

# Encinitas EV Fast Chargers Adjacent Rooftop

Tesoro Sol

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**EV Chargers:** The adjacent property is being designed to support **10 dual-port Titan V4 DC fast chargers**, totaling **20 charging ports**, with each port capable of delivering up to **160 kW**—equating to a maximum site load of **3.2 MW** if all ports operate at full capacity. According to SDG&E's Integration Capacity Analysis (ICA) for **Line Segment 287953**, the circuit supports **2.1 MW of uniform load capacity**, meaning the full EV charging load would exceed available hosting capacity without upgrades or mitigations. To address this constraint, the project includes a **Powin Stack800 battery system** (800 kWh, 201.7 kW discharge) and **277 kW of solar**, designed to reduce grid strain through **load smoothing, peak shaving**, and time-shifted charging.

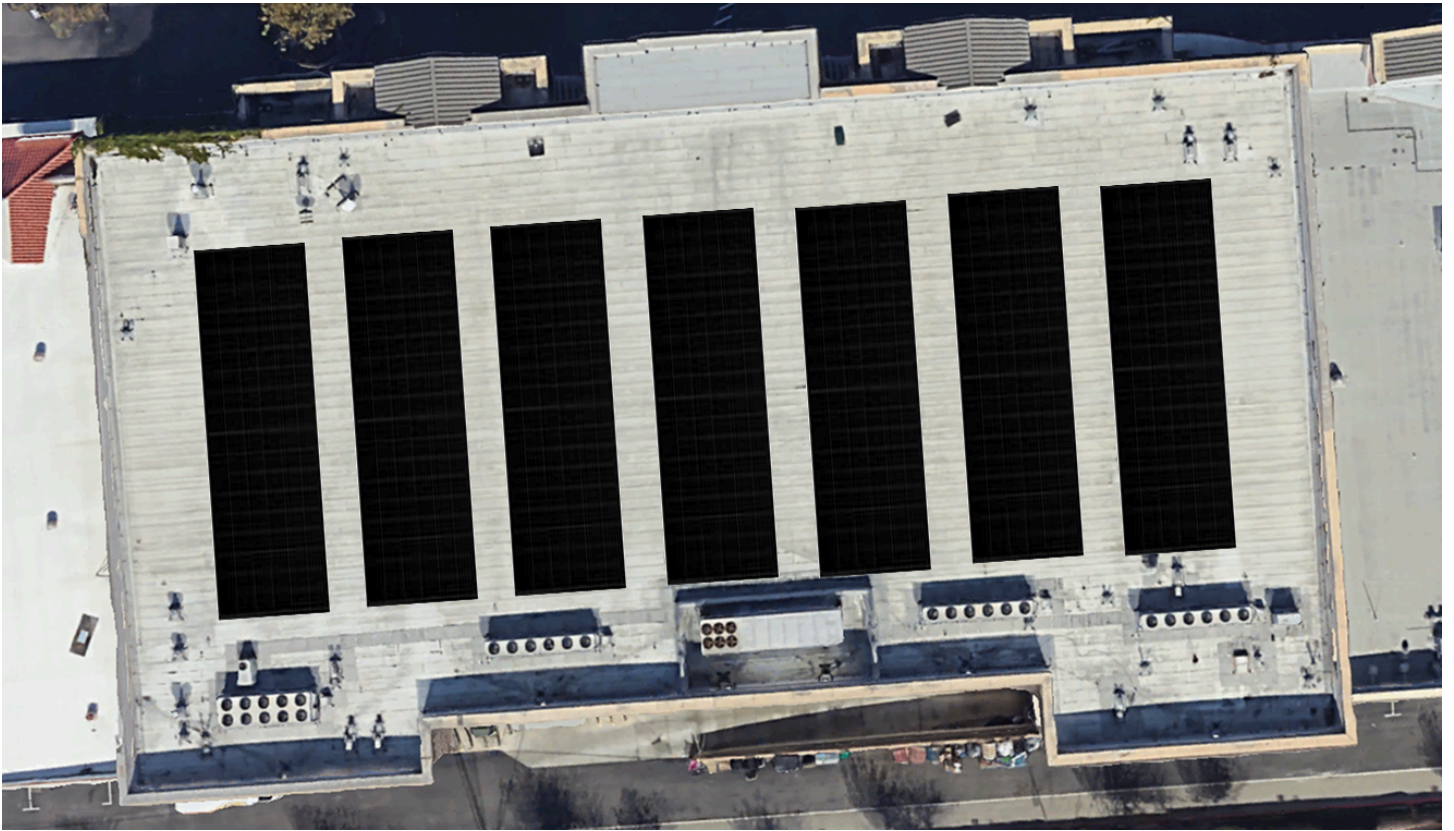
**Solar + Batteries:** The **277 kW solar array** will offset daytime charging demand, while the **Powin Stack800** provides flexibility to charge from solar or off-peak grid energy and discharge during peak use. This hybrid configuration helps **mitigate the ICA limitation** of 2.1 MW by ensuring that peak site demand is partially supported by on-site generation and storage. While not sufficient to power all 20 ports simultaneously, this infrastructure enables a **phased charger activation plan**, reduces utility upgrade needs, and improves resilience. It also enhances eligibility for **SGIP, CEC EVSE incentives**, and **IRA tax credits**, especially with U.S.-assembled components.

## Working with SDG&E:

1. **EV Chargers:** SDG&E's EV Infrastructure Rule (Rule 45) provides a new pathway for separately-metered EV charging sites, such as multi-unit dwellings or commercial locations. Rule 45 differs from Rule 16 in that it does not provide a customer allowance, and SDG&E designs, installs, owns, and maintains all utility-side equipment between the distribution system and the meter. Eligible sites can also opt for the Electric Vehicle-High Power (EV-HP) rate plan, which offers simpler, stable billing and eliminates demand charges, making EV charging more accessible and cost-effective.
  - a. **Key Rule 45 differences include covering construction costs on the utility side and not allowing Applicant design. To take service under Rule 45, applicants must:**
    - Be located outside of a single-family home.
    - Install behind-the-meter equipment, including panels, conduit, and chargers.
    - Commit to maintaining the EV charging equipment for at least five years.
    - Ensure EV charging is separately metered and serves only the related EV equipment.
    - Not participate in an SDG&E infrastructure program, such as Power Your Drive.
2. **Solar:** Net Energy Metering (NEM) allows for energy use to be measured in both directions. Surplus energy sent to the grid earns credits that can be used to offset future bills. At the end of each 12-month cycle, a "true-up" bill reconciles the account, determining if there is any balance due.

# Potential Site Plan

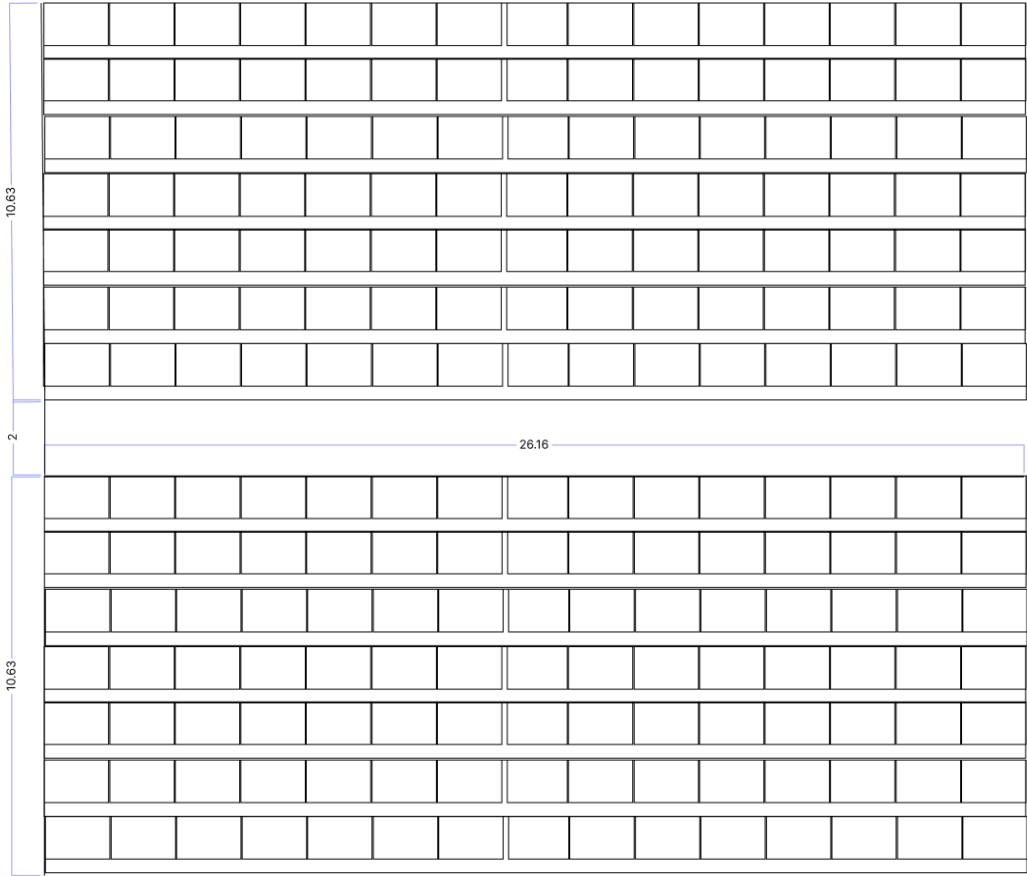
Roof 96x50 meters



Each section of solar is approximately 11×27 meters

Distance Between sections is 2 meters

Roof has enough space for 6 sections



## Potential System Breakdown

Battery Count	Module size	kwh
1	Powin Stack	800
Solar Sections	Panels	Power(kw)
1	105	46,200
2	105	46,200
3	105	46,200
4	105	46,200
5	105	46,200
6	105	46,200
Total	630	277,200

## Components

Solar - Q.TRON BLK M-G2+/AC or G2.H1+/AC		
Attribute	Specification	Notes
Solar Potential(kw):	277,200	rooftop
Rated Power (STC)	440 W	
Efficiency	≥22.5%	
Nominal AC Voltage	240 V (211–264 V range)	
Module Dimensions (L×W×H)	67.8" × 44.6" × 1.57" (1722 × 1134 × 40 mm)	
Weight	50.59 lbs (22.95 kg)	
Max System Voltage	1000 V (UL)	
Warranty	25-year product & performance warranty	
Certifications	UL 1741, UL 1741SA/SB, UL 61730, CSA C22.2, CE, IEC 61215, IEC 61730	
Bonus Eligibility	Assembled in USA; <b>eligible for IRA 10% Domestic Content Bonus</b>	

Battery Energy Storage System -Powin Stack 800		
Usable Energy Capacity	800 kWh per unit (DC, 100% DoD)	
Power Output	201.7 kW per unit (4-hour rated discharge)	
Battery Chemistry	LiFePO <sub>4</sub> (LFP)	
Round-Trip Efficiency	Not specified (typically ~89–94% for LFP systems)	
Voltage Range	1,210–1,491 V DC	
Certifications	UL9540A, UL1973, UL1642, UN 38.3, NFPA 855, IEC 62619	
Mounting	Modular outdoor cabinet (factory-built, high-density)	
Warranty	Project-specific (typical commercial warranties 10–15 years)	
Made in	<b>USA-assembled, designed for utility/commercial deployment</b>	

# Interconnection Point

## Power Lines

Circuit Name	289	
Voltage	12 kV	
Line Segment Number	287953	
ICAWOF – Uniform Generation	2.5 MW	
ICAWOF – Fixed Solar PV	2.7 MW	
ICAWNOF – Uniform Generation	2.5 MW	
ICAWNOF – Fixed Solar PV	2.7 MW	
Uniform Load Capacity	2.1 MW	
Customer Type Breakdown	75% Residential, 24% Commercial	

## Substation

Substation Name	EN3031	
Associated Circuit(s)	289	
Voltage Level	12 kV	
Circuit Generation Total	6.35 MW	

## Contact

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