

Solar Photovoltaic Analysis



Almaden Swim and Racquet
Club – Phase I Analysis

Introduction: Summary of Project Goals



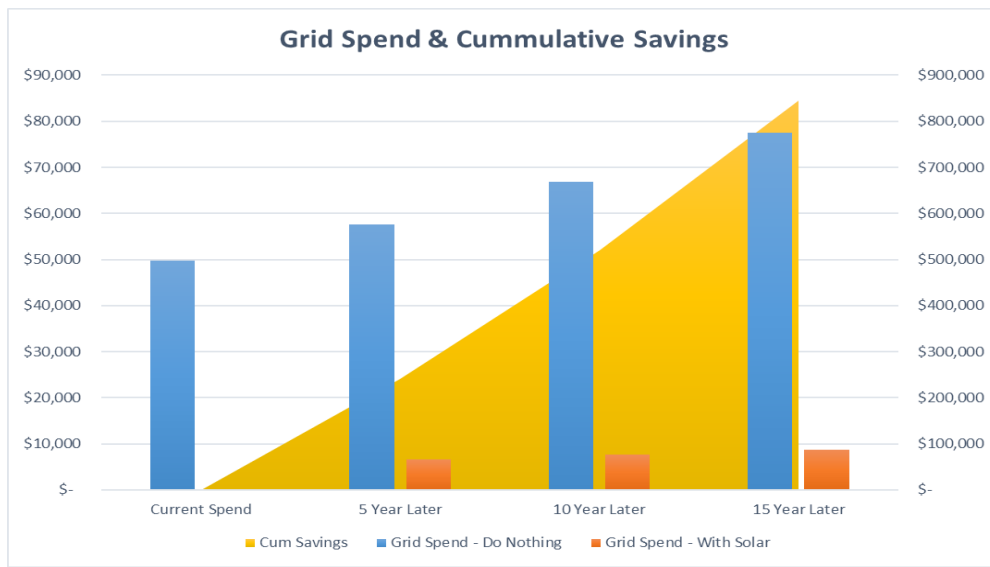
Almaden Swim & Racquet Club desires to reduce its carbon footprint, while decreasing and stabilizing its electricity expenditures through the development of onsite generation.

The desired outcome would be to:

- Generate a strong financial return thru reduced electricity costs
- Provide a greener mix of power reducing carbon footprint
- Provide a financial hedge against future electricity price increases



Why Build Onsite Generation



The benefit of building onsite is less reliance on the grid. The chart to the upper left is assuming a yearly escalation rate from PG&E at 3%. As we can see in the data on the lower left, PG&E has increased dramatically since January 2021.

B1	Jan 2021 PG&E Total	June 2022 PG&E Total	Jan 2021 to June 2022 % Diff
Summer Peak	\$ 0.324	\$ 0.388	19.68%
Summer Partial Peak	\$ 0.275	\$ 0.339	23.20%
Summer Off Peak	\$ 0.254	\$ 0.318	25.10%
Winter Peak	\$ 0.249	\$ 0.313	25.64%
Winter Off Peak	\$ 0.233	\$ 0.297	27.42%
Winter Super Off Peak	\$ 0.216	\$ 0.280	29.50%

Normalized System Total Financials



System and Utility Data

Power Rating (kW-DC)	100
PV kWh per kW-DC	1,459
First Year Generation (kWh)	145,878
Current Usage (kWh)*	156,189
Percent Usage Offset*	93.40%
Total Energy Cost Before*	\$49,716
Total Energy Cost After*	\$5,806
Total Energy Cost Savings	\$43,910
25 Year PV Generation (kWh)	3,428,170

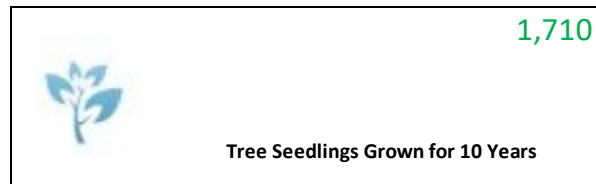
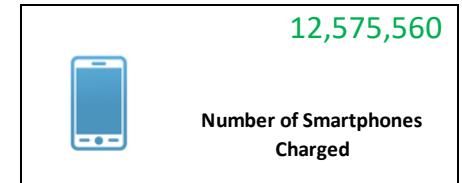
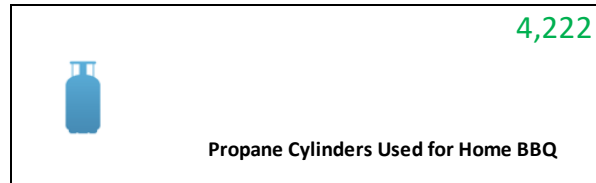
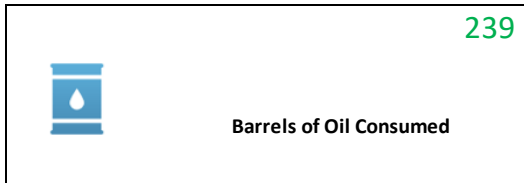
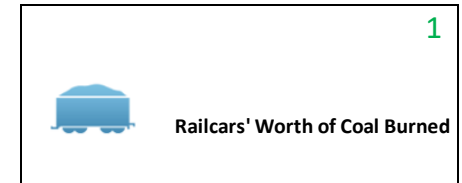
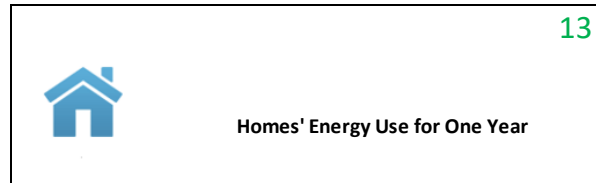
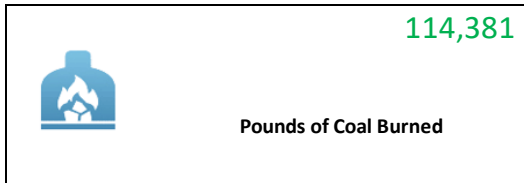
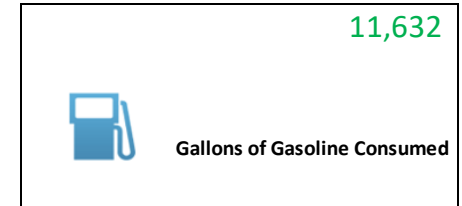
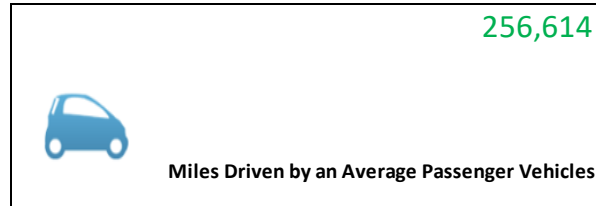
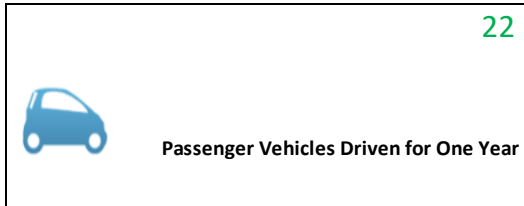
Financials Cash Purchase

Total Project Cost	\$350,000
Total Incentive Savings	\$105,000
Net Project Cost	\$245,000
10 Year IRR	12.76%
25 Year IRR	18.41%
25 Year ROI	344%
25 Year NPV	\$519,240
Simple Payback	5.40
25 Year Net Savings	\$1,203,527

Environmental Attributes over 1st Year



Estimated CO2 Emissions Offset



Anticipated Timelines for Solar



Negotiate Installation Agreements

1-4 Weeks

Both parties work exclusively together toward a final System design and negotiate in good faith an installation agreement.

Design & Engineering

4-8 Weeks

Our expert team of project managers and engineers will pull title permits, confirm interconnection requirements with PG&E and any necessary infrastructure upgrades needed to accommodate the system. The system will be designed to maximize production and meet or exceed all building, electrical, fire and safety requirements.

Permitting, PG&E NEM and Interconnection Approval

8-12 Weeks

Once you review and approve the design plans we will apply for and secure a building permit to start construction. Authorities having jurisdiction typically include building, electrical, fire and occasionally planning department approvals. PG&E Net Energy Metering and Interconnection Application processes overlap this timeline.

Installation

2-4 Weeks

Once your building permit is approved, we will coordinate timing of construction commencement to ensure minimal impact to your facility operations. Our experienced install teams will start construction and efficiently manage the project through completion.

Inspection and PTO

4-8 Weeks

At the end of your installation, we will test and commission the system, close out any punch-list items and complete the building department inspections. Utility inspection and issuance of permission to operate may take up to 6 weeks depending on PG&E response time.

NEM 3.0 Implementation



Upcoming changes to the California solar tariff laws have created an urgency to initiate and submit commercial solar projects before an undefined deadline in mid January. The new energy export rates and solar fees are being hotly debated, but the anticipation is that solar energy in California will soon become less financially advantageous.

NEM-3 Implementation Expectations

1. If they submit an application before mid-January, they will get 20 years of NEM-2.
2. If they submit between January and April they will be on NEM-2. Their eligibility term to stay on NEM-2 could be shorter than 20 years, but will almost certainly be well beyond a typical payback period.
3. If they submit after April and before NEM-3 is fully up and running, they will start on NEM-2 for a set period of years, but residential customers could also be required to be on certain rates that may include a fixed charge. There is also a chance that this group of customers will be switched to a lower export rate or start paying a new fee a small number of years after installing.
4. The date after which all new applications go on NEM-3 could be anywhere between August 2022 and January 2024.

Commercial (250 kW system)			
Utility	Current Payback Period (years)	Utility Proposed NEM-3 Payback (26% ITC)	Utility Proposed NEM-3 Payback (0-10% ITC)
PG&E	6.3	14.2	18.9
SCE	6.4	14.5	19.9
SDG&E	4.4	21.4	29.3

