

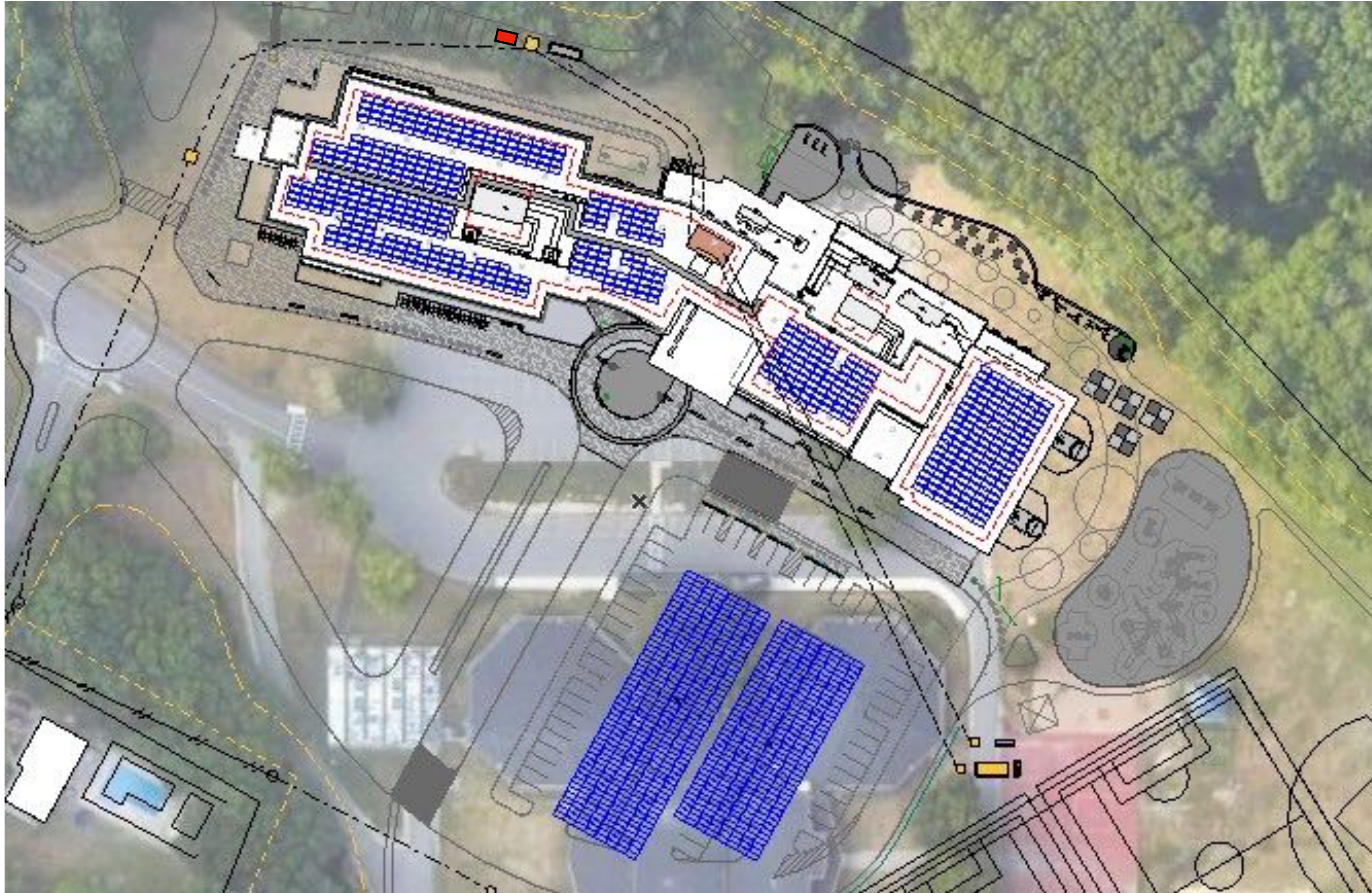


SBC Meeting

# BURLINGTON ELEMENTARY SCHOOL

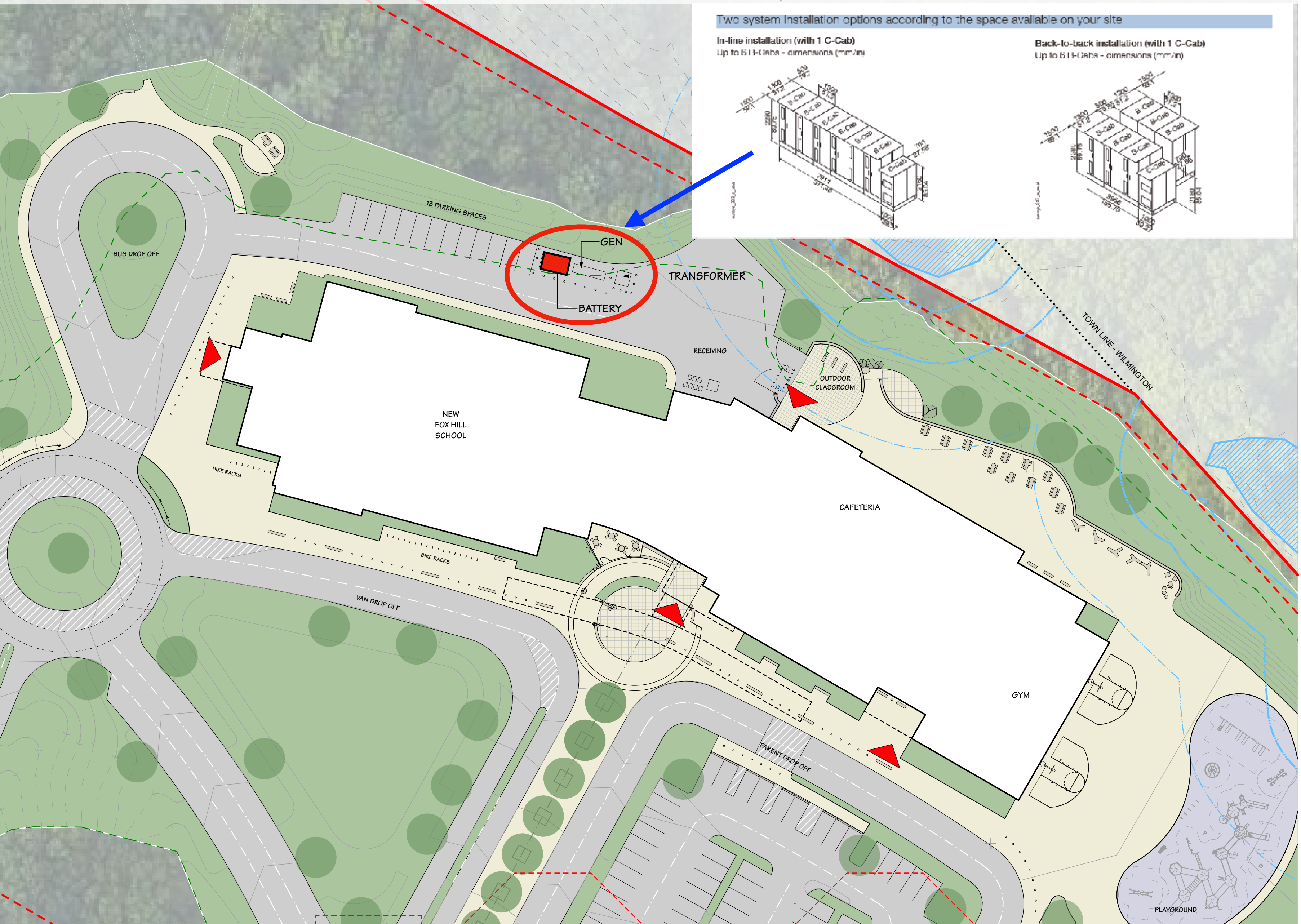
Burlington, MA

# Solar Study | Overview

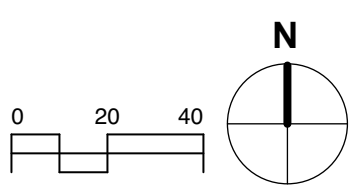


- Solar Design Associates completed study of Photovoltaic (PV) panels in early August 2024
- Three options were studied
  - Rooftop PVs
  - Rooftop PVs and parking lot canopies
  - Rooftop PVs and parking lot canopies plus a battery system
- Incentives and avoided utility costs were used to calculate the payback period

# Solar Study | Site Plan

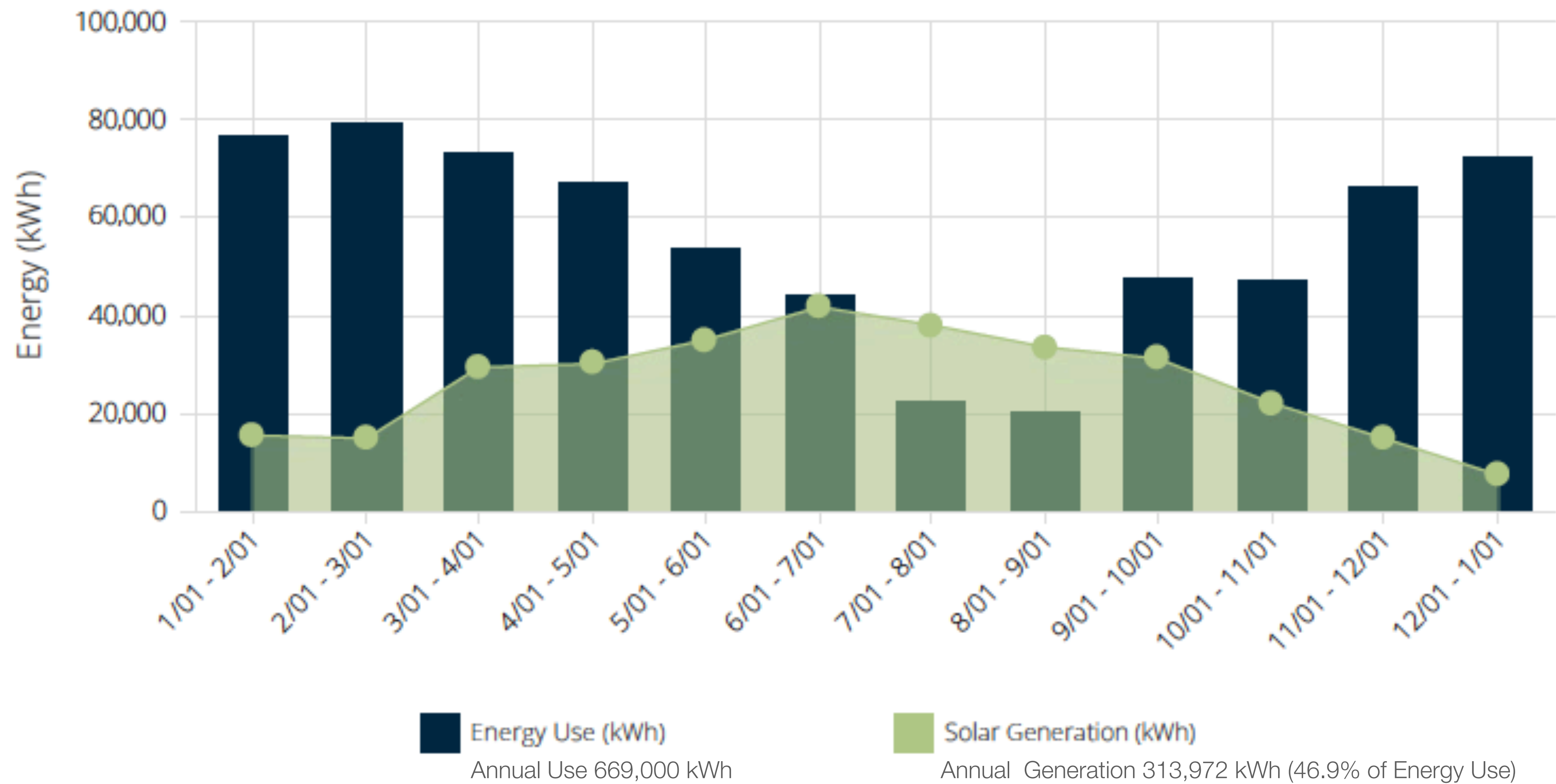


- For Third Option a large battery will be required
- Battery is to be located adjacent to generator and transformer
- Eversource will pay Burlington to discharge battery to the grid during peak demand periods
- Battery has additional IRA (Inflation Reduction Act) and SMART (Solar Massachusetts Renewable Target) incentives

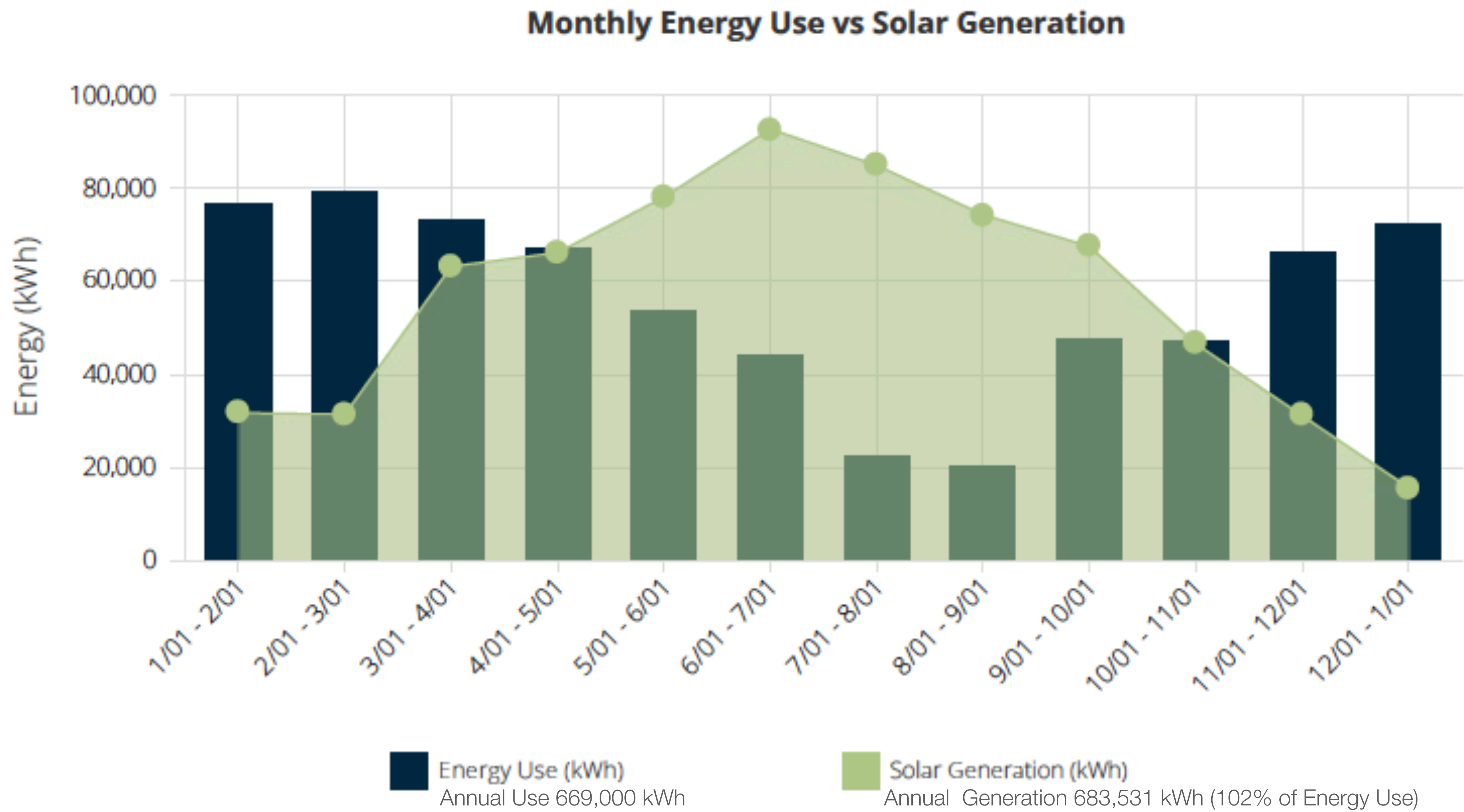


# Solar Study | Energy Use vs. Generation (Rooftop PV)

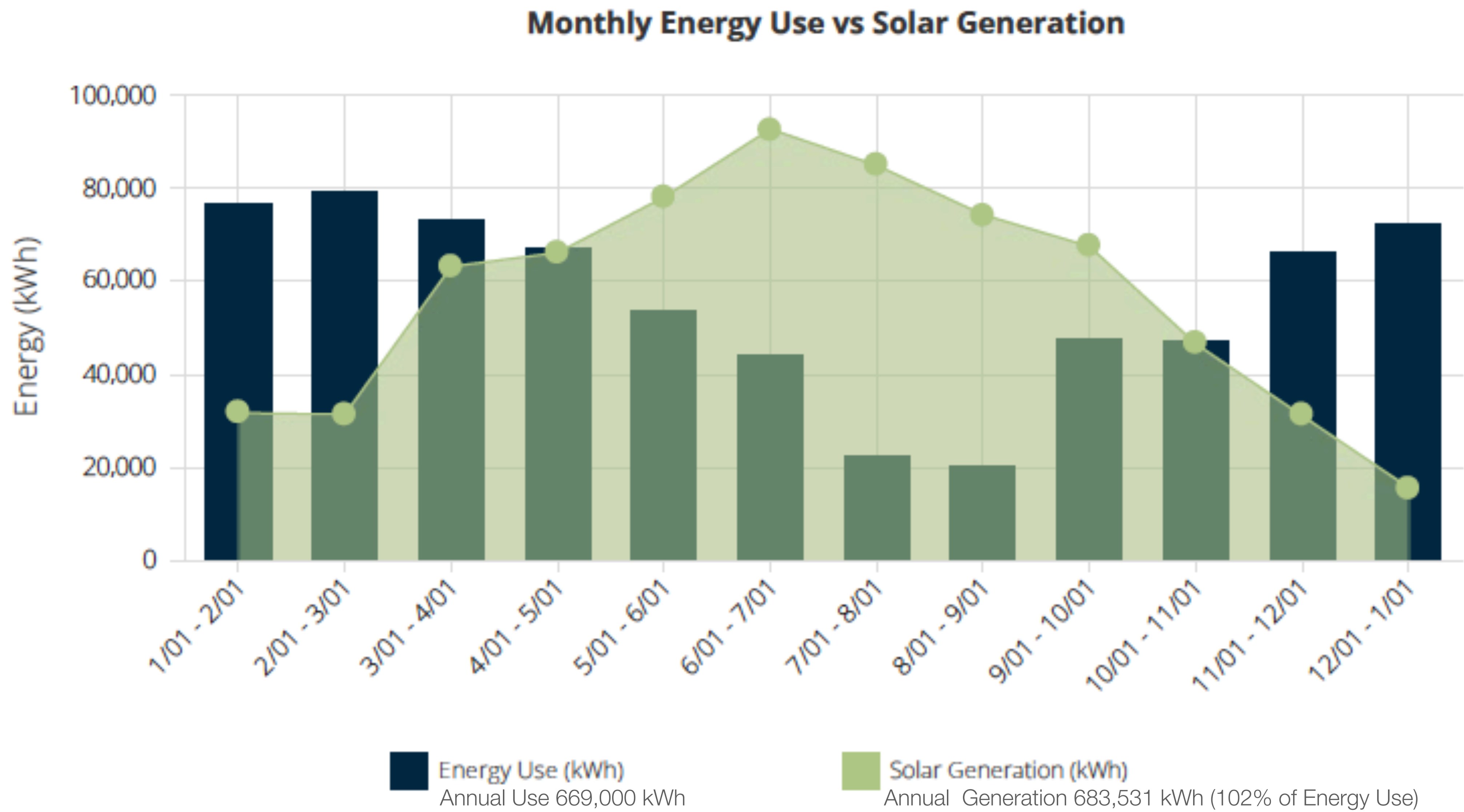
Monthly Energy Use vs Solar Generation



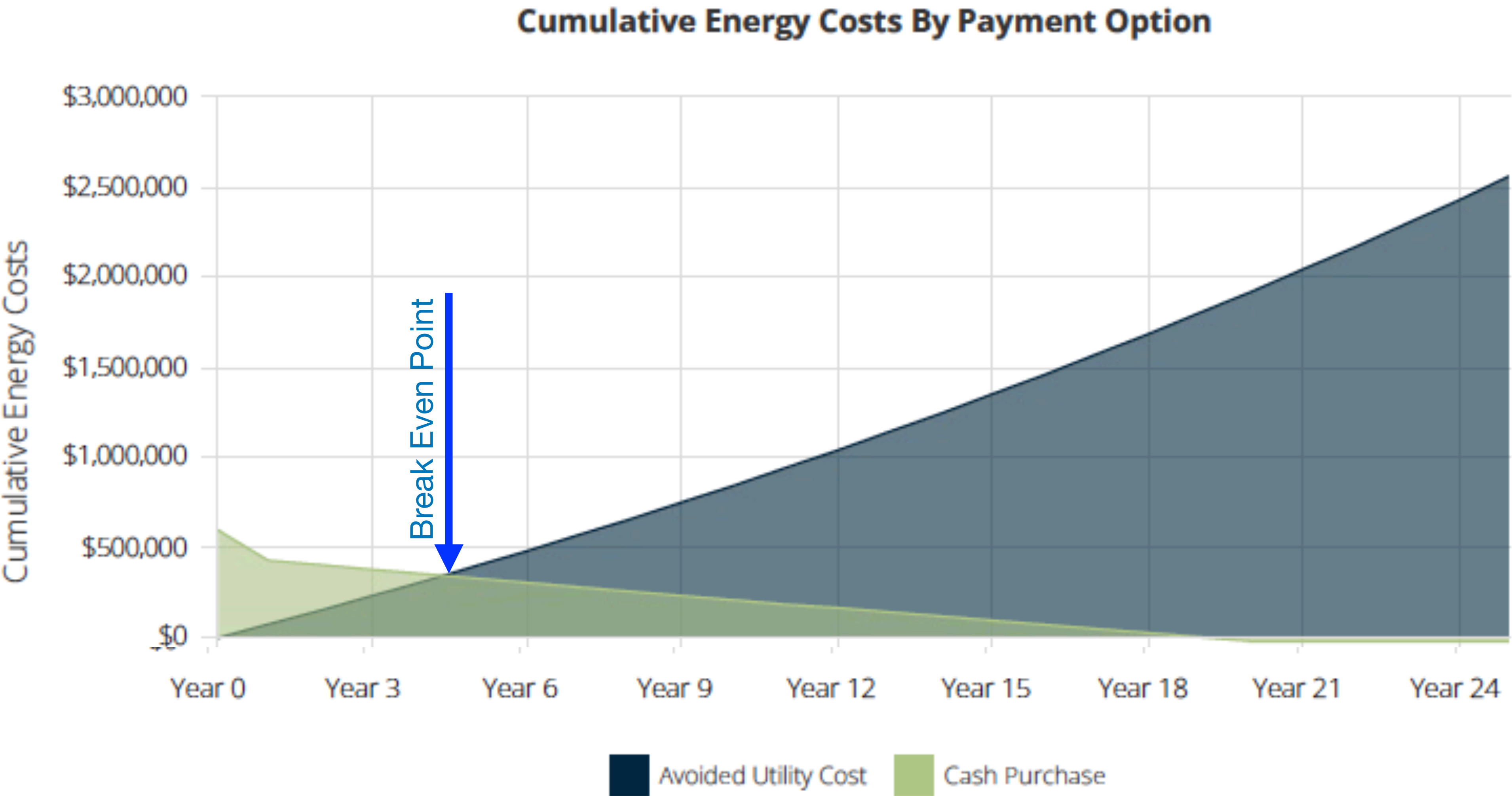
# Solar Study | Use vs. Generation (Rooftop PV + Parking PV)



# Solar Study | Use vs. Generation (Rooftop PV + Parking PV + ESS)

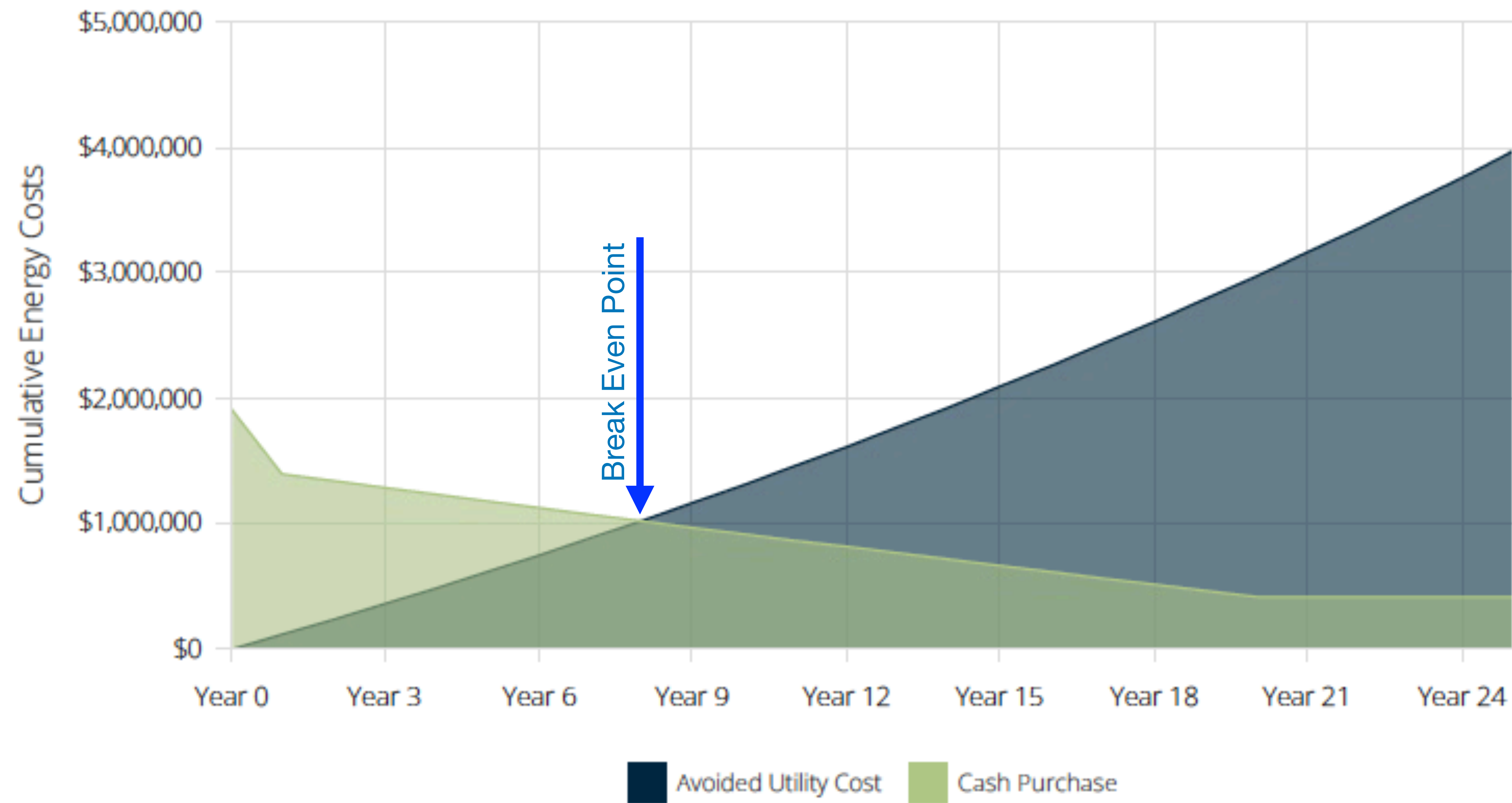


# Solar Study | Energy Costs (Rooftop PV only)



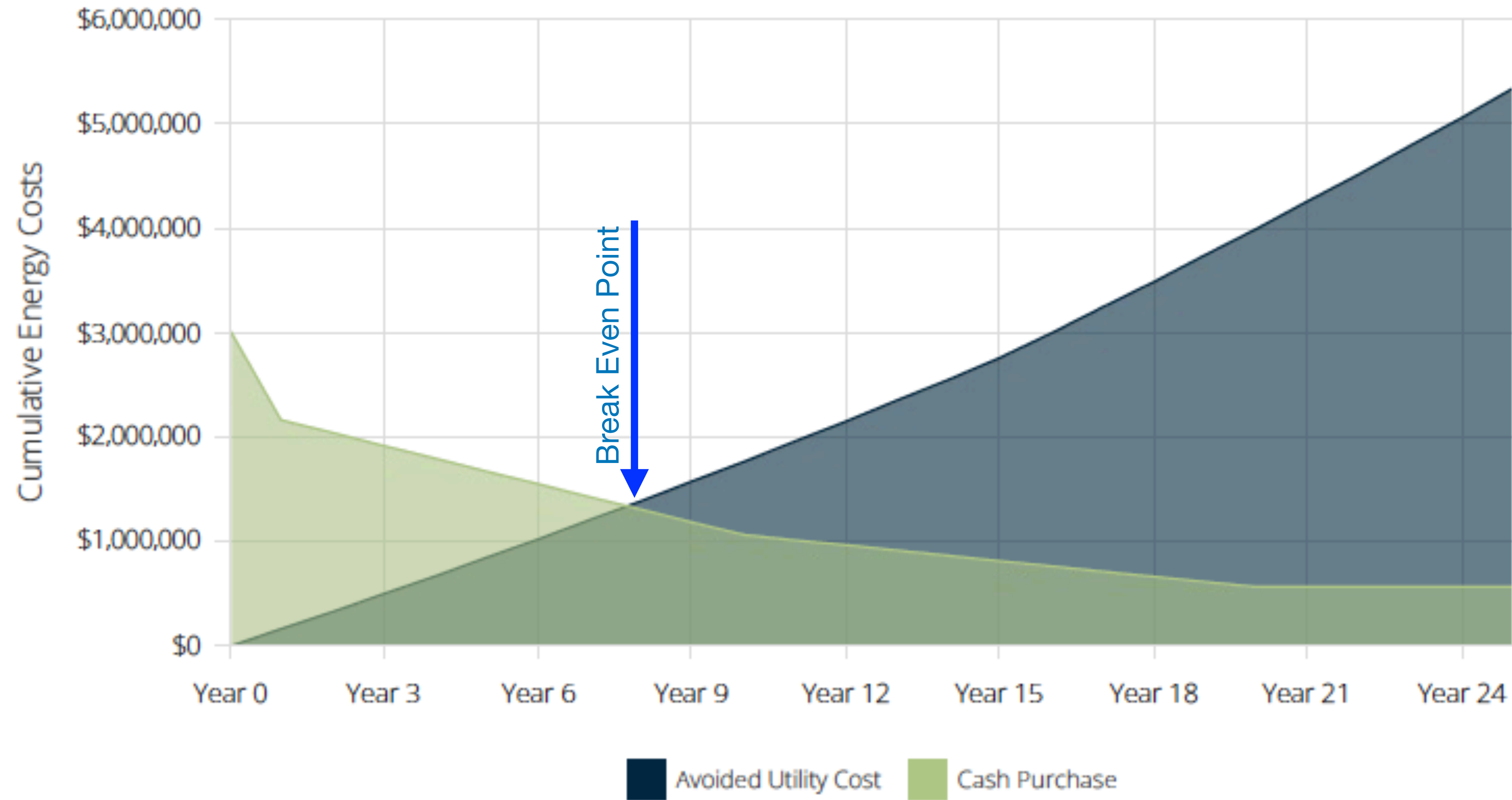
# Solar Study | Energy Cost (Rooftop PV + Parking PV)

Cumulative Energy Costs By Payment Option



# Solar Study | Energy Cost (Rooftop PV + Parking PV + Battery)

Cumulative Energy Costs By Payment Option



# Solar Study | Cost Comparison

Options	Upfront Cost	IRA <sup>2</sup> Grants	SMART <sup>3</sup> Incentives	Net Cost	Generation Energy as Percent of Building Energy Use <sup>1</sup>	Payback Period	Annual Electricity Savings Year 1
Rooftop PV only	\$597,000	\$143,405	\$476,583	-\$22,988	46.9%	4.4 Years	\$75,643
Rooftop PV + Parking Canopy PV	\$1,907,020.00	\$457,685	\$1,037,544	\$411,791	102%	8.0 Years	\$117,261
Rooftop PV + Parking Canopy PV + Battery	\$3,007,020.00	\$721,685	\$1,725,044	\$560,291	102%	7.8 Years	\$163,304

1. Building energy use and generation energy are calculated on an annual basis  
2. IRA (Inflation Reduction Act) grants are 100% paid when the system is operational.  
3. SMART (Solar MAchusetts Renewable Target) incentives are declining block grants paid out over 20 years



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