



MYNT SYSTEMS



DIOCESE OF MONTEREY

Prepared for: Thomas Riordain
Tri-County Clean Energy Initiative
September 23rd, 2016

‘On Care For Our Common Home’



Diocese of Monterey Green Energy Initiative

THE MYNT ENERGY ASSESSMENT



Assess

Our assessment includes utility data, equipment type, age, fixture counts, sizes, system wattages and condition.



Rebates

We work closely with utility reps to ensure maximum rebates are received for upgrades.



Finance

Multiple finance options are compared to ensure the best fit.



Design

Using the data from the assessment we design a plan that fits your building, budget and goals.



Mockup

Potential solutions are mocked up to ensure customer satisfaction and compatibility.



Implement

Our project managers provide daily or weekly status updates so you always know how the project is progressing.



EFFICIENCY MEASURES SHOULD BE IMPLEMENTED BEFORE GENERATING ENERGY

**REDUCE
DEMAND**

**ESTABLISH
BASELINE**

**IMPLEMENT
SOLAR**



NO COST ENERGY SAVINGS MEASURES



Turn off all non-essential indoor/ outdoor lighting, signage, window displays and office equipment not in use (i.e., printers, copiers, shredders, coffee makers).



Pre-cool work areas, then cycle constant air volume heating, ventilation and air conditioning (HVAC) units and turn off ceiling fans and room fans.



Charge batteries and battery operated equipment prior to demand periods, then unplug battery chargers and use only pre charged equipment during peak periods.



Turn off all decorative features, such as fountains, lighting and ambient audio and video displays.



Conduct meetings during peak demand periods to minimize use of equipment.



Adjust employee schedules and shifts so that times of increased production or energy use occur before or after planned events.



Lighting Project Total: \$27,693 (net of rebate)

PG&E HTR Rebate: \$7,888

Estimated Annual Savings: \$7,351

Project Specifications

- LED lighting controls and lamp retrofit
- All components are Design Light Consortium (DLC), UL listed
- 5 year warranty meets industry standard
- Lamp estimated life of 25 years when operated 2,000 hours/year
- Studies have shown that LED lighting can improve learning and focus



Bonny Doon Elementary LED retrofit

Utility Offset Analysis

2015-16 Utility Analysis

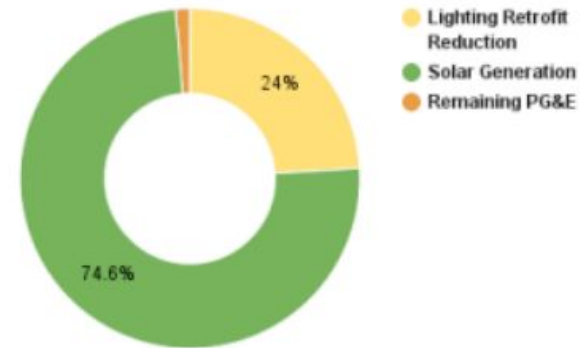
	kWh	Charges
June	9625.76	\$2,489
July	11241.57	\$2,559
August	11114.94	\$2,584
September	11678.77	\$2,318
October	11869.11	\$2,314
November	13058.18	\$2,515
December	12582.74	\$2,430
January	12539.46	\$2,495
February	12373.79	\$2,291
March	11555.29	\$2,849
April	12353.76	\$2,961
May	11426.51	\$2,784
	141419.88	\$30,590

Average Cost of Energy

\$0.22

			% of current
Lighting Load	60555	\$13,098	42.82%
Lighting Retrofit Reduction	33984	\$7,351	24.03%
Remaining PG&E	107436	\$23,239	75.97%
Solar Generation (68.3 kW)	105524	\$21,105	68.99%
Remaining PG&E	1912	\$2,134	6.98%
Total Utility Savings	139508	\$28,456	93.02%

Energy Project Bill Offset



PROPOSED SOLAR LAYOUT

Sacred Heart - 123 Market St. Salinas



- 55.2 kW Solar Rooftop
- Replace aging roofs
- 85,284 kWh generated Yr. 1
- 166° SouthWest Orientation
- Net Metering Aggregation to offset combined campus electricity usage

Solar Production Analysis

Our solar analysis is based on location specific 30 year average meteorological data compiled by NREL*. The weather data used was obtained from a meteo station located within a 10km radius of project site.

Current PG&E Usage: 141,419 kWh
Post Lighting PG&E Usage: ~107,436 kWh
Annual production: ~85,284 kWh
Total Net Usage: ~22,152 kWh

The combination of lighting and solar will effectively reduce your electric bill from **\$30,590 to \$7,035.**



*National Renewables Energy Laboratory

Combined Project Economics

Initial Capital Investment: \$0

Total Project Value: \$252,540

Annual Utility Savings: \$23,555

Estimated Maintenance Savings: \$1,064

Financing Annual Payment: \$23,515

Year One Net Benefit: \$754

25 year Net Benefit: \$404,962

✓ Students

✓ Environment

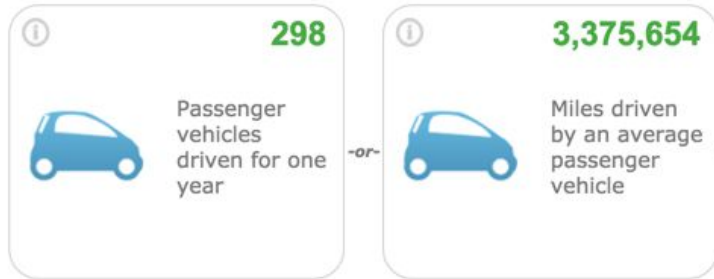
✓ School Budget

*assumes 3% utility escalation



The sum of the greenhouse gas emissions from the energy efficiency savings and solar energy produced is equivalent to 1,872 tons of Carbon Dioxide.

This is equivalent to greenhouse gas emissions from:



This is equivalent to carbon sequestered by:



Lighting Project Total: \$8,019 (net of rebate)

PG&E HTR Rebate: \$2,704

Estimated Annual Savings: \$3,108

Project Specifications

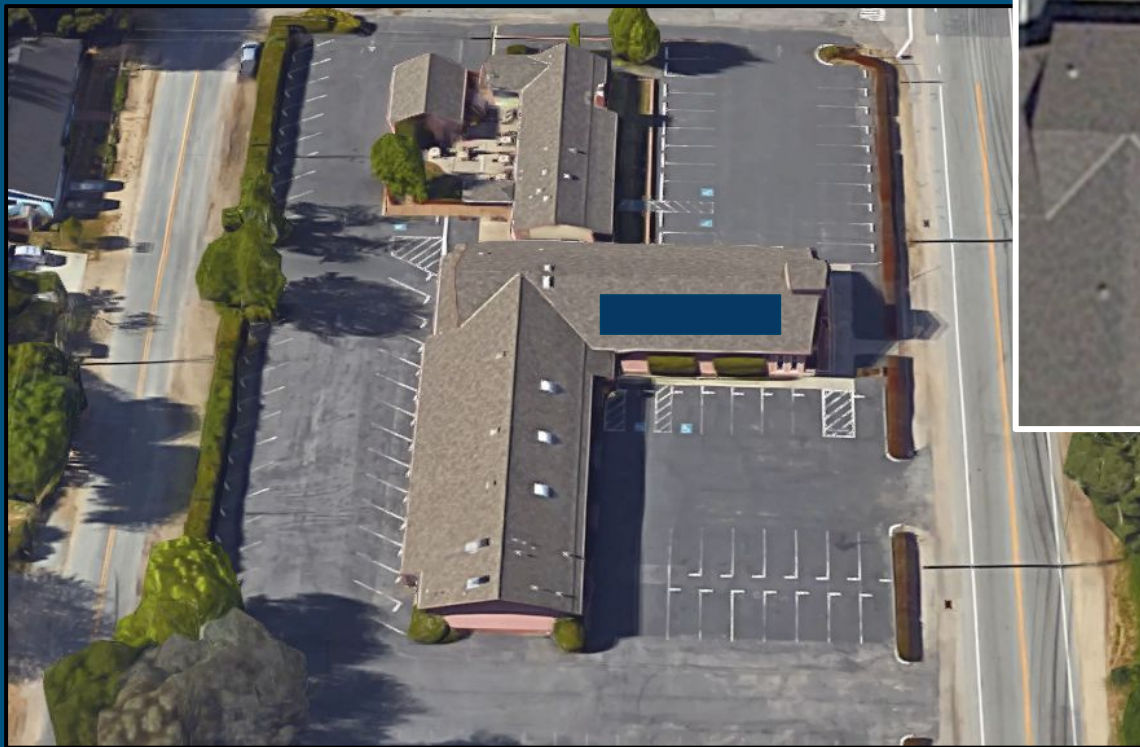
- LED lighting lamp retrofit
- All components are Design Light Consortium (DLC), UL listed
- 5 year warranty meets industry standard
- Lamp estimated life of 25 years when operated 2,000 hours/year
- Studies have shown that LED lighting can improve productivity and comfort



VISA Headquarters Foyer

PROPOSED SOLAR LAYOUT

120 Russell Ave. Felton



- 9.18 kW Solar Rooftop
- 13,981 kWh generated Yr. 1
- 181° SouthWest Orientation

Solar Production Analysis

Our solar analysis is based on location specific 30 year average meteorological data compiled by NREL*. The weather data used was obtained from a meteo station located within a 10km radius of project site.

Current PG&E Usage: 27,817 kWh
Post Lighting PG&E Usage: ~15,037 kWh
Annual production: ~13,981 kWh
Total Net Usage: ~1,056 kWh (<10% of current)

The combination of lighting and solar will effectively reduce your electric bill from **\$6,639 to \$455.**



*National Renewables Energy Laboratory

Combined Project Economics

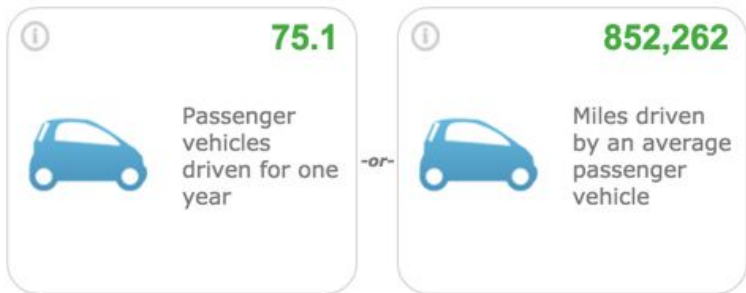
Initial Capital Investment:	\$0	✓ Community
Total Project Value:	\$43,235	✓ Environment
Annual Utility Savings:	\$6,184	✓ Parish Budget
Estimated Maintenance Savings:	\$504	
Financing Annual Payment:	\$5,464	
Year One Net Benefit:	\$1,099	
25 year Net Benefit:	\$139,260	

*assumes 3% utility escalation



The sum of the greenhouse gas emissions from the energy efficiency savings and solar energy produced is equivalent to 356 tons of Carbon Dioxide.

This is equivalent to greenhouse gas emissions from:



This is equivalent to carbon sequestered by:



Lighting Project Total: \$7,455 (net of rebate)

PG&E HTR Rebate: \$5,453

Estimated Annual Savings: \$4,475

Project Specifications

- LED lighting lamp retrofit
- All rooms upgraded to occupancy sensing controls
- 5 year warranty meets industry standard
- Lamp estimated life of 25 years when operated 2,000 hours/year
- Studies have shown that LED lighting can improve productivity and comfort



Romig Engineering - Before and After

PROPOSED SOLAR LAYOUT

425-485 Church St. Monterey



- 50.4 kW Solar Carport
- 73,080 kWh generated Yr. 1
- 166° SouthWest Orientation
- Net Metering Aggregation to offset combined 425 and 485 Church St. usage

Solar Production Analysis

Our solar analysis is based on location specific 30 year average meteorological data compiled by NREL*. The weather data used here was obtained from a meteo station located at the Monterey Regional Airport.

Current PG&E Usage: 100,210 kWh
Post Lighting PG&E Usage: ~79,956 kWh
Annual production: ~73,080 kWh
Total Net Usage: ~6,876 kWh (<10% of current)

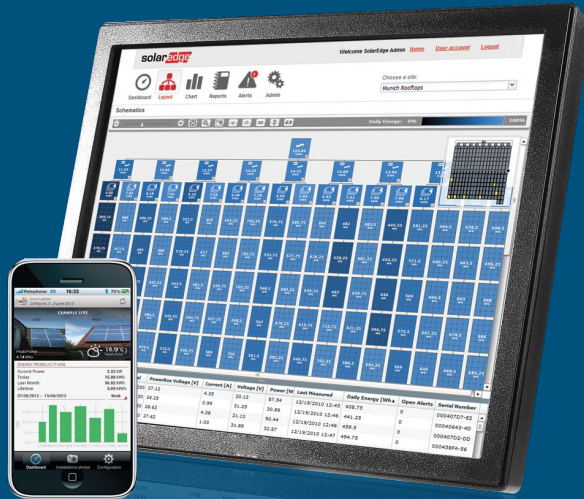
The combination of lighting and solar will effectively reduce your electric bill from **\$22,770 to \$2,090**.



*National Renewables Energy Laboratory

SolarEdge Monitoring

Stevenson School will be able to monitor the system's live operating data and historical performance through any network enabled display - school computers, tablets and smartphones.



- ❖ SolarEdge inverters and module level optimizers enable the school to view the system at a panel by panel level
- ❖ “Old-School Inverters” - panels are grouped together so can ‘fail’ together
- ❖ “New-School” - panels are individually powered for optimized performance
- ❖ SolarEdge allows for remote shutdown - meets highest NFPA safety standards
- ❖ Simplifies maintenance and troubleshooting

Mountain School Soquel, CA - Elementary K-5



Mynt Systems was carefully selected by the school to implement a comprehensive energy efficiency and solar project.

- ❖ **Financed entirely through Prop. 39 Funds processed and managed by Mynt Systems**
- ❖ **LED Retrofit/Upgrade**
Annual Savings: \$4,500
- ❖ **Furnace and Refrigeration Upgrade**
Annual Savings: \$2,000
- ❖ **11.7 kW Rooftop Solar**
Annual Savings: \$3,700



"The team at Mynt is first class at every level..can't say enough about their commitment to client support, follow through, responsiveness and reliability"

- Superintendent Diane Morgenstern

Happy Valley School - Santa Cruz, CA - Grades K-5



Mynt Systems was carefully selected by the school to implement a comprehensive energy efficiency and solar project.

- ❖ **Financed through Prop. 39 Funds and PG&E rebates processed and managed by Mynt**
- ❖ **LED Retrofit/Upgrade**
Annual Savings: \$2,460
- ❖ **Water Heater and Heat Pumps**
Annual Savings: \$2,993
- ❖ **12.6 kW Ground Mounted Solar**
Annual Savings: \$3,384



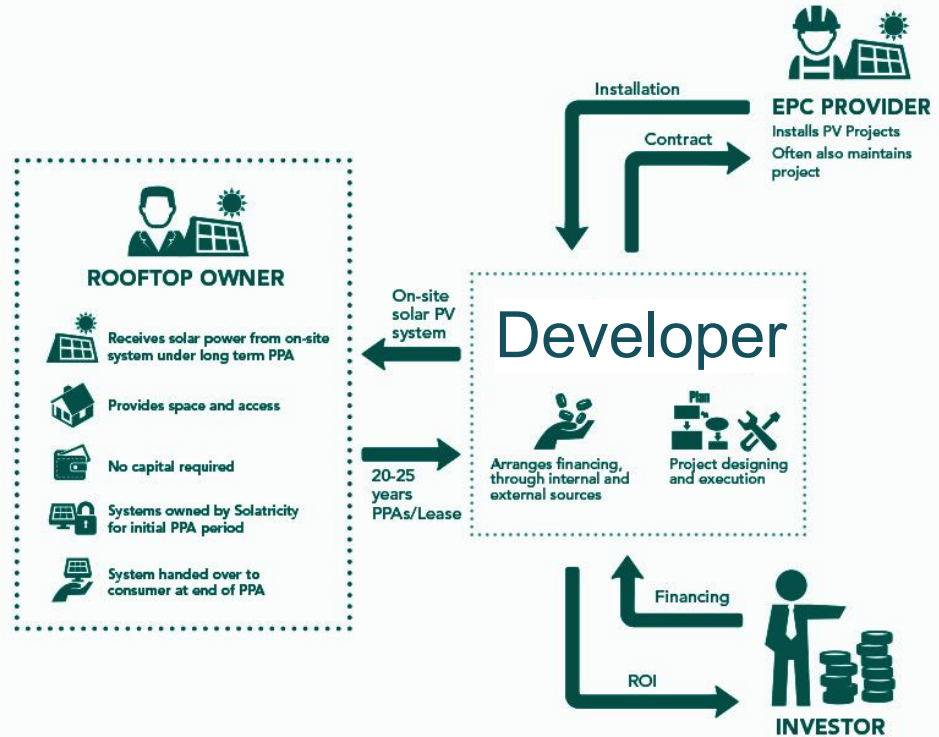
"The Mynt team was efficient and thorough. They are wonderful and I can't say enough about them."
- Superintendent Michelle McKinny

Our Clients



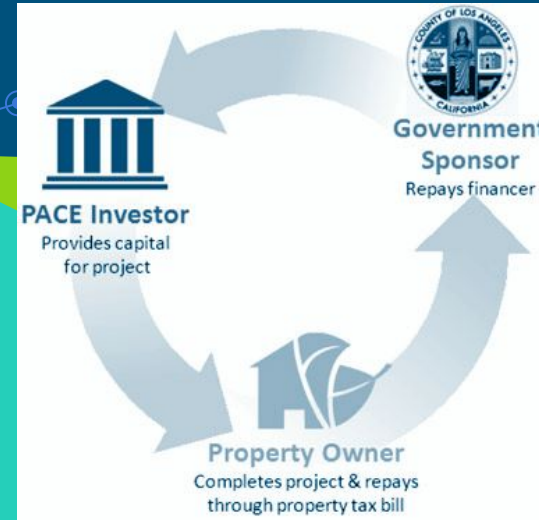
PPA Structure

- Challenging to get investors for small projects
- Host must pay for all generated kWh regardless of usage
- Longer 20-25 year terms
- Buyout potential after year 6
- Tax Credits pass through
- No debt
- No maintenance



PACE Financing Property Assessed Clean Energy

- Enabled by statewide legislation
- Sponsored by County of Monterey
- Eligible projects include Energy Efficiency, Renewables and Water Conservation
- Single funding contract for all combined energy projects
- Collected through Property Tax Bills as Special Assessment
- 20 year, low rate PACE loan Requires no capital investment
- Issues with separation of Church and State - gov't funds going to religious affiliated org
- Pre-paid PPA structure does facilitate underwriting for small and unrated credit



“

*Start by doing what's necessary;
then do what's possible; and
suddenly you are doing the
impossible.*

-Francis of Assisi





Thank you.



www.myntsystems.com