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# Sustainability In Our Schools

**Petoskey High School Sustainability Club**  
Solar Energy Viability and Benefits

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# Our Club's Background

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# Who are We?

The Sustainability Club was originally founded by Paige Simard and other former PHS seniors in 2020.

Since then, we have:

- Hosted numerous trash cleanups
  - Connected with Michigan schools that have successfully implemented solar installations
  - Participated in various community-based solar initiatives and events
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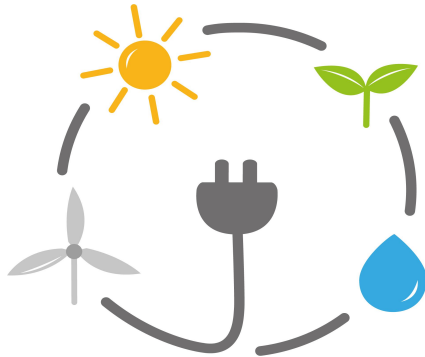
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# What Are Our Goals?

Generate Renewable  
Energy on district  
grounds



Improve Energy  
Efficiency in Petoskey  
Public Schools



Foster community  
awareness about  
sustainable initiatives





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## Steps We've Taken

- Conducted a student survey
  - Collaborated with the Climate and Clean Energy Specialist from Groundwork Center
  - Held meetings with District and City officials
  - Met with Mr. Seelye, the Superintendent of Pellston Schools
  - Connected with Utopian and Ameresco, two solar installers
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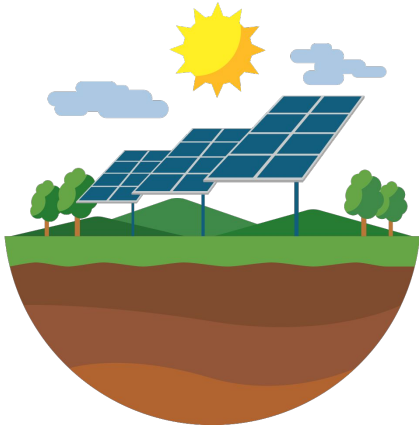
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# Community Investment

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# City of Petoskey Pledge



- City commitment to be powered by 100% renewable energy by 2035
  - The school district is one of the largest consumers in the community, consuming 3.43% of the City's electricity
  - Diversify renewable sources
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# Why Solar?

Return on  
Investment

Student  
Interest

Community  
Involvement

Career  
Exposure





## FOSSIL FUEL AND CLEAN ENERGY JOBS

As a percentage of total employment in rural areas, 2017

	JOBS IN FOSSIL FUELS	JOBS IN CLEAN ENERGY
Illinois	0.8%	2.6%
Indiana	0.9%	2.9%
Iowa	0.5%	2.5%
Kansas	2.0%	1.9%
Michigan	0.5%	4.2%
Minnesota	0.3%	3.0%
Missouri	0.4%	2.5%
Nebraska	0.5%	2.7%
North Dakota	8.0%	2.6%
Ohio	1.0%	2.0%
South Dakota	0.5%	2.5%
Wisconsin	0.2%	3.3%

SOURCES: NRDC; BW Research Partnership; Bureau of Labor Statistics

PAUL HORN / InsideClimate News

# Career Exposure

- More jobs in clean energy than fossil fuels, growing faster than national average
- Potential for future CTE Programs
- Live monitoring dashboard enables student engagement



Pellston Elementary



Select Device



Dashboard



Monitoring



Analysis



Configuration

# Energy and power - PV

Live ●

## Current power



## Overview

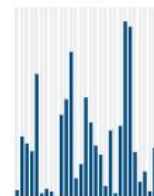
24 Hours



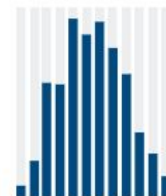
7 Days



30 Days



12 Months



Total  
2 Years + 3 Months



Day

Week

Month

Year

Total



10/02/2023



25

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# Examples in Other Schools



FLUSHING COMMUNITY SCHOOLS



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# Financial Analysis

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# Pellston's Investment

Upfront Investment: ..... \$50,000

System Size: ..... 22.7kW  
*(enough to power 3 average Michigan homes)*

Return on Investment: ..... 19.2 years

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# Inflation Reduction Act Rebate

**40%↓**

## LEGEND


### Coal Closure Energy Communities

#### Tract Status

-  Census tract directly adjoining a census tract with a coal closure
-  Census tract with a coal closure

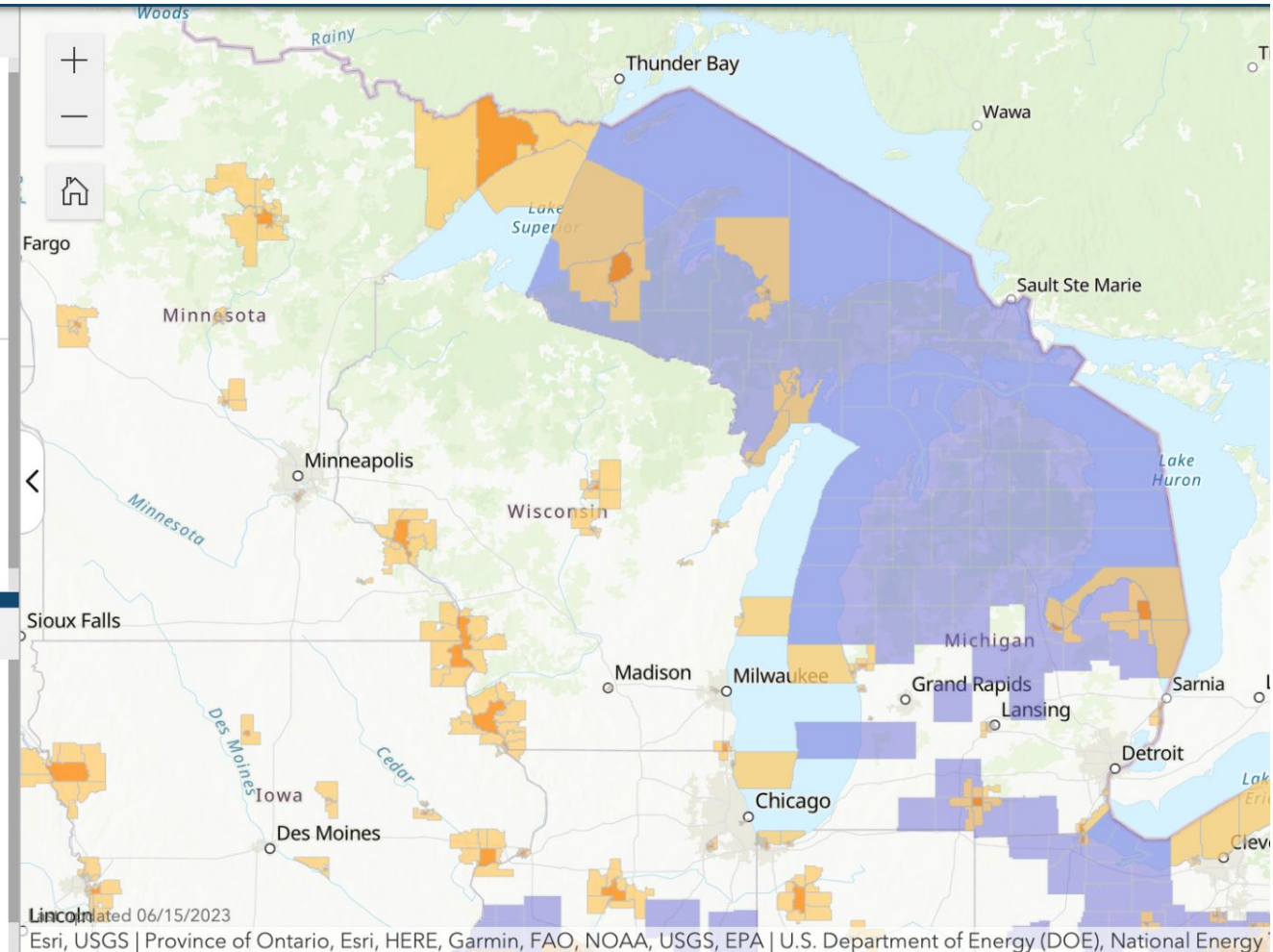
### MSA/Non-MSAs that are Energy Communities

#### Status

-  MSAs/non-MSAs that meet both the Fossil Fuel Employment (FEE) threshold and the unemployment rate requirement

## MAP LAYERS

- Coal Closure Energy Communities ...
- MSA/Non-MSAs that are Energy Communities ...
- MSAs and Non-MSAs that only meet the Fossil Fuel Employment Threshold ...



Lincoln 06/15/2023

Esri, USGS | Province of Ontario, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA | U.S. Department of Energy (DOE), National Energy

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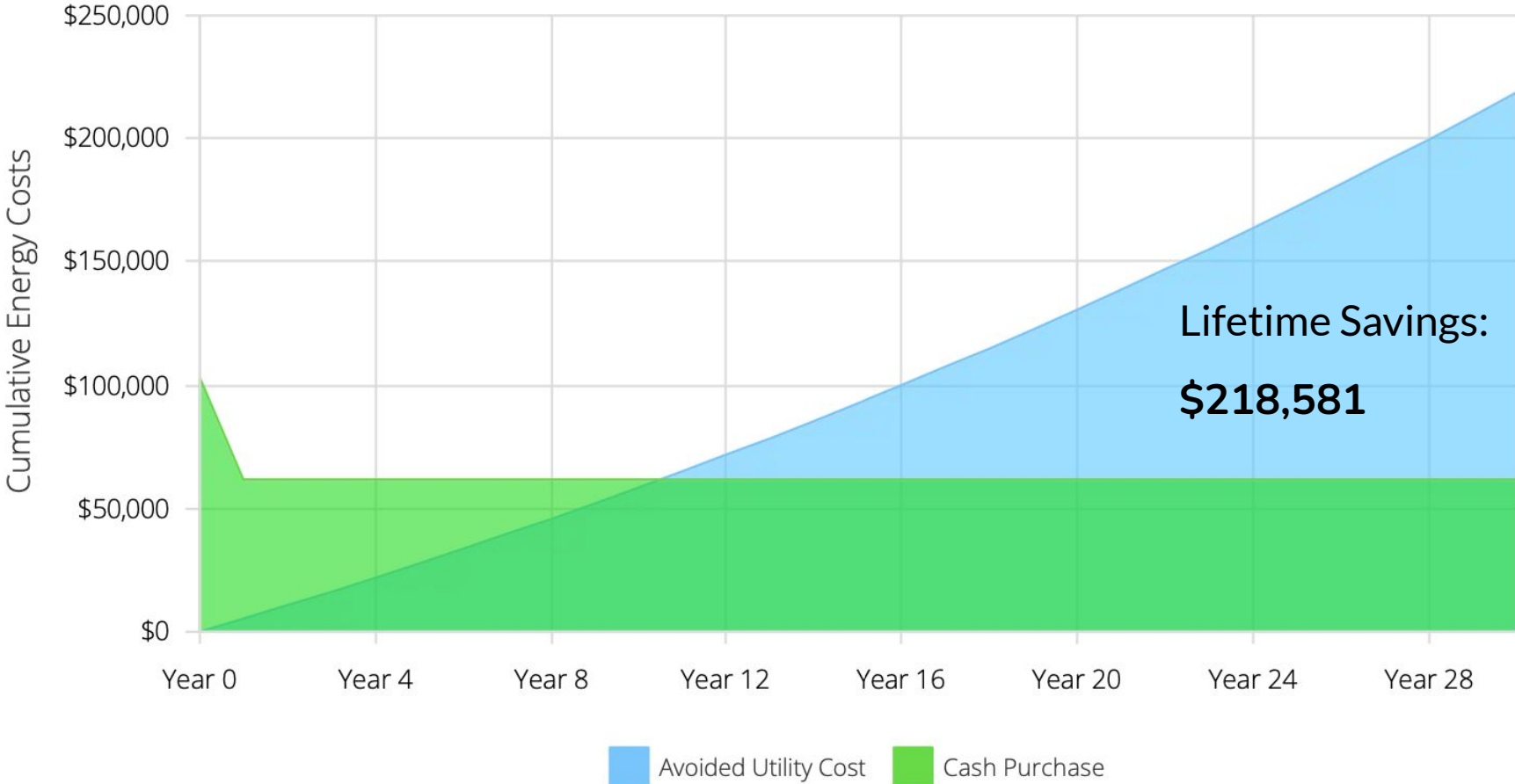
# Estimates

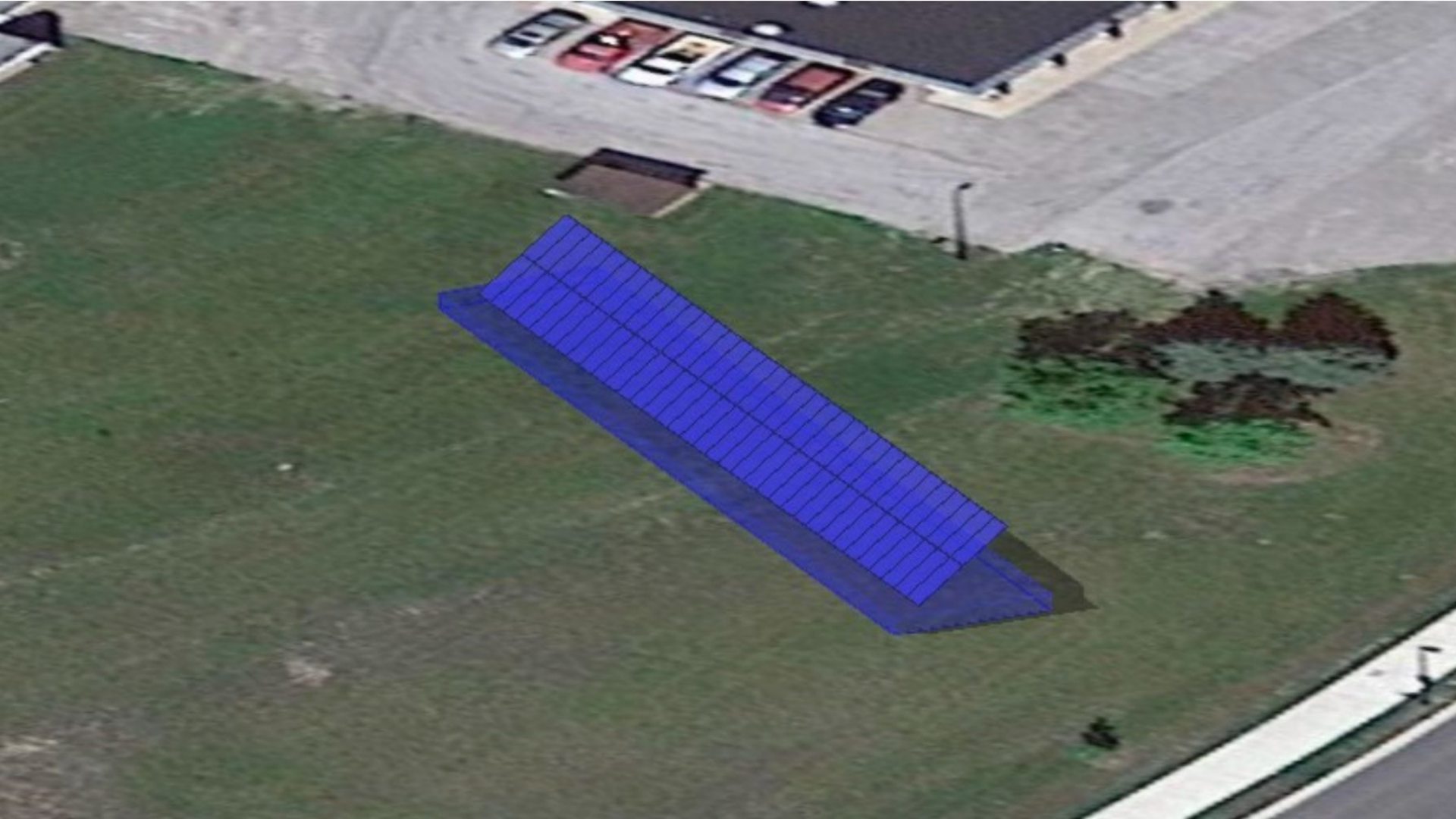
	Pellston Extrapolated (2021) (\$2.20 per watt)	Utopian Estimate (2023) (\$3.00 per watt)
Upfront Investment	\$100,000 <b>\$60,000 after rebate</b>	\$102,900 <b>\$61,740 after rebate</b>
System Size	38 kW	35 kW
Return on Investment	8.1 years	10.5 years

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# CUMULATIVE ENERGY COSTS BY PAYMENT OPTION





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# Next Steps

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## Meet in March to:

Discuss fundraising progress and issuing a Request for Proposal

Consider Launching a Matching Donation Challenge

Draft a Resolution committing to continuing solar energy projects at Public Schools of Petoskey

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# Questions?

We are available at [sustainablephs@gmail.com](mailto:sustainablephs@gmail.com)



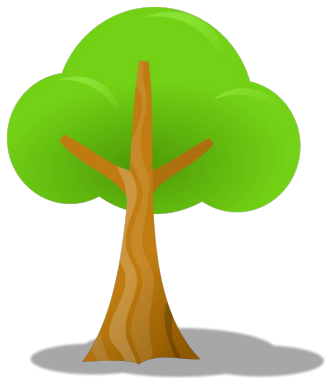
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# Solar Offsetting



- Solar offsetting eliminates the need for batteries, which reduces the cost compared to off-grid projects
- If more capacity is installed in the future, excess would be sold to the grid





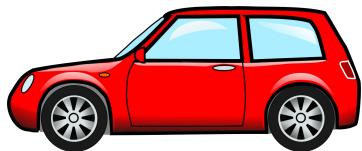
## Numbers in Perspective

**46,188 kWh per year (6 average homes)**

Preventing carbon emissions equivalent to **39 acres of forest**

Equal to **11.3 tons of waste** recycled instead of landfills

Equivalent to the emissions from **7.3 gasoline powered passenger vehicles** driven every year



Source: EPA.gov

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