

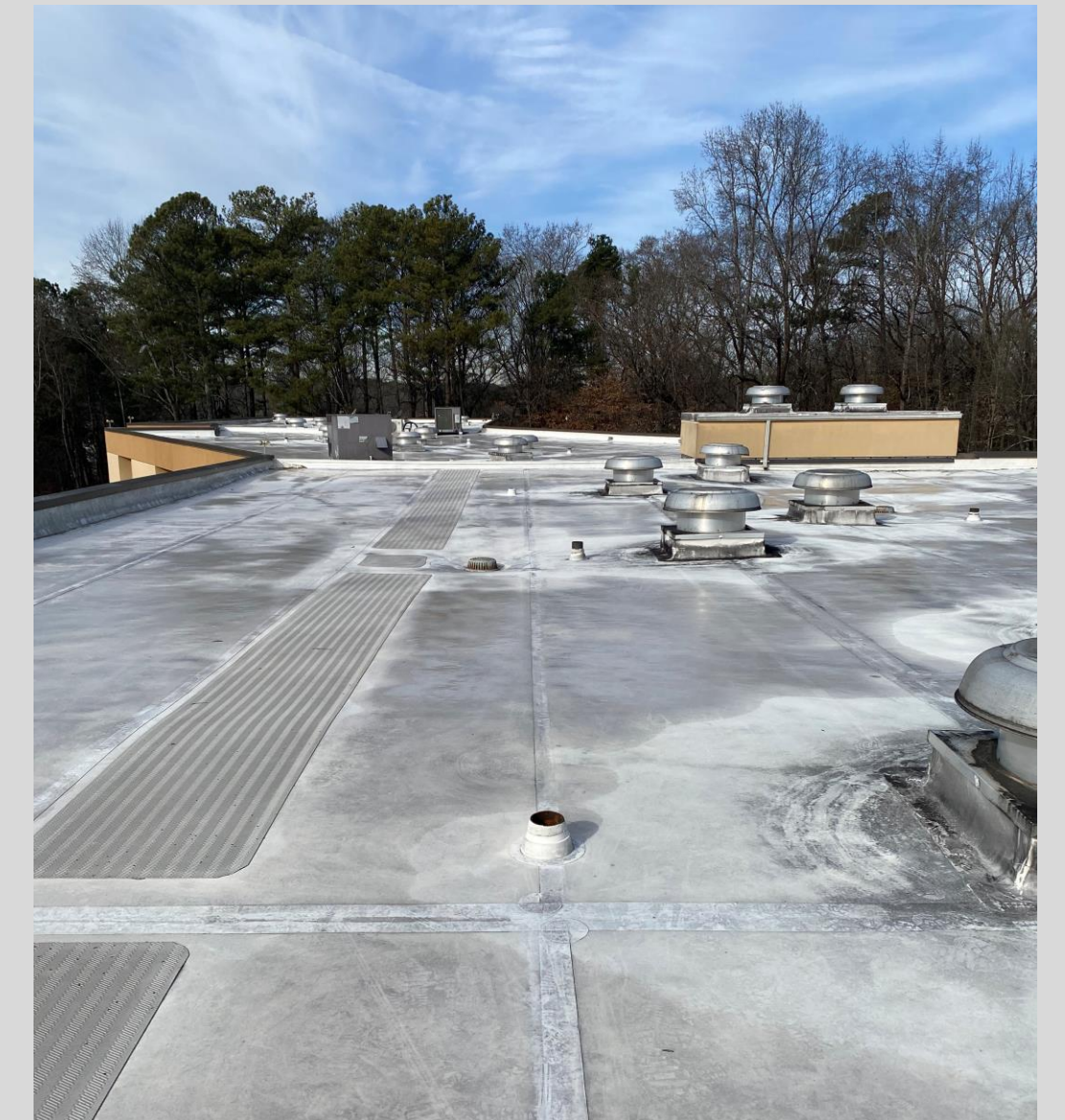
Rooftop Solar at Gwinnett Christian Terrace

Problem Statement

Gwinnett Christian Terrace is an affordable senior living facility in Lilburn, GA. The board for the non-profit managing the community is developing a strategic response to address the escalating cost of energy. A key part of this strategy is analyzing the costs and benefits of installing rooftop solar. Given the complexity of this topic they partnered with the Ray C Anderson Center for Sustainable Business's sustainability fellowship program for research support.

Project Steps

1. Expand the number of project bids and vet additional solar partners
2. Explore vendors project logistics and compare financial outcomes
3. Provide guidance on available solar incentives and grants



Two Paths to Solar

Purchased Panels

Panels are installed by an outside vendor but purchased and managed by GCT.

Pros:

Maximizes long-term financial savings

Cons:

- High upfront cost
- Responsibility for maintenance
- Risk of technological obsolescence

Leased Panels

Panels are purchased, installed, and managed by an outside vendor. GCT then pays a set rate for energy that is competitive with utility rates.

Pros:

- No upfront costs
- Maintenance and technological upgrades are managed by the vendor

Cons:

- Potential for cost increases or limited savings

Conclusion

In this case, the small size of the rooftop installation meant leasing panels would have added operational costs. Additionally, the available incentives made purchasing panels a more attractive investment.

Incentives

IRA (Inflation Reduction Act)

Overview: The IRA tax credits can reduce the cost of the rooftop solar system by 30-60%.

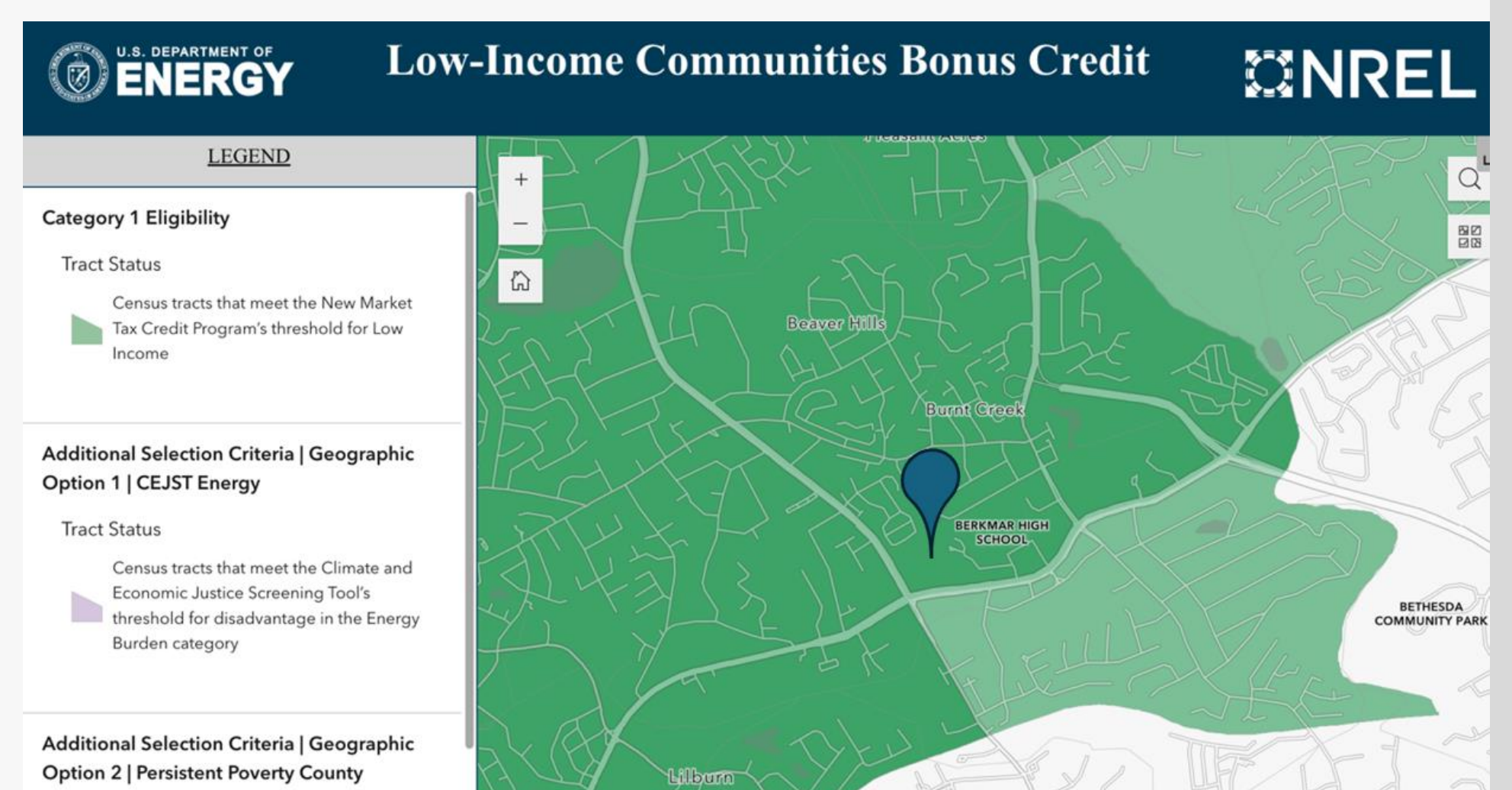
Stacked Incentives: The IRA has a base tax credit of **30%**, but there are additional bonus credits that can further reduce costs. These bonus amounts are not guaranteed since there is an annual cap on funds and they require an application with the Department of Energy.

- **10%** - if the energy equipment meets domestic content requirements (dependent on solar vendor)
- **20%** - for its status as a qualified low-income residential building or **10%** for its location in a low-income area (see map)

Direct Pay: Non-profits are eligible to receive a direct payment in lieu of tax credits which allows 30-60% of upfront costs to be directly refunded.

HUD's Green Resilient and Retrofit Program

Overview: The Elements Program provides grants that could cover up to \$750k per property for green investments such as adding solar panels to the property. The deadline for the fourth wave of funding is July 31.



Outcome

Gwinnett Christian Terrace has moved this project to the next phase and are pursuing the outlined financial incentives before finalizing a contract. Based on their preferred vendor and a 20-year project lifetime this installation has the following benefits,

- NPV \$118,410
- IRR 15.5%
- 2,146,121 kWh saved
- 714 metric tons of CO₂e