Ocean Charter School

EV Chargers / Solar Electricity Proposals

Contact: Tim Garlick, garlick@soe.ucsc.edu

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About Tim

00

Who am I?

- Parent of Dashiell (7th, Bearden), Jora (4th, Rosy) and Sachi (2nd, Kristen)
- Spouse of Ms. Tan (Handwork)

Why am I involved?

- President of our condominium building's HOA
- Our HOA is participating in the LADWP EV charging program (plans for 66 chargers submitted, awaiting selection in lottery), gave me the idea for OCS
- Strong advocate of going green and of Ocean Charter School
- I'm happy to coordinate and manage both projects, so minimal time needed by our busy OCS administrators.

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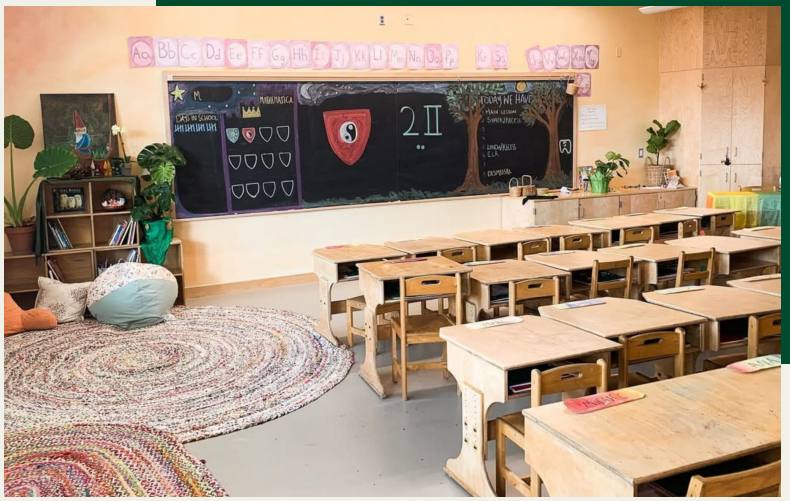
EV Chargers

Install 44 Electric Vehicle (EV) chargers in staff garage at no cost to OCS

01

Benefits



Zero Capital Cost to Ocean Charter

LADWP program pays to install up to 80 EV chargers (we qualify for 44). Costs are covered by LADWP.

Employee Benefit, Staff Retention

EV usage is growing, and free or low-cost charging while at work is a great benefit for staff.

OCS Has Full Control Over Charger Usage

We set the charging rate for the end-user. Board can choose for charging to be free (to teachers) as a benefit, actual-cost, or profit.

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LADWP EV Program

- LADWP covers cost of installing EV chargers in multi-use buildings (apartments, condos, schools)
- Projects are awarded through a lottery for available funds
  - LADWP has repeatedly renewed the program but no guarantee it will continue
  - Typically there have been 3-4 funding rounds / lotteries per year
- Vendor (Chargie) captures the rebate and uses it to install chargers at little or no cost to customer
- Chargie did an initial site survey and confirmed:
  - Rebates are sufficient to install 44 chargers at no cost to OCS
  - Building electrical infrastructure appears sufficient to supply 44 chargers (will be confirmed in engineering phase)

Contact: Tim Garlick, garlick@soe.ucsc.edu

Partner: Chargie

- Installs and maintains EV chargers
- Installs cellular extender to provide Internet access for chargers in garage
- Supplies and maintains management software which is managed and configured by OCS
- 3-Year EV equipment warranty covers maintenance, repair, replacement
- After warranty period, OCS could incur costs if units fail or are damaged

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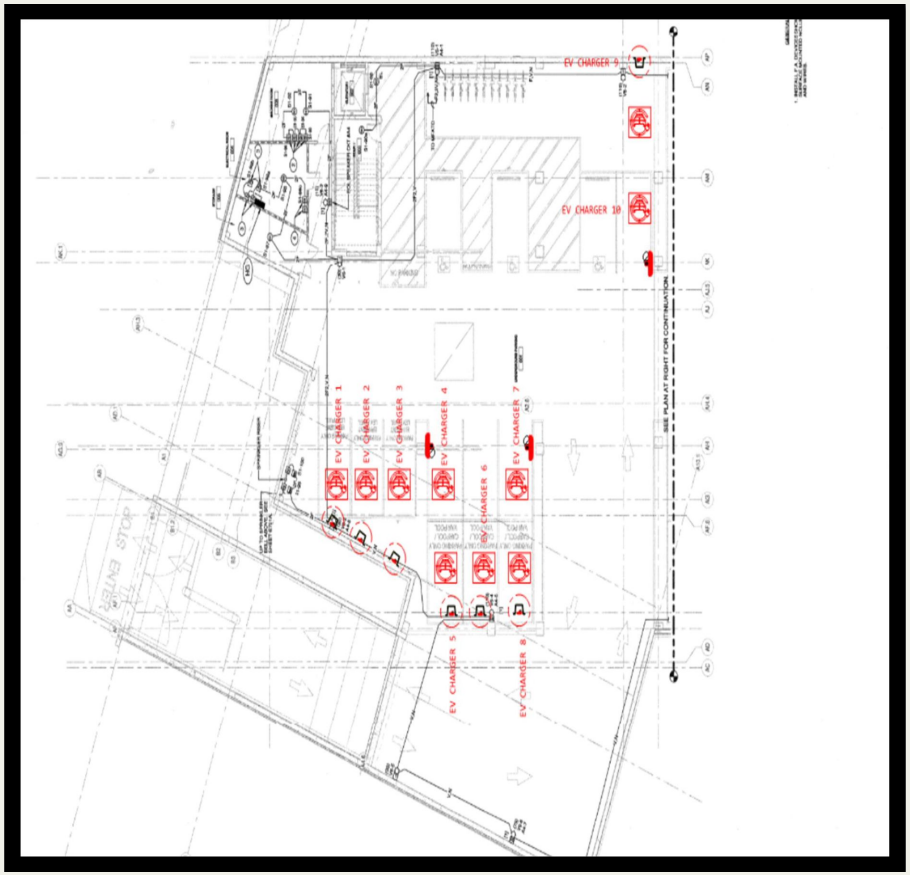
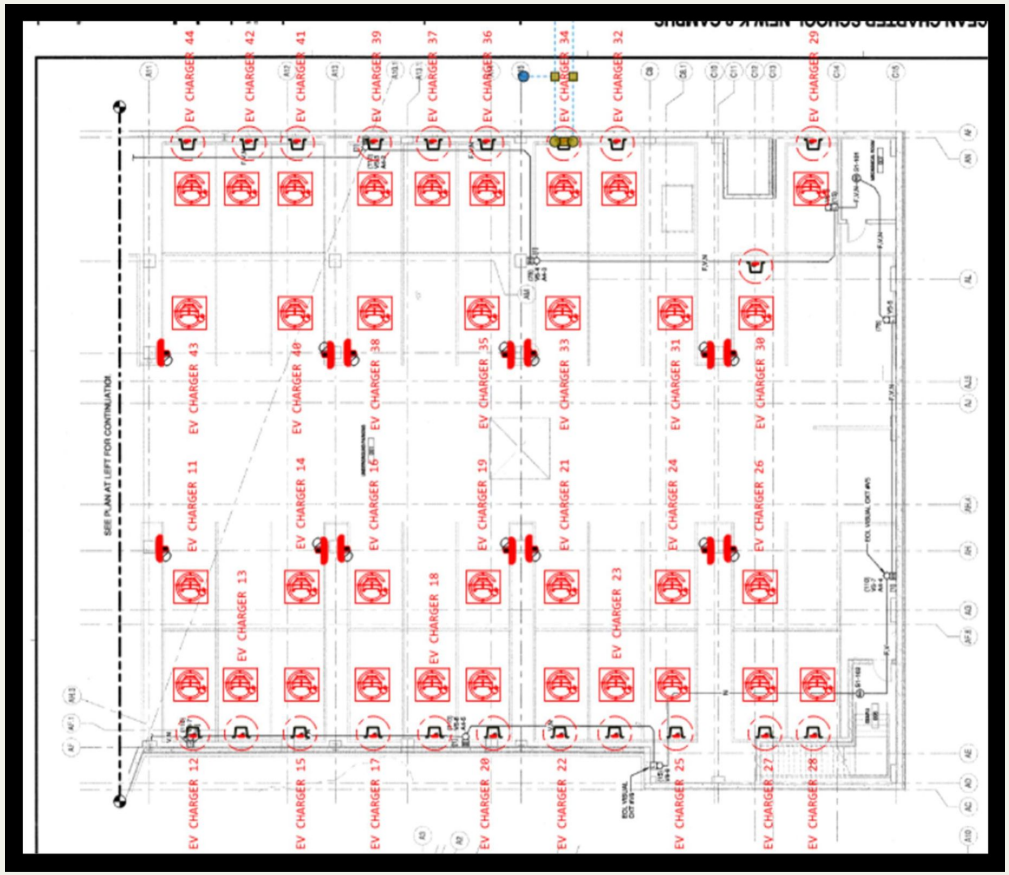
Projected Garage EV Locations





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How EV System Works

- Once installed, OCS has full control over EV software management system
- Each user registers for a Chargie account if they want to charge vehicle
  - No cost to register
  - No monthly fee
  - Pay as you go through mobile app (if not set to free)
- Chargie fee is $.10/kWH to cover their software and maintenance costs
  - Formerly was $5/month per user, but competition drove price down
  - Other vendors fees are comparable
- OCS sets charging rates:
  - No charge, provides EV charging as a low-cost employee benefit
  - Charge actual LADWP cost (see solar project) + Chargie's $.10
  - LADWP electric cost + Chargie's $.10 + profit

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EV Project Timeline

Site Survey

Initial plan, review of electric capabilities (**DONE**)

Preliminary Agreement

OCS signs preliminary agreement, **no binding commitment at this point**. This has been submitted to OCS admin for signing.

Chargie Engineering

Chargie engineering team designs system, provides First Amendment and SOW with formal agreement, costs (if any)

First Amendment

Specific costs (if any). **OCS commits to project, binding agreement.** If OCS later withdraws, must repay Chargie costs; project submitted to LADWP lottery

Installation

If chosen in lottery, installation is scheduled. If not chosen, project is rolled into next round

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Chargie Contact

Contact	Khristian Guillory
Website	chargie.com
Phone	(661) 345-0766
Email	khristian.Guillory@chargie.com

Solar Electricity

Install solar panels on roofs at OCS to supply power

02

Benefits

Lower or Eliminate Electricity Costs

Depending on option chosen, OCS can significantly reduce or eliminate electricity costs

Maintain Power During LADWP Outages

Maintain power during routine or catastrophic outages (eg. earthquakes, assuming no damage)

Savings Increase Over Time

Electric rates are conservatively projected to rise 5-10%/year, while our solar costs will be mostly fixed

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Partner: E-Venture / LITUS

1) Spun off from Chargie which now focuses on EV charger installations
2) Decades of solar systems experience
3) Provided a proposal for OCS with four options:
    - Feed-in-Tariff – E-Venture leases OCS roof space and pays us a flat yearly amount
    - Lease Option – OCS leases system from E-Venture which owns system
    - Cash Option – OCS owns system (purchased with cash up front)
    - Finance Option – OCS owns system (financed with a loan)

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Approximate Solar Panel Locations

- For illustration purposes only
- On-site inspection not yet done
- They were informed that gym was engineered to support solar panels
- Had access to single-line construction plans / blueprints
- Appears to be sufficient roof space to supply all of OCS electrical needs
- Requires engineering design to verify

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Cost/Savings Notes

Before reviewing the four options, note the following:

- Estimated system size: 171.1 kWDC (solar power systems output DC)
- Yield: 1,629 kWh (after converting to AC for wall socket power)
- Conservatively assumes LADWP rates increase 5% per annum
- “ITC %” in tables is amount of the federal Investment Tax Credit
  - Tax credits are paid directly to an entity even if they owe no taxes.
  - OCS should be able to claim ITC (need to verify with OCS accountant / tax advisor.)
  - Federal ITC is 30% of system cost but LA County is designated an “energy community” under the 2022 Inflation Reduction Act, so it’s 40%.
- Cash flow numbers are net LADWP cost (“Energy Savings”)
- Estimated yearly maintenance costs (cash, finance options): $5000 (based on labor so will increase a small amount yearly)

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Option 1 – Feed-in-Tariff

- In this option, E-Venture installs, owns and operates the system
- E-Venture pays a flat yearly rate to OCS to lease OCS rooftop space
- Payment to OCS is $6,844/year, which is the maximum OCS cash flow
- 20-year lease
- OCS not entitled to and cannot claim the ITC
- Cumulative 20-year cash flow to OCS: $136,880
- Break-even: Never (payments slightly offset LADWP electric cost)

Benefits of this option: there are no up-front costs, and no need to obtain financing. Disadvantages are that lease payments are small, fixed, and may not cover all of OCS's LADWP charges.

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Note: Not my typo →

E-VENTURE powered by LITUS

FEED-IN-TERRIF OPTION

System Size (kWDC)	171.1
Yield (kWh)	1,629
Blended Energy Savings ($/kWh)	$0.193
Degradation (%)	0.5%
Utility Rate Increase (%)	5.0%
Estimated Build Cost ($/W)	$0.00
ITC (%)	40%
Federal Tax Rate	0%
State Tax Rate	0%

Year	Project Cost	Lease	Lease Revenue	ITC Transfer	State Tax Benefit	Annual Cash Flow	Cumulative Cash Flow
0	–	–	–	–	–	–	–
1	–	–	$6,844	–	–	$6,844	$6,844
2	–	–	$6,844	–	–	$6,844	$13,688
3	–	–	$6,844	–	–	$6,844	$20,532
4	–	–	$6,844	–	–	$6,844	$27,376
5	–	–	$6,844	–	–	$6,844	$34,220
6	–	–	$6,844	–	–	$6,844	$41,064
7	–	–	$6,844	–	–	$6,844	$47,908
8	–	–	$6,844	–	–	$6,844	$54,752
9	–	–	$6,844	–	–	$6,844	$61,596
10	–	–	$6,844	–	–	$6,844	$68,440
11	–	–	$6,844	–	–	$6,844	$75,284
12	–	–	$6,844	–	–	$6,844	$82,128
13	–	–	$6,844	–	–	$6,844	$88,972
14	–	–	$6,844	–	–	$6,844	$95,816
15	–	–	$6,844	–	–	$6,844	$102,660
16	–	–	$6,844	–	–	$6,844	$109,504
17	–	–	$6,844	–	–	$6,844	$116,348
18	–	–	$6,844	–	–	$6,844	$123,192
19	–	–	$6,844	–	–	$6,844	$130,036
20	–	–	$6,844	–	–	$6,844	$136,880

Option 2 – Lease System

- In this option, E-Venture installs, owns and operates the system
- OCS leases the system from E-Venture
- OCS not entitled to and cannot claim the ITC (claimed by E-Venture)
- OCS lease payments to E-Venture increase 2%/year
- Yearly cash flow grows approx 3+%/year (difference between lease and LADWP increases)
- Leasing fee continues for 30+ years
- Cumulative 30-year net cash flow to OCS: $1,620,310
- Break-even: Year 1

Benefits of this option: there are no up-front costs, and no need to obtain financing. A disadvantage is that the perpetual lease costs limit cash flow over time.

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LEASE OPTION

System Size (kWDC)	171.1
Yield (kWh)	1,629
Blended Energy Savings ($/kWh)	$0.193
Degradation (%)	0.5%
Utility Rate Increase (%)	5.0%
Estimated Build Cost ($/W)	$0.00
ITC (%)	40%
Federal Tax Rate	0%
State Tax Rate	0%

Year	Project Cost	Energy Savings	Lease	ITC Transfer	State Tax Benefit	Annual Cash Flow	Cumulative Cash Flow
0	–	–	–	–	–	–	–
1	–	$53,787	($40,945)	–	–	$12,842	$12,842
2	–	$56,207	($41,764)	–	–	$14,443	$27,285
3	–	$58,736	($42,599)	–	–	$16,137	$43,422
4	–	$61,380	($43,451)	–	–	$17,928	$61,351
5	–	$64,142	($44,320)	–	–	$19,821	$81,172
6	–	$67,028	($45,207)	–	–	$21,821	$102,994
7	–	$70,044	($46,111)	–	–	$23,934	$126,927
8	–	$73,196	($47,033)	–	–	$26,163	$153,091
9	–	$76,490	($47,974)	–	–	$28,517	$181,607
10	–	$79,932	($48,933)	–	–	$30,999	$212,606
11	–	$83,529	($49,912)	–	–	$33,617	$246,224
12	–	$87,288	($50,910)	–	–	$36,378	$282,602
13	–	$91,216	($51,928)	–	–	$39,288	$321,889
14	–	$95,321	($52,967)	–	–	$42,354	$364,243
15	–	$99,610	($54,026)	–	–	$45,584	$409,827
16	–	$104,092	($55,107)	–	–	$48,986	$458,813
17	–	$108,777	($56,209)	–	–	$52,568	$511,381
18	–	$113,672	($57,333)	–	–	$56,339	$567,720
19	–	$118,787	($58,480)	–	–	$60,307	$628,027
20	–	$124,132	($59,649)	–	–	$64,483	$692,510
21	–	$129,718	($60,842)	–	–	$68,876	$761,386
22	–	$135,556	($62,059)	–	–	$73,497	$834,883
23	–	$141,656	($63,300)	–	–	$78,355	$913,238
24	–	$148,030	($64,566)	–	–	$83,464	$996,702
25	–	$154,691	($65,857)	–	–	$88,834	$1,085,536
26	–	$161,652	($67,175)	–	–	$94,478	$1,180,014
27	–	$168,927	($68,518)	–	–	$100,409	$1,280,423
28	–	$176,529	($69,888)	–	–	$106,640	$1,387,063
29	–	$184,472	($71,286)	–	–	$113,186	$1,500,249
30	–	$192,774	($72,712)	–	–	$120,062	$1,620,310

Option 3 – Cash Purchase

- In this option, OCS purchases and owns the system
- Estimated up-front net cost is $304,130 after ITC
- E-Venture installs, and maintains (under separate contract) the system ($4500-$5000/year)
- Cumulative 30-year cash flow to OCS: $2,977,240
- Break-even: Year 6

Benefits of this option: no financing costs, highest 30-year cash flow.
A disadvantage is the need to pay $507k cash for the system up front (before ITC credit which will come back to OCS when filed).

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E-VENTURE powered by LITUS

CASH PURCHASE OPTION

System Size (kWDC)	171.1
Yield (kWh)	1,629
Blended Energy Savings ($/kWh)	$0.193
Degradation (%)	0.5%
Utility Rate Increase (%)	5.0%
Estimated Build Cost ($/W)	$2.96
ITC (%)	40%
Federal Tax Rate	0%
State Tax Rate	0%

Year	Project Cost	Energy Savings	Financing Payments	ITC Transfer	State Tax Benefit	Annual Cash Flow	Cumulative Cash Flow
0	($506,884)	–	–	–	–	($506,884)	($506,884)
1	–	$53,787	–	$202,754	–	$256,540	($250,344)
2	–	$56,207	–	–	–	$56,207	($194,136)
3	–	$58,736	–	–	–	$58,736	($135,400)
4	–	$61,380	–	–	–	$61,380	($74,020)
5	–	$64,142	–	–	–	$64,142	($9,879)
6	–	$67,028	–	–	–	$67,028	$57,149
7	–	$70,044	–	–	–	$70,044	$127,194
8	–	$73,196	–	–	–	$73,196	$200,390
9	–	$76,490	–	–	–	$76,490	$276,880
10	–	$79,932	–	–	–	$79,932	$356,812
11	–	$83,529	–	–	–	$83,529	$440,341
12	–	$87,288	–	–	–	$87,288	$527,629
13	–	$91,216	–	–	–	$91,216	$618,845
14	–	$95,321	–	–	–	$95,321	$714,166
15	–	$99,610	–	–	–	$99,610	$813,776
16	–	$104,092	–	–	–	$104,092	$917,868
17	–	$108,777	–	–	–	$108,777	$1,026,645
18	–	$113,672	–	–	–	$113,672	$1,140,317
19	–	$118,787	–	–	–	$118,787	$1,259,104
20	–	$124,132	–	–	–	$124,132	$1,383,236
21	–	$129,718	–	–	–	$129,718	$1,512,954
22	–	$135,556	–	–	–	$135,556	$1,648,509
23	–	$141,656	–	–	–	$141,656	$1,790,165
24	–	$148,030	–	–	–	$148,030	$1,938,195
25	–	$154,691	–	–	–	$154,691	$2,092,886
26	–	$161,652	–	–	–	$161,652	$2,254,539
27	–	$168,927	–	–	–	$168,927	$2,423,466
28	–	$176,529	–	–	–	$176,529	$2,599,994
29	–	$184,472	–	–	–	$184,472	$2,784,466
30	–	$192,774	–	–	–	$192,774	$2,977,240

Option 4 – Finance System

- In this option, OCS uses financing to purchase and own the system
- Cash flow model assumes 8.5% on a 15-year fixed-rate note
- Loan amount needed is reduced by amount of the ITC
- E-Venture can work through their channel to arrange financing if desired or OCS can secure financing separately
- Estimated system's net cost after ITC, and with loan interest is $346,621
- E-Venture installs, and maintains (under separate contract) the system ($4500-$5000/year)
- Cumulative 30-year cash flow to OCS: $2,732,018
- Break-even: Year 1

Benefits of this option: no large up-front costs, second highest 30-year cash flow. A potential disadvantage is the need to obtain financing.

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Note: ITC is claimed by OCS, but not shown in table because it reduces the loan amount / payments

FINANCING OPTION

System Size (kWDC)	171.1
Yield (kWh)	1,629
Blended Energy Savings ($/kWh)	$0.193
Degradation (%)	0.5%
Utility Rate Increase (%)	5.0%
Estimated Build Cost ($/W)	$2.96
ITC (%)	40%
Interest Rate (%)	8.5%
Term (Years)	15

Year	Project Cost	Energy Savings	Financing Payments	ITC Transfer	State Tax Benefit	Annual Cash Flow	Cumulative Cash Flow
0	–	–	–	–	–	–	–
1	–	$53,787	($36,624)	–	–	$17,163	$17,163
2	–	$56,207	($36,624)	–	–	$19,584	$36,747
3	–	$58,736	($36,624)	–	–	$22,113	$58,860
4	–	$61,380	($36,624)	–	–	$24,756	$83,616
5	–	$64,142	($36,624)	–	–	$27,518	$111,134
6	–	$67,028	($36,624)	–	–	$30,405	$141,539
7	–	$70,044	($36,624)	–	–	$33,421	$174,959
8	–	$73,196	($36,624)	–	–	$36,573	$211,532
9	–	$76,490	($36,624)	–	–	$39,867	$251,399
10	–	$79,932	($36,624)	–	–	$43,309	$294,707
11	–	$83,529	($36,624)	–	–	$46,906	$341,613
12	–	$87,288	($36,624)	–	–	$50,664	$392,278
13	–	$91,216	($36,624)	–	–	$54,592	$446,870
14	–	$95,321	($36,624)	–	–	$58,697	$505,567
15	–	$99,610	($36,624)	–	–	$62,987	$568,554
16	–	$104,092	–	–	–	$104,092	$672,646
17	–	$108,777	–	–	–	$108,777	$781,423
18	–	$113,672	–	–	–	$113,672	$895,094
19	–	$118,787	–	–	–	$118,787	$1,013,881
20	–	$124,132	–	–	–	$124,132	$1,138,013
21	–	$129,718	–	–	–	$129,718	$1,267,732
22	–	$135,556	–	–	–	$135,556	$1,403,287
23	–	$141,656	–	–	–	$141,656	$1,544,943
24	–	$148,030	–	–	–	$148,030	$1,692,973
25	–	$154,691	–	–	–	$154,691	$1,847,664
26	–	$161,652	–	–	–	$161,652	$2,009,316
27	–	$168,927	–	–	–	$168,927	$2,178,243
28	–	$176,529	–	–	–	$176,529	$2,354,772
29	–	$184,472	–	–	–	$184,472	$2,539,244
30	–	$192,774	–	–	–	$192,774	$2,732,018

Contact: Tim Garlick, garlick@soe.ucsc.edu

Solar Project Timeline (Milestones)

Letter of Intent

OCS signs 90-day letter of intent. Cannot go with another vendor; preliminary engineering work commences.

Installation or Lease Agreement

OCS signs binding installation agreement (cash or finance purchase) or lease agreement (feed-in-tariff or lease options)

Development

Design, engineering, and permitting done. Typically ~120 days.

Installation

Approximately 90 days. If we decide to move forward in Q1, we should be able to schedule install for Summer, 2025.

Commissioning

System enabled and monitored for 30 days. Any issues are resolved.

Contact: Tim Garlick, garlick@soe.ucsc.edu

E-Venture Contact

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Email	matt@eventure.solutions

The children thank you for considering their future

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