National and Community Service. It was created to address unmet community energy needs by promoting sustainable energy consumption and education, fostering community sustainability and helping to mitigate the effects of global climate change.

Sustainability

[› City Council Reports](#)[› City of Red Lodge](#)[› Energy Analyses](#)[› Energy Conservation Plan](#)[› How to Go Solar](#)[› Projects](#)[› Resources](#)[› Sustainability Board](#)

Like Red Lodge Recycling on Facebook!

Energy Corps City Council Update, 2/25

Project	2019-2020 Energy Corps Project Goals	February 25th, 2020 Progress Report
EV Charging Stations	Ensure the stations operate on a sustainable basis over time.	Added non-Tesla Charger Stations to four locator websites and worked with Chamber of Commerce to create an EV Charger Station page on redlodge.com
Solar for City Buildings*	Reduce energy costs for City buildings, install 5 kW of renewable energy annually.	<p>Library SunPower 11.45 kW array installed. In its lifetime (roughly 6 months) the array has produced 3.47 MWh, saved 5,370.95 lbs of CO2, and planted the equivalent of 135 trees.</p> <p>USB Grant applied for 2.6 kW array on Recycling Center building, but it was not approved due to insufficient funding from NWE.</p> <p>Planning on applying to USB grant for City Hall/Police Station Solar by 5/1.</p>
LED Retrofits for Streetlights*	Reduce energy costs to the City and save energy.	<p>148 out of 234 utility-owned lights are installed, monitoring energy/cost savings and once installation is complete, will market/celebrate.</p> <p>Working with NWE to obtain GPS data of utility-owned lights to add a City GIS layer with streetlight information.</p> <p>Worked with Public Works director to choose replacements for the 19 city-owned bulbs that were out on Broadway, applied for rebates.</p>
LED Retrofits for City Buildings	Reduce energy costs for City buildings, improve working conditions impacting safety.	Going to oversee retrofits at Water Treatment and Wastewater Treatment Facilities this year. Currently monitoring energy from 9 WTP/WWTP accounts.
Community Greenhouse Gas Inventory	Provide baseline data for use in a future Community Energy Conservation Plan.	Community Greenhouse Gas data has been compiled and analyzed, currently working on the write-up to share with interested groups.
Implement Energy Conservation Plan*	Realize the carbon reduction goals set out in the Energy Conservation Plan: 10% reduction by 2021, 50% reduction by 2040.	<p>Non-voting member of the Sustainability Board. 6 meetings have been held, bylaws adopted and officers elected. 3 solar PV system projects added to CIP (ECP FBS-5) as well as other recommendations to decrease the carbon footprint of projects and ensure energy efficiency/sustainability.</p> <p>Hosting Rain Barrel Workshop, 'Just Add Water,' on May 16th (ECP WW-6). Applied to the Red Lodge Lion's Club for grant funding.</p>

Project	2019-2020 Energy Corps Project Goals	February 25th, 2020 Progress Report
Solarize 59068 Campaign*	Wrap up and celebrate this solar energy group-purchasing program for Red Lodge residents.	Program finished, survey sent out to participants, results written up into post project report, and report and other campaign information shared with other communities.
Energy Conservation for City Buildings	Reduce energy use at City facilities and save money.	Bid obtained from A&S to upgrade police garage furnaces, budgeting insulation of City Hall boiler pipes and police garage door, providing the Garden Club with a Pride Park LED retrofit cost analysis (bid from Sgrig's obtained).
Water Bottle Filling Station*	Fund and install the Water Bottle Filling Station proposed by the 2018 Rotary Youth Leadership Awardees (RYLA).	Project is fully funded. Machine ordered and stored in the Public Works Shop, it will be installed in spring. Need to oversee construction, signage, and grant funding recognition.
Bee City USA	Designate Red Lodge as the first Bee City in Montana.	Met with Courtney Long, will represent the City on the Bee City USA Taskforce. Resolution to City Council is being proposed.
Recycling	Increase the awareness and importance of recycling and diverting waste from the landfill.	Representing the City on the Recycle Red Lodge Board, assisting as needed. Will assist with tasks as needed for the REWIND annual electronic recycling event.
Compost	Establish a community composting program.	Working with Carbon County Resource Council and Red Lodge Zero committee.
High School Green Team Co-Advisor	Assist Red Lodge High School Green Team with their yearly projects as the Co-Advisor.	Attending biweekly meetings, assisting as needed.
Earth Day*	Organize an Earth Day celebration in conjunction with the Parks Clean-Up and community groups.	Spearheading planning for the Block Party 12pm-3pm at Lion's Park on Saturday, April 25th, 2020. This will follow the Park Board Clean-Up 10am-12pm that starts at the Skate Park.
Bike Share Program	Provide active transportation options for Red Lodge residents and visitors, and reduce motor vehicle traffic in the downtown area.	Working with the Green Team and the Spoke Wrench to determine feasibility.
City Website Sustainability Page	Expand public awareness of the City's energy conservation projects.	Updated links and page layouts to be more accessible for visually impaired people. Monitoring and updating projects as needed. Uploading Sustainability Board agendas, minutes, bylaws, etc...

***to be discussed in more detail in 2/25 City Council Update Presentation**