

COUNTY OF MONTEREY

BOARD OF SUPERVISORS PROPOSAL:

POWER PURCHASE AGREEMENT

SOLAR PV & STORAGE AT NATIVIDAD JAIL COMPLEX

04.16.2024

Monterey Room
168 W. Alisal St, 2nd Floor
Salinas, CA 93901

CSLB #1009790 B, C-10

PRESENTED BY:

MYNT

Who is MYNT?

Mynt Systems was founded with the idea of building a company that could provide **cost effective turn key energy projects** for the underserved commercial markets. Our goal is to **simplify the design and financing** of the projects to facilitate project implementation.

MYNT and the County of Monterey **executed a Master Energy Services Agreement** in July of 2023

CA CODE 4217

The County entered into an agreement with Mynt Systems to develop and deploy renewable energy projects under California Code 4217.

California Government Code Section 4217.10 to 4217.18, authorizes the County Board of Supervisors to enter into an Energy Services Contract for the implementation of energy related improvements if the Board of Supervisors **finds that it is in the best interest of the County to enter into such Energy Service Contract and that the anticipated cost to the Council for thermal or electrical energy or conservation services provided by an Energy Services Contractor under the contract will be less than the anticipated marginal cost to the County of thermal, electrical, or other energy that would have been consumed by the County in absent of those purchases.**

COUNTY OF MONTEREY PROJECT UPDATES



SOLAR PROJECTS

Sheriff's Office, 1414 Natividad Rd.

- PPA updates, project status and timelines



SOLAR AND BATTERY STORAGE PROJECTS

Schilling Building, 1441 Schilling Place

- PPA updates, project status and timelines

Jail Complex, 1410 Natividad Rd.

- Project designs, incentives, timelines, and PPA updates

SHERIFF'S OFFICE

SOLAR SYSTEM DESIGN

under construction expected completion Q4 2024

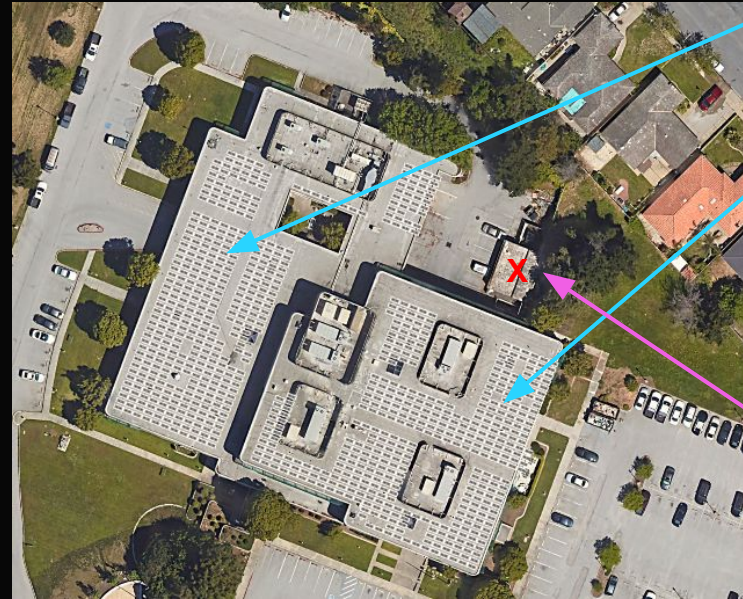
Project Sizing

⚡ 389 kW Rooftop Solar

Project Updates

⚡ Exploratory Shutdown Completed (1/9/24)

⚡ Project Completion (COD) in Q3 2024



Solar Array
(Rooftop)

Point of
Interconnection

SCHILLING BUILDING SOLAR & BESS DESIGN

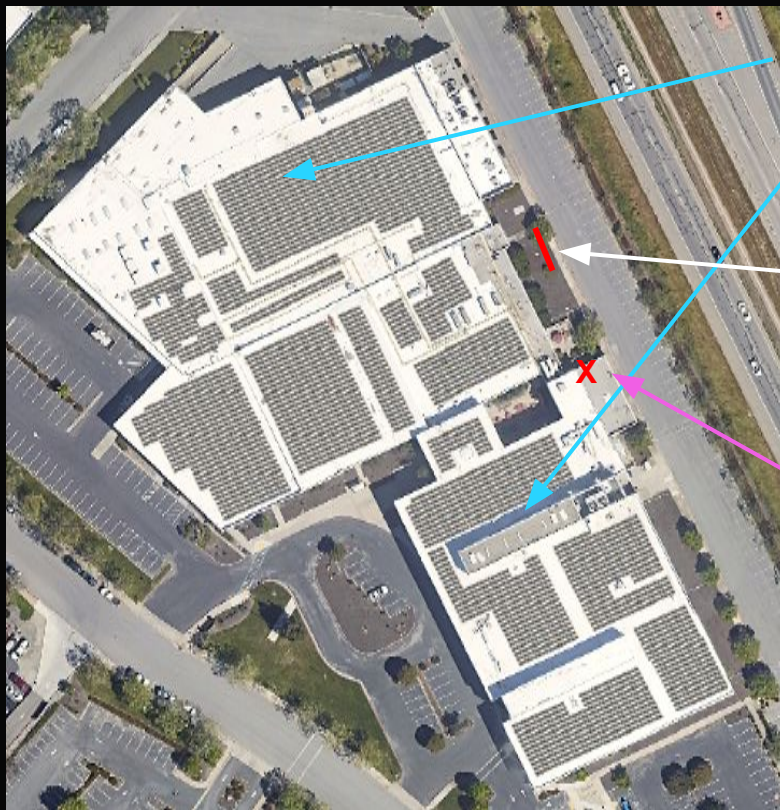
under construction expected completion Q4 2024

Project Sizing

- ⚡ 1,083 kW Rooftop Solar
- ⚡ 609 kW/2436 kWh Battery Energy Storage System

Project Updates

- ⚡ Exploratory Shutdown Completed (12/19/23)
- ⚡ Project Completion (COD) in Dec 2024
- ⚡ Microgrid Services to Provide Critical Loads Backup



Solar Array
(Rooftop)

Battery
Location

Point of
Inter-
connection

NATIVIDAD JAIL COMPLEX PROJECT UPDATE

Mynt Systems performed an energy and economic analysis for **County of Monterey Jail Complex at 1410 Natividad Rd.**

- ⚡ The result of Mynt's studies show that **1410 Natividad Rd. Salinas, CA 93906** can implement a **solar PV and energy storage** project at the site that will generate **\$6.6million in savings** over 25 years.
- ⚡ Mynt was able to capture SGIP incentive for the project (**~\$744,000**). However, to claim this incentive for the project, the battery needs to be installed in 2024.
- ⚡ PG&E has rejected the battery only option, so we need to have both solar and battery contract **signed before April 22, 2024.**
- ⚡ Mynt has **developed multiple designs for County's Board consideration** and after careful consultation with multiple County stakeholders and recommendation from the Monterey Alternative Energy & Environment Committee, we've collectively determined the preferred design at this site address.

ORIGINAL SOLAR SYSTEM DESIGN (2021): PLAN A

Project Sizing

- ⚡ 1,285.9 kW Solar Carports
- ⚡ 2,145.6 kWh Battery Energy Storage System

Project Details

- ⚡ Tilt Angle: 7 Degrees
- ⚡ Azimuth Angle: 202 Degrees
- ⚡ Module attachment type: Structural Steel, dual-cantilevered carports
- ⚡ 12kV Interconnection



Solar Array
(Carports)

Point of
Interconnection
Battery Location

PROPOSED SOLAR SYSTEM RE-DESIGN (2024): PLAN C - CURRENT PLAN

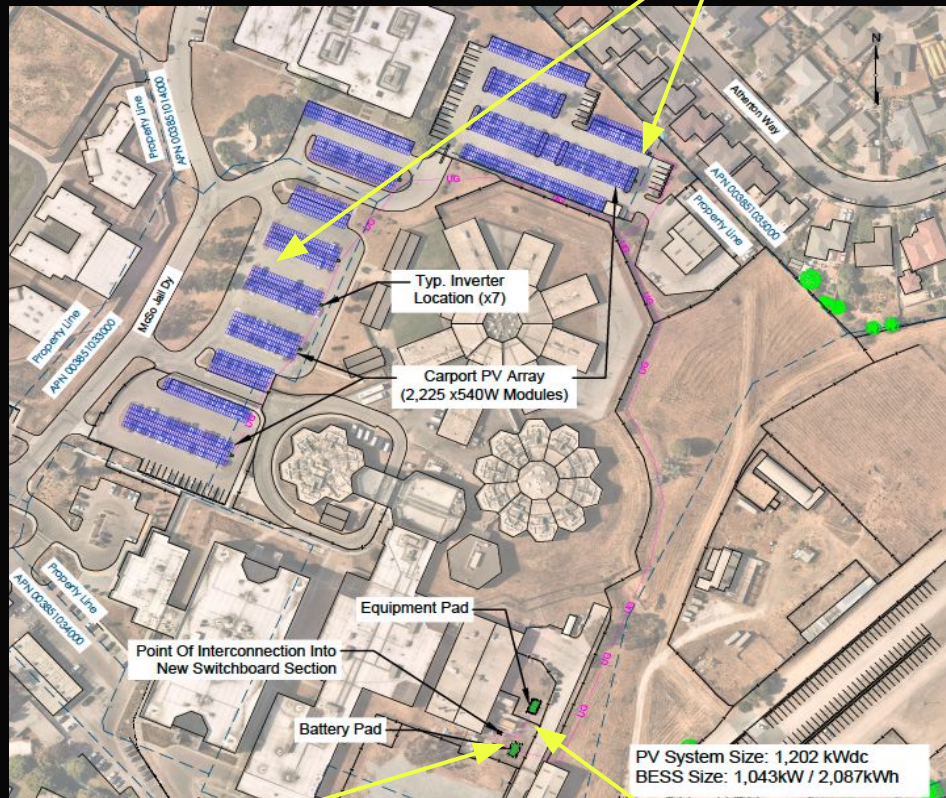
Project Sizing

- ⚡ 1,202 kW Solar Carports
- ⚡ 2,087 kWh Battery Energy Storage System

Project Details

- ⚡ Tilt Angle: 4 Degrees
- ⚡ Azimuth Angle: 203 Degrees
- ⚡ Module type: Bifacial Modules
- ⚡ Min. Height Clearance: 14 ft.
- ⚡ Interconnection: Medium Voltage
- ⚡ Critical backup-Microgrid functionality

Solar Array Carports



Battery Location

Point of Interconnection



PPA CASH FLOW - NATIVIDAD JAIL COMPLEX

Year	Project Investment	Avoided Utility Costs (\$)	Avoided Cost (\$/kWh)	PPA Rate (\$/kWh)	PPA Payments (\$)	County Cumulative Savings (\$)
1	\$0	\$483,533	\$0.2641	\$0.2349	(\$430,122)	\$53,411
2		\$507,710	\$0.2792	\$0.2431	(\$442,060)	\$119,061
3		\$533,096	\$0.2953	\$0.2516	(\$454,330)	\$197,827
4		\$559,750	\$0.3122	\$0.2604	(\$466,939)	\$290,638
5		\$587,738	\$0.3301	\$0.2696	(\$479,899)	\$398,477
6		\$608,309	\$0.3441	\$0.2790	(\$493,219)	\$513,566
7		\$629,599	\$0.3586	\$0.2888	(\$506,908)	\$636,258
8		\$651,635	\$0.3738	\$0.2989	(\$520,977)	\$766,916
9		\$674,443	\$0.3896	\$0.3093	(\$535,437)	\$905,921
10		\$698,048	\$0.4061	\$0.3201	(\$550,298)	\$1,053,671
11		\$722,480	\$0.4233	\$0.3201	(\$546,446)	\$1,229,705
12		\$747,767	\$0.4412	\$0.3201	(\$542,621)	\$1,434,851
13		\$773,939	\$0.4598	\$0.3201	(\$538,823)	\$1,669,966
14		\$801,026	\$0.4793	\$0.3201	(\$535,051)	\$1,935,942
15		\$829,062	\$0.4996	\$0.3201	(\$531,306)	\$2,233,699
16		\$858,079	\$0.5207	\$0.3201	(\$527,586)	\$2,564,192
17		\$888,112	\$0.5427	\$0.3201	(\$523,893)	\$2,928,411
18		\$919,196	\$0.5657	\$0.3201	(\$520,226)	\$3,327,381
19		\$951,368	\$0.5896	\$0.3201	(\$516,585)	\$3,762,164
20		\$984,666	\$0.6145	\$0.3201	(\$512,968)	\$4,233,862
21		\$984,666	\$0.6189	\$0.3201	(\$509,378)	\$4,709,150
22		\$984,666	\$0.6232	\$0.3201	(\$505,812)	\$5,188,004
23		\$984,666	\$0.6276	\$0.3201	(\$502,271)	\$5,670,399
24		\$984,666	\$0.6320	\$0.3201	(\$498,755)	\$6,156,309
25		\$984,666	\$0.6365	\$0.3201	(\$495,264)	\$6,645,711
TOTAL		\$19,332,887			(\$12,687,176)	\$6,645,711

⚡ Year 1 PPA Rate:
\$0.2349/kWh

⚡ Year 1 Net Annual Savings:
\$53,411

⚡ Total Avoided Utility Cost:
\$19,332,887

⚡ Cumulative Net Savings:
\$6,645,711

⚡ Utility Escalation Rate:
Yrs 1-5 - 5%
Yrs 6-20 - 3.5%
Yrs 21-25 - 0%

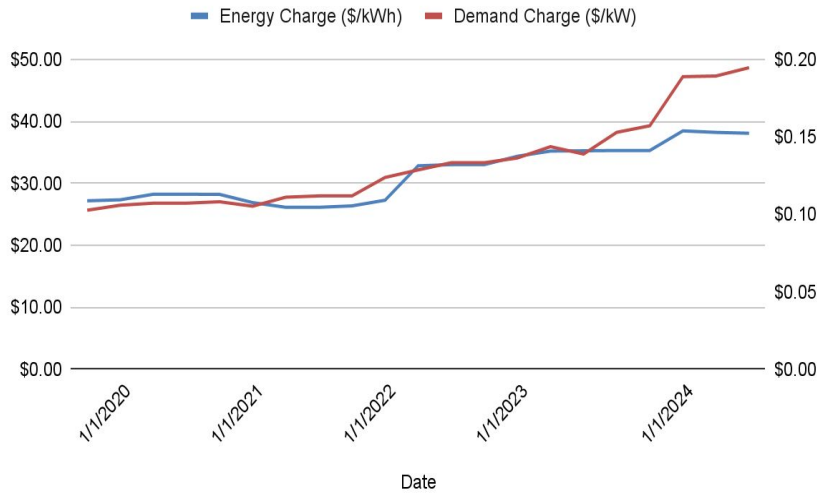
AVOIDED COST OF ENERGY

- ⚡ PG&E Rates have **compound annual growth rate of 5.6% over the last ten years.**
- ⚡ More rapid rate increases are to be expected based on existing PG&E rate cases.
- ⚡ Per CPUC guidance on utility rate case:
 - **12.8% increase under PG&E General Rate case** that took place on Jan 1, 2024

PPA enables predictable and cheaper energy costs for the next 25 years

PG&E Rate Escalation: B-19 Rate Schedule

Energy Charge (\$/kWh) and Demand Charge (\$/kW)



Date	Energy Charge (\$/kWh)	Demand Charge (\$/kW)	Energy Escalation (YOY)	Demand Escalation (YOY)
2021	\$0.11	\$27.5	-	-
2022	\$0.13	\$32.4	20%	18%
2023	\$0.14	\$36.4	11%	12%
2024	\$0.15	\$47.7	9%	31%
Total Escalation 2021 to Present (%)			45%	73%

PG&E rates are consistently increasing. This chart represents the historic PG&E rates of the County Jail's electric bills from 2019 through 2024. *Note: Central Coast Community Energy charges are not included in this data set.*


SITE SAVINGS BREAKDOWN


[Avoided Utility Costs] - [PPA Payment] = County Savings

Project Site	Avoided Utility Costs (Year 1)	PPA Payment (Year 1)	Annual Savings (Year 1)	Total % of Savings (25 Years)
Jail Complex	\$483,533	(\$430,122)	\$53,411	51%
Sheriff's Office	\$95,726.00	(\$87,397)	\$8,329	12%
1441 Schilling	\$315,648.00	(\$292,962)	\$22,686	37%
TOTAL	\$894,907	(\$810,481)	\$84,427	\$10,581,286

COMBINED CASHFLOW


Year	Avoided Utility Costs (\$)	Blended Avoided Cost (\$/kWh)	PPA Rate (\$/kWh)	PPA Payments (\$)	County Cumulative Savings (\$)
1	\$894,907	\$0.227	\$0.206	(\$810,481)	\$84,427
2	\$934,955	\$0.239	\$0.211	(\$827,310)	\$192,071
3	\$976,769	\$0.251	\$0.217	(\$844,534)	\$324,306
4	\$1,020,428	\$0.264	\$0.223	(\$862,162)	\$482,572
5	\$1,066,010	\$0.278	\$0.230	(\$880,204)	\$668,378
6	\$1,097,691	\$0.288	\$0.236	(\$898,672)	\$867,397
7	\$1,130,284	\$0.299	\$0.243	(\$917,575)	\$1,080,106
8	\$1,163,814	\$0.310	\$0.250	(\$936,926)	\$1,306,995
9	\$1,198,307	\$0.321	\$0.257	(\$956,735)	\$1,548,567
10	\$1,233,788	\$0.333	\$0.264	(\$977,013)	\$1,805,341
11	\$1,270,285	\$0.346	\$0.264	(\$970,174)	\$2,105,451
12	\$1,307,825	\$0.358	\$0.264	(\$963,383)	\$2,449,893
13	\$1,346,437	\$0.371	\$0.264	(\$956,639)	\$2,839,690
14	\$1,386,149	\$0.385	\$0.264	(\$949,943)	\$3,275,896
15	\$1,426,993	\$0.399	\$0.264	(\$943,293)	\$3,759,596
16	\$1,468,997	\$0.414	\$0.264	(\$936,690)	\$4,291,902
17	\$1,512,193	\$0.429	\$0.264	(\$930,134)	\$4,873,962
18	\$1,556,614	\$0.445	\$0.264	(\$923,623)	\$5,506,953
19	\$1,602,292	\$0.461	\$0.264	(\$917,157)	\$6,192,088
20	\$1,649,260	\$0.478	\$0.264	(\$910,737)	\$6,930,611
21	\$1,640,148	\$0.479	\$0.264	(\$904,362)	\$7,666,397
22	\$1,631,036	\$0.479	\$0.264	(\$898,031)	\$8,399,402
23	\$1,621,924	\$0.480	\$0.264	(\$891,745)	\$9,129,581
24	\$1,612,812	\$0.481	\$0.264	(\$885,503)	\$9,856,890
25	\$1,603,700	\$0.481	\$0.264	(\$879,304)	\$10,581,286
TOTAL	\$33,353,618			(\$22,772,332)	\$10,581,286

 **Year 1 Combined PPA Rate:**
\$0.206/kWh

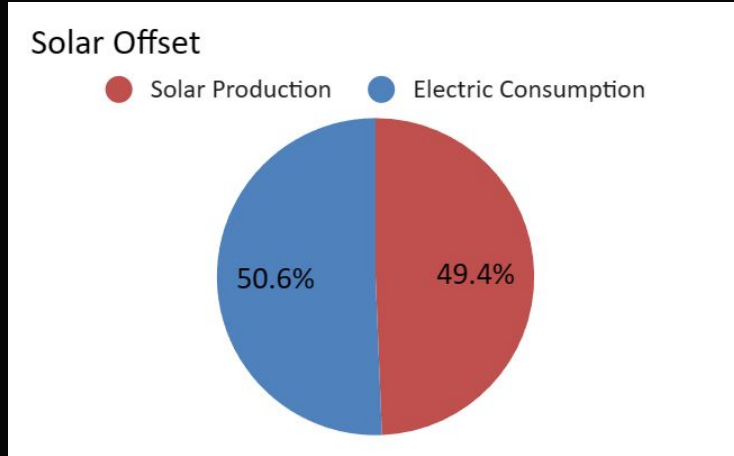
 **Year 1 Net Annual Savings:**
\$84,427

 **Total Avoided Utility Cost:**
\$33,353,618

 **Cumulative Net Savings:**
\$10,581,286

 **Utility Escalation Rate:**
Yrs 1-5 - 5%
Yrs 6-20 - 3.5%
Yrs 21-25 - 0%

SOLAR CARBON OFFSET SUMMARY - JAIL COMPLEX



Emissions	2024
Dirty Grid Gen % (Before Solar)	46%
GHG Emissions Lbs/MWh (Before Solar)	503
Current GHG Emissions (Lbs) (Before Solar)	1,869,565
GHG Emissions After Solar (Lbs)	946,832
Delta (GHG Emissions Reduction) (Lbs)	922,733

The solar system designed for the Natividad Jail Complex produce enough energy throughout the year to offset 49.4% of the candidate sites' electric consumption from April 2023 to March 2024.

COMBINED CARBON OFFSET*

Project Sites	Annual Energy Savings (kWh)	GHG Reduction Annual (MT CO2)	GHG Reduction System Total (Lbs CO2)	Acres of U.S. Forests Sequestering CO2 (Annually)	Passenger Vehicles Driven (Annually)	Number of Households (Annually)
County Jail	1,835,892	346	3,215,522	1,984	316	247
County Sheriff's Office	568,368	107	995,483	540	98	76
County Office	1,515,300	286	2,654,013	1,563	260	203
Total	3,919,560	740	6,865,018	4,087	674	527

*Carbon offsets are based on a comparison to Central Coast Community Energy (3CE) energy mix.

SUMMARY

- ⚡ In order to capture the California SGIP Incentive for this project (\$744,000), the Board of Supervisors must execute the Purchase Power Agreement for Natividad Jail Complex before 4/22/24
- ⚡ Natividad Jail Complex project design has been reviewed and approved by multiple departments at the County and recommended for Board approval by the Alternative Energy & Environment Committee
- ⚡ Natividad Jail Complex project lifetime net savings of ~\$6.6 million and avoid 3,215,522 lbs of CO2 Emissions



BOYS & GIRLS CLUB



OW COMMERCIAL

OUR CLIENTS



THANK YOU

