

SOLUTIONS

For 

AOAO Ev Charging Resolutions

By Hawaii EV Partnership



Example of Challenges to Electric Vehicle Charging in AOAO Multifamily & Mixed Residential Buildings

Case Study: An AOAO In Honolulu Hawaii USA.

Mixed Building:

- 250 Condo Units, 2 Retail stores
- 1 Tesla S BEV owner No place to Charge
- Year built: 2000

Parking:

- 500 spaces (mixed 1 and 2 tandem spaces per unit)
- 5 guest spaces (a negative per unit)
- 2 levels subterranean; 2 levels above-ground
- No street parking

Electrical:

- All original electrical work (2000)
- Constrained by transformer size
- AOAO fees pay for common area electricity
- Individually metered units located on each floor

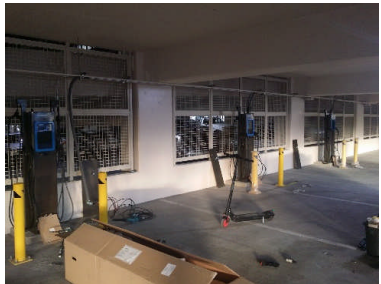
Electrical Engineering Phase 1 Prescription

1)Transformer Load Measured for one week for peak Capacities 2)Retro fitted common area with new LED Lighting ,Recommended PV with or a stand alone 50k battery storage system.

Result

Freed up 60 amps, Now Capacity for (10) Level II and or (15) 110 outlets
,Common Area Charger and opportunity for Solar Carport for top deck Phase 2 -Estimate to Install of 1 dual common are EVSE \$23,459.00

New Construction



AOAO Case Study

206 Units 480 Deeded Parking 10 Guest stalls 11 EV Owners
Falls under Laws Hawaii ACT186-089

JOB NAME: One Ala Moana
Honolulu, HI

Developer : Howard Hugh's Corp. ,Kobayashi Group, The MacNaughton Group

Project Management Co.: P3 Management : Electrician A-1 A Company

Sales and Commissioning Company- EvStructure/ retrofithawaii

Start Date- 3/10/13

Date of Completion approx. 11/1/14

Permit Closed

Result- Tremendous Project Savings, Happy New Homeowners with this Amenity



Cost Break Down saved :

1. Engineer drawing for site layout, single line and installation for plan check, meet with city to submit and obtain approval \$ 1,500.00
2. Coring ,Installation Labor and Material (Includes 100kVa Transformer) \$ 12,000.00
3. (3)x Opconnect Mark II Duel EVSE w/ Cord Management \$ 21,990.00
5. Paint parking stall for EV and install wheel stops \$ 1,200.00
6. 1 EvGauge KWH Data Management 3,700 plus 15.00 a mo. mgmt Per driver

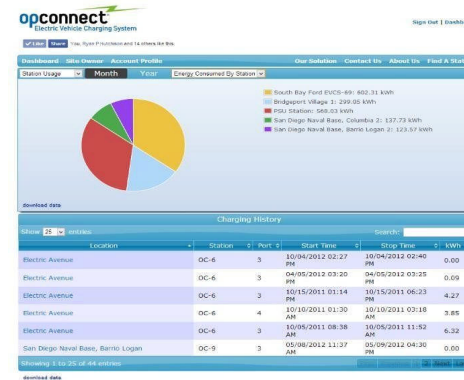
Project Total \$23,190.00

Total Saved specked into initial planning \$24,000 +



Common Area EVSE Solutions

- Multiple ways to initiate charging:
 - Credit/Debit/Fleet cards
 - OpConnect Card
 - Smartphone
 - Email + PIN
 - Phone + PIN
 - Web Portal/Smartphone App
 - Locate Stations
 - Real-Time Status
 - Data Management
 - Social Media Integration
 - **Reservations/Queuing**
 - **Property Management Monitoring**
 - **Demand Response**
 - **OCPP**
 - **Billing Options**
 - Toll-free phone and email
- ***LOCAL HAWAII customer support and Technical On Site Service



Tier	Length	Rate	No.
Tier 1	4	\$2.00	4
			\$4.00

AND More



EVSE KWH Pay back Metering Options



*Run
conduit
from unit*

Option#1

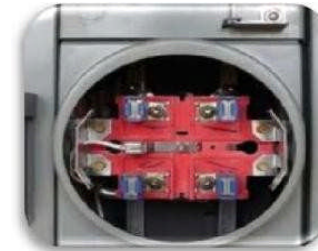
Very expensive
and messy to bring
new service from
home owner unit to
garage.



Run conduit
to meter
Room

Option#2

May not be enough room
in the panel and
meter rooms to pass
DPP inspection



A common
area EV
**Meter or
SUB Meter**

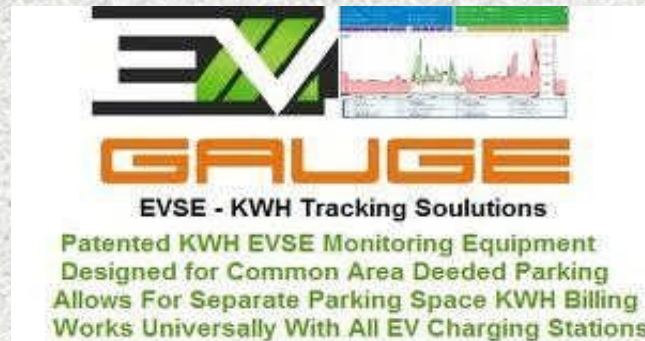
Option#3

Best case for future EVs
conform and consolidate a
separate common area
meter with a verifiable KWH
billing system using
available hardware and
software options

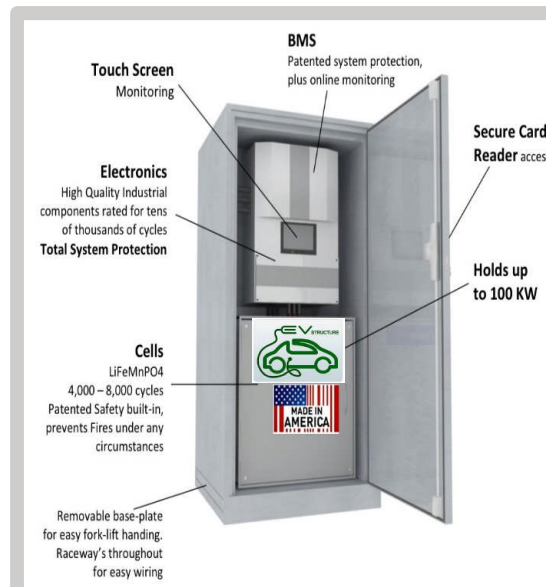


Patented KWH EVSE Monitoring Equipment
Designed for Common Area Deeded Parking
Allows For Separate Parking Space KWH Billing
Works Universally With All EV Charging Stations

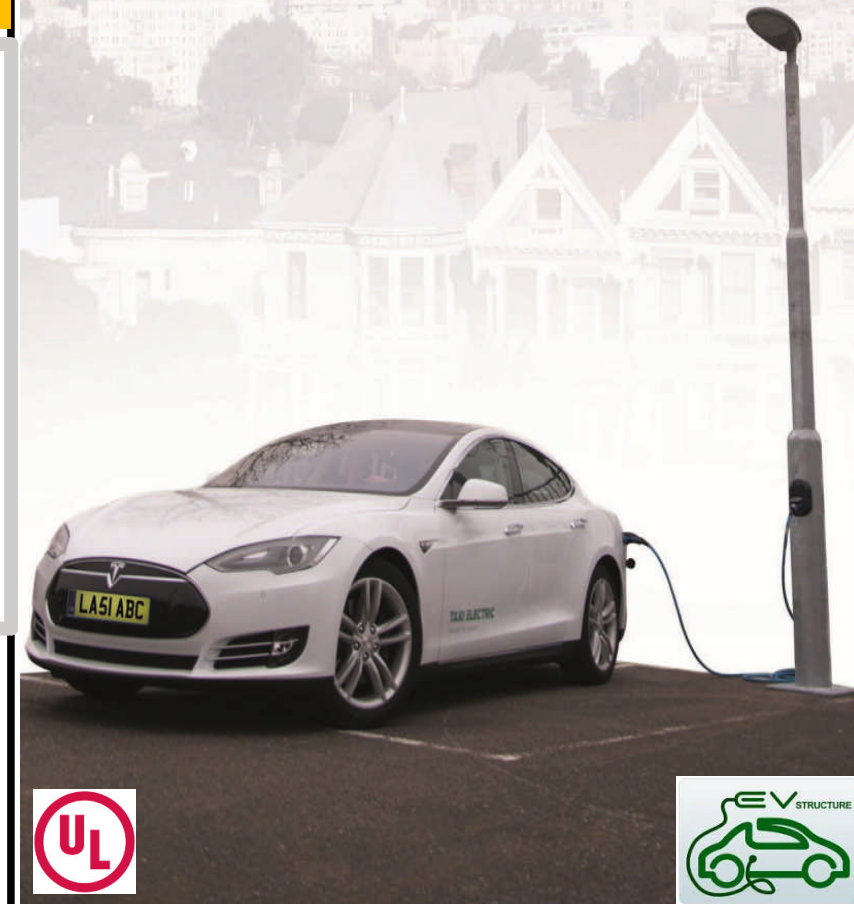
110v Charging KWH monitoring Solutions



WATT \$30,000 gets you Off Grid EvStructure Products Available



EvStructures New LED Smart Pole



LED light pole and EV charging on Battery

Summary



- Electric Vehicles are here and in demand , be prepared for change.
- Your Involvement's are encouraged and needed in the initial planning ,designing of the specifications for residential, MUD and commercial EVSE Electrical Infrastructures and installations for enough 110v dedicated circuit outlets and or sufficient transformers sizing for Common area EVSEs.
- EV drivers want to be able to charge their vehicles at home ,workplace and opportunity charging i.e. Movies , Mall etc.
- The Electrical Vehicle Market presents challenges along with opportunities for off grid technologies for all our local MUD residents, commercial businesses and all Industry sectors in Hawai'i.
- There are solutions ,Our goal is to work together as a community to assist in the safe, sound and successful growth of the electric vehicle market.
- Gain 3 LEED points for providing EVSE for 2% of overall parking spots (Revised 2013 from 5%)

Resources

Education

Local groups: Maui EV Alliance, State Energy Office, HECO, Honolulu Clean Cities, The EvStructure Co.

National groups: Plug in America, USDOE Alternative Fuel Data Center

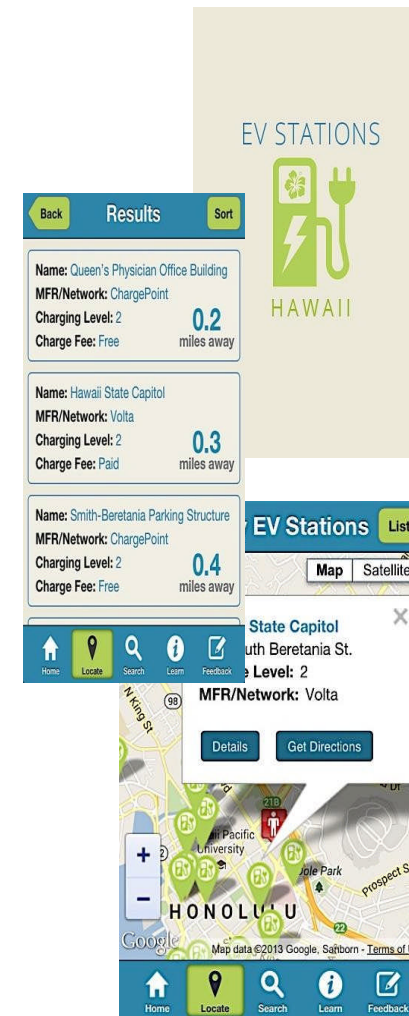
Websites

electricvehicle.hawaii.gov
www.pluginamerica.org epri.com
www.necanet.org Afdc.energy.gov
HonoluluCLEANCities.org Evstructure.com

EV Charging Station Mobile Application

EV Stations Hawaii

Plug Share



The END of the Beginning Mahalo ☺

Hawaii EV Partnership



HERE TO HELP



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