



# POST PROJECT REPORT

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Thanks to the following partners:

Solarize Ambassadors  
Solarize Coalition  
City of Red Lodge  
Sundance Solar

Altanta Federal Credit Union  
CCRC  
RLACF  
DEQ/MSCP

....and thanks to all those who otherwise helped, responded to the survey, or signed contracts!

## **Solarize 59068 at a glance...**

In 2019 the City of Red Lodge Sustainability Coordinator and Energy Corps member, Kathryn Eklund, ran a Solarize campaign with the help of community partners for all residents and businesses that fell within the zip code 59068. The program utilized a DEQ/MSCP grant and partnered with Sundance Solar as the program contractor to provide free site assessments and special group pricing for solar installations. The window to participate was April 3rd - August 23rd, 2019.

This post-project report will cover results from a survey sent out to Solarize 59068 participants as well as a general overview of program details for any solar-curious communities to use as a reference.

# BACKGROUND



The City of Red Lodge has committed to making renewable energy installations a reality for City-owned buildings and streamlining the process of going solar for Red Lodge area residents.

In October 2018, the City formally adopted the Energy Conservation Plan in an effort to reduce greenhouse gas emissions from City operations by 50% of 2016 levels by 2040. One of the main strategies to meet this goal involves installing at least 5kW of renewable energy annually on buildings owned by the City.

The City of Red Lodge has also received a silver designation as a SolSmart community. This award was achieved in recognition for the efforts the City has made to streamline the permitting process of going solar for its residents as much as possible.



So why lead Solarize 59068?

## **SPECIAL GROUP PRICING**

Solarize 59068 worked with Sundance Solar to secure a special group pricing rate for people who participated in the program.

## **LAST YEAR TO RECEIVE FULL FEDERAL TAX CREDIT**

The federal government provides an investment tax credit that allows one to subtract 30% of the solar system cost from taxes. However, 2019 was the last year it's available at this rate. After 2019 the tax credit decreased, and in 2021 it expires.

## **NORTHWESTERN ENERGY RATE CASE**

NorthWestern Energy submitted a rate case to the Public Service Commission (PSC) that could have drastically reduced the cost-savings that solar panels produce. In November 2019, after Solarize 59068 finished, the PSC unanimously rejected this proposal.

This project was funded wholly or in part by the U.S. Department of Energy (DOE) under assistance agreement EE0007672 to the Montana Department of Environmental Quality (DEQ). The contents of this document do not necessarily reflect the views and policies of DOE or DEQ, nor does DOE or DEQ endorse trade names or recommend the use of commercial products mentioned in this document.

# AT A GLANCE



**\$4,535.00** of funding from DEQ for the campaign plus **\$3,036.87** worth of in-kind volunteer hours

**8** Outreach Events & Strategies

**111** Free Site Assessments Completed

**25** Contracts Signed

**381** solar modules installed

**120** kilowatts of power installed

**221,343** pounds of CO<sub>2</sub> emissions prevented annually... the equivalent of driving about 246,000 miles less per year

**\$17,111.00** of total estimated value annually for homeowners who installed solar systems

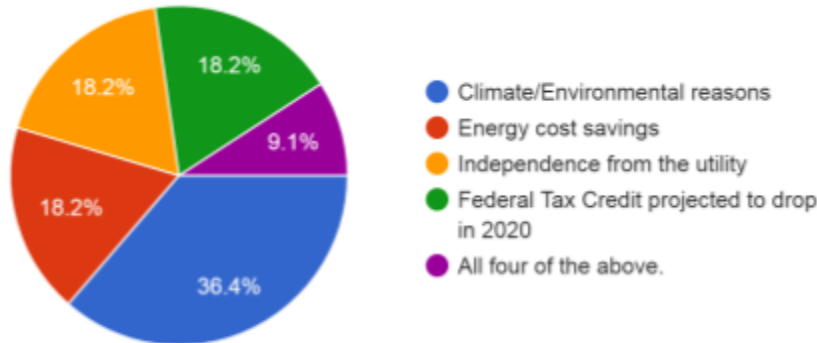
**33** Post-Project Survey Respondents

# SURVEY RESULTS: CONTRACTS SIGNED

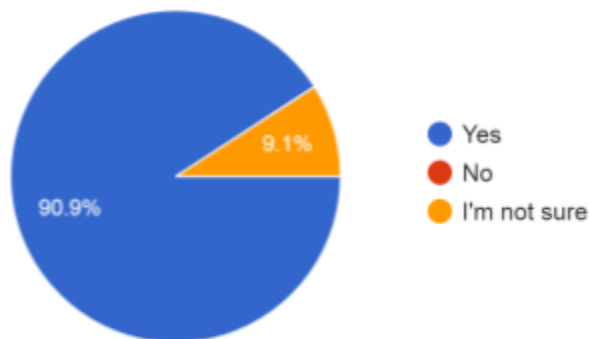


Of the 25 households who signed contracts to install solar, **11** responded to the follow up survey. Here are their responses.

## WHY THEY DECIDED TO INSTALL



## THE SYSTEM IS PERFORMING AS EXPECTED



## POSITIVE EXPERIENCES

Henry is always very professional, willing to explain what options are available and answer questions."

"Henry was quick on the install, NW Energy was faster than expected on the installation of the net meter"

"Start to finish was quick and efficient"

"Solar installation very professional."

"I LOVE to see the kilowatt hours being "banked"!"

"Great contractor, great price, quality installation....seamless process."

## ANALYSIS

These results suggest that motivation to install a solar system is evenly split between cost savings, federal tax credit, and utility independence - with a slight preference for climate/environmental reasons. The reality is that everyone's reasons for installing solar likely fall somewhere in the middle.

Live system performance is easy to track online, and monthly reduction in utility bills is easy to spot as well. This is reflected by the majority of respondents saying the system is performing as expected.

## NEGATIVE EXPERIENCES

"Hindsight. Due to roof configuration, more panels probably should have been put on street side of roof due to snow drifting on back side."

"Solar Installation great, had to wait on NWEnergy for net meter install."

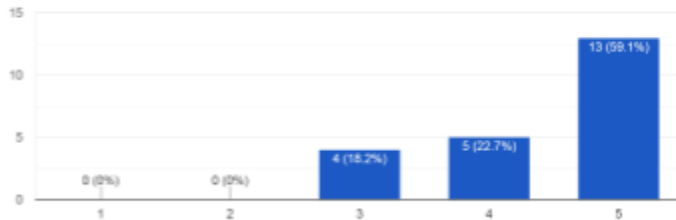
"The electrician hooking up in timely manner. 2 1/2 months."

# SURVEY RESULTS: SITE ASSESSMENTS ONLY

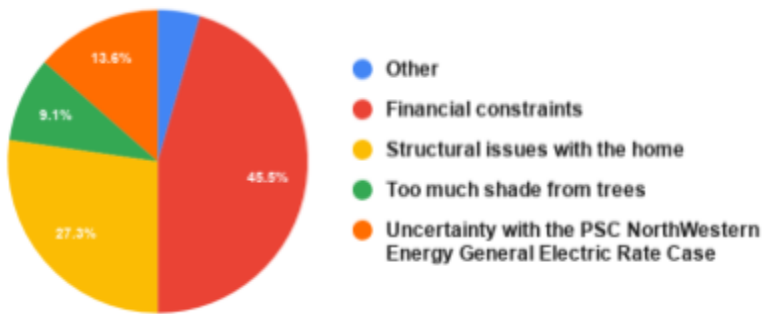


Of the 86 households that got free site assessments but ultimately decided not to install, **22** responded to the follow up survey. Here are their responses.

## OVERALL SATISFACTION WITH CAMPAIGN



## WHY THEY DECIDED NOT TO INSTALL



## THEY WOULD MOVE FORWARD WITH INSTALLING A SOLAR ARRAY UNDER THE FOLLOWING CIRCUMSTANCES...

### Financial Solutions

"If I win the lottery."

"If it was cheaper or rates were higher. Also, Henry expressed concerns that city building codes might have issues with my roof (even though he thought it would be fine)."

"Better tax credit, also we would have needed too many panels"

"Between the uncertainty in NW Energy situation, the amount of electricity our system would have generated and another major upcoming household expense this was not the right time for us to proceed, unfortunately."

"The cost was an issue since we will both be retired as of Sept. 2020"

### Structural Solutions

"If we moved to another home I would check to see if solar was a viable option."

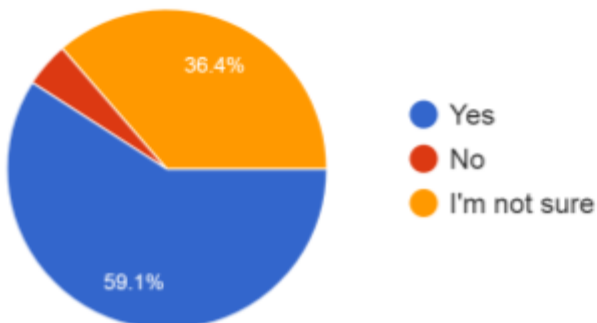
"If it was a different house!"

"Need to hire an engineer to validate our roof"

### Utility Solutions

"If NWE was as reasonable as Beartooth Electric"

## WOULD THEY PARTICIPATE IN ANOTHER SOLARIZE CAMPAIGN?



Financial constraints seem to be the biggest obstacle to moving forward with installation, although site limitations like structural issues and too much shade from trees was also a hindrance. Even though they decided not to install, the majority of respondents said they had a positive experience with Sundance Solar, learned something new about solar installation, and would participate in a future Solarize campaign.

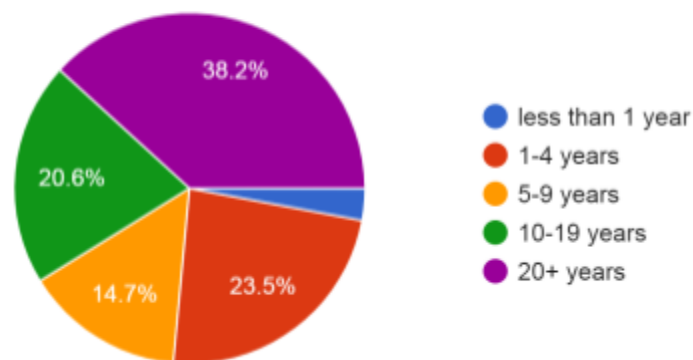
# SURVEY RESULTS: DEMOGRAPHICS



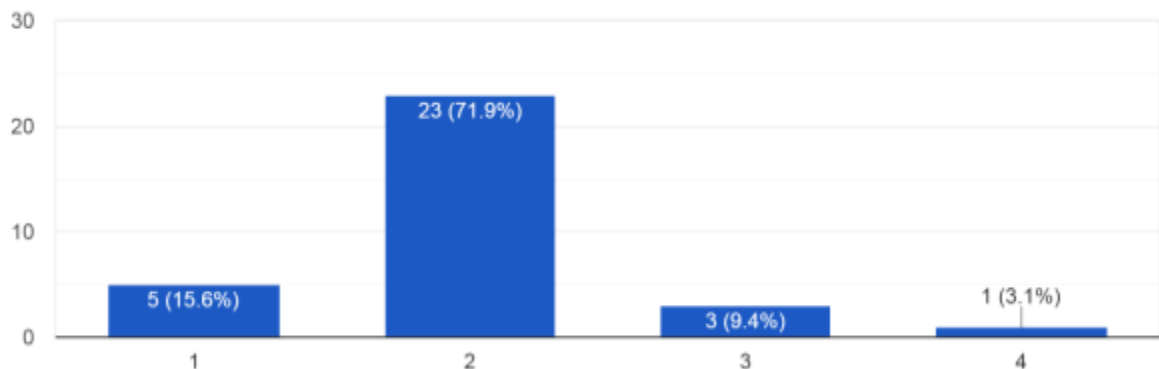
**100%** of Solarize participants own their homes.

**88%** were 55 years old or older.

## HOW LONG PARTICIPANTS HAVE LIVED IN RED LODGE



## NUMBER OF HOUSEHOLD MEMBERS



According to the 2013-2017 American Community Survey 5-year estimates, **37%** of the population of Red Lodge is 55 years old or older. Since **88%** of Solarize participants were in this age range, it suggests a relationship between age and installation of a solar system.

# TAKEAWAYS



## Summary

Originally Solarize 59068 ambassadors had a goal to help 15 households install solar systems - and we blew that goal out of the water with a final count of 25 systems installed! The price of solar installation has declined dramatically in the last 20 years, and the trend is still on the decline. This applies to both hard costs like modules and inverters, as well as soft costs like permitting.

As this trend continues, it will become increasingly feasible for residents of 59068 to incorporate solar into their energy profile and save money on their utility bills.

For comments and questions regarding this project and any future ones like it within 59068, contact the Energy Corps Sustainability Coordinator at [energycorps@cityofredlodge.com](mailto:energycorps@cityofredlodge.com).