
Recommendations for the Higgins Pit Solar Array

Task Force on the Climate Emergency
(2/6/2024)

Carbon Emissions Savings



The Higgins Pit solar array provides emissions savings from 1,399,000 kWh per year, or **305 tons of CO₂**.

This is equivalent to CO₂ emissions from:

34,320 gallons of gasoline consumed 



29,961 gallons of diesel consumed 



This is equivalent to carbon sequestered by:

5,043 tree seedlings grown for 10 years 



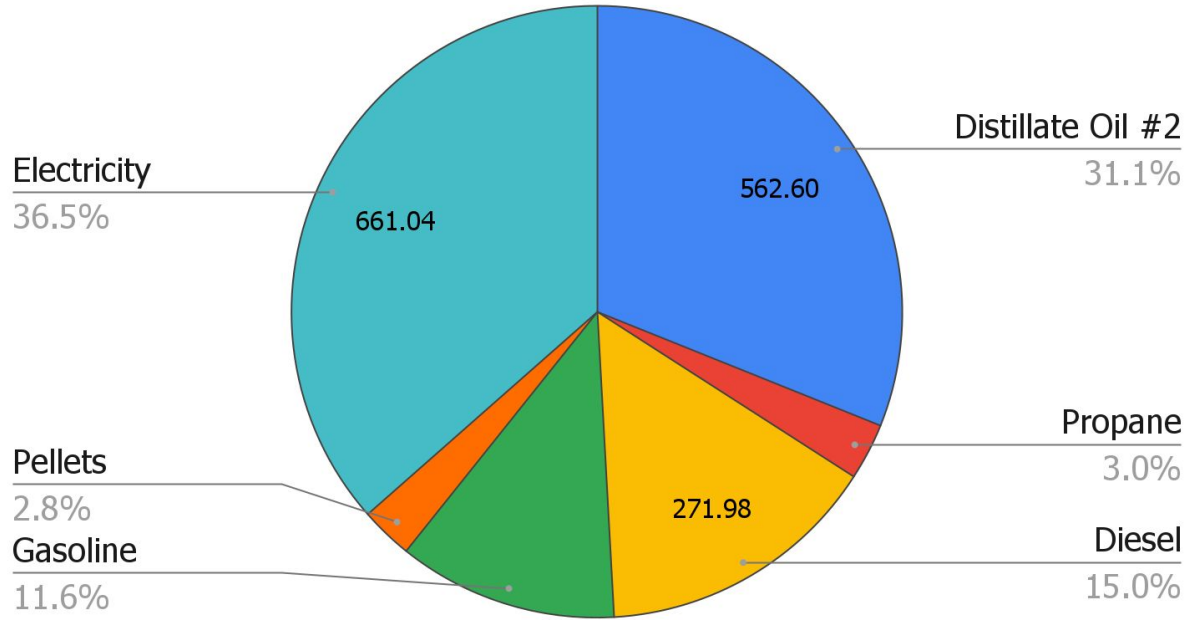
364 acres of U.S. forests in one year 



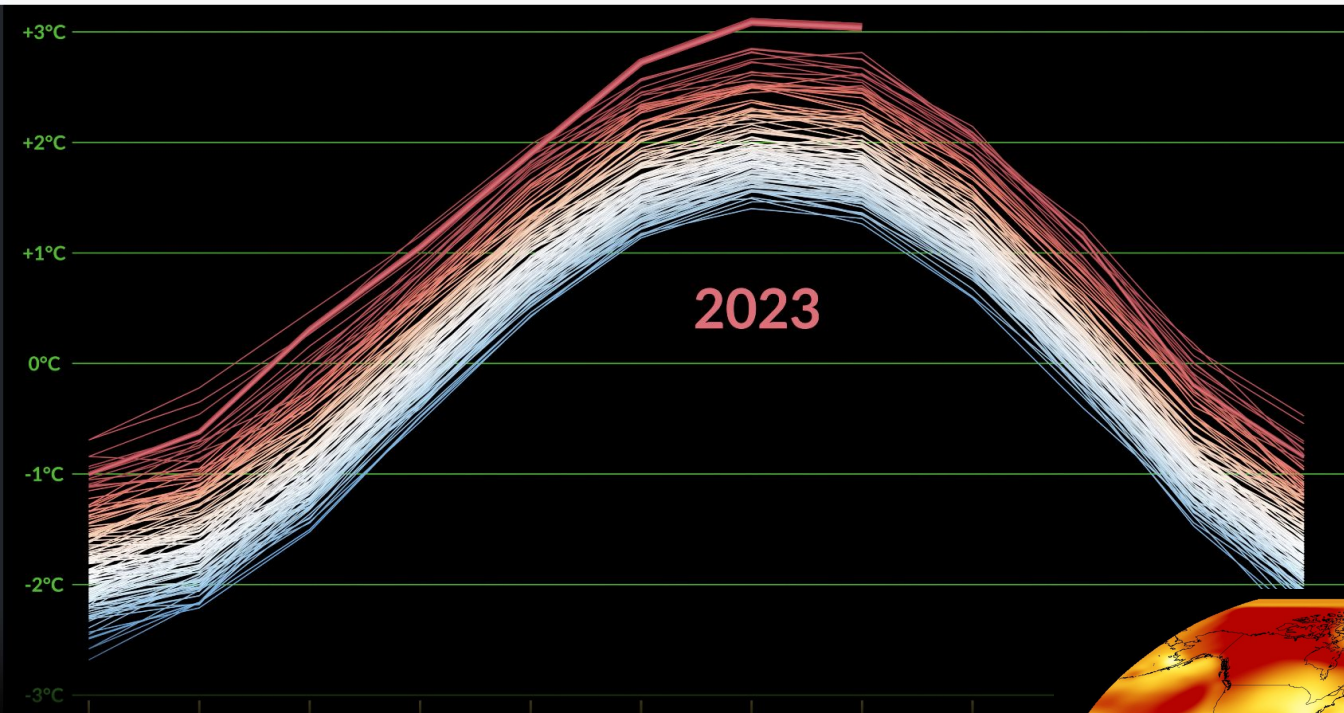
Carbon Emissions Savings



CO2 Emissions by Fuel Type



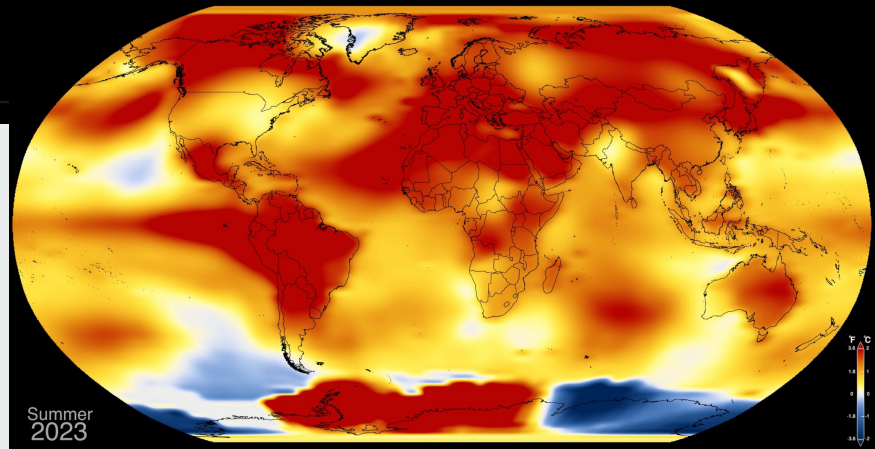
A 67% reduction in grid electricity would result in an overall reduction of **24.4% of town emissions.**



Addressing Climate Change is an Urgent Priority

Seasonal temperature deviations from 1880-2023. The top line is 2023 showing last year to be by far the warmest on record, with an annual average increase of 1.2° C since pre-industrial records.

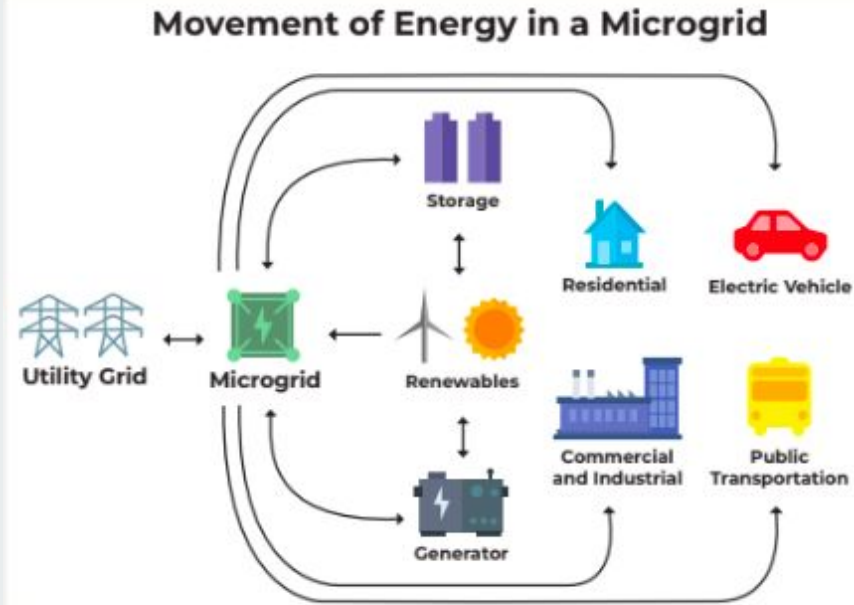
Source: <https://svs.gsfc.nasa.gov/14407>



Benefits of Local Production

- Reduces production & transmission losses in the grid
- Improves community resilience to storms or brownouts
- Essential for the development of an island-wide micro-grid

Producing electricity locally is the responsible thing to do.



This image demonstrates how electrons might flow in a microgrid. The microgrid will include a switch to separate from the utility grid (aka the grid) in a power outage. The buildings that are within the microgrid then have a reliable source of electricity since they have local generation. Image: Climable.

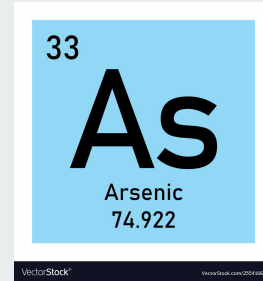
Financial Benefits

- Long-term financial benefit - this is cash positive!
 - Even if we retain the RECs, the project is estimated to **save \$1.2 million** over the “lifetime” of the solar array.
- Savings rely on a 2% annual increase in electrical rates, but this is likely an underestimate due to:
 - increasing electricity demand,
 - aging grid infrastructure,
 - impacts of climate change



The Only Local Option

- Higgins Pit is a brownfield site that cannot be used for many other purposes.
- We are unlikely to acquire such a beneficial net energy billing contract again and will lose it if we do not produce by 2025.
- The “Direct Pay” mechanism to recoup 30% of the cost of the project is subject to political whims and may not exist in the future.
- The road may have additional value



Community Support



- The project is still within budget.
- The bond that voters passed did not specify a size, amount of production, or cost-savings of the project and therefore the current plan is still covered by the bond.
- Voters passed this bond by a 79% vote, showing strong support for a locally-owned solar array.

Renewable Energy Credits (RECs) Recommendations:



Do Not Sell: Selling the RECs for this project will nullify the emissions benefits as we will be selling our rights to the renewable designation of our energy.

Do Not Purchase: Purchasing RECs costs more in the long run and removes our community's decision-making power on exactly how and where our electricity is produced.

Urgency & Responsibility



- This is meaningful work that the Town can do **now**.
- We have the opportunity to take ownership and responsibility for our own electricity.
- There are **MANY** tasks to address climate change that the town is already behind on. We can't add one more.