



LADWP & LA ZOO

Solar + Storage + EV Grid Resiliency Project

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LA ZOO PROJECT BACKGROUND

Project Partners:

Department of Water and Power (LADWP) & Los Angeles Zoo

Proposed Project:

Photovoltaic (PV) Solar + Energy Storage + Electric Vehicle (EV) Chargers

Key Goals:

- Strengthen power grid reliability
- Expand local solar capacity on City facilities
- Provide back-up power for the Los Angeles Zoo
- Expand EV charging infrastructure

This will be the largest solar installation at a zoo in the United States

LA ZOO NEM SCOPE



SOLAR PV

ROOFTOP: 370 kW

BATTERY ENERGY STORAGE SYSTEM

6MWH TOTAL, 3 LOCATIONS



ZOO ELECTRICAL IMPROVEMENTS

SUBMETERING PER BUILDING

UPGRADED ADMIN BUILDING SWITCHGEAR

OVERHEAD TO UNDERGROUND POWERLINE

1 EV CHARGER FOR ANIMAL HEALTH CENTER

LA ZOO GRID CONNECTED SCOPE



SOLAR PV

CARPORT & SHADE CANOPY: 3.5 MW

BATTERY ENERGY STORAGE SYSTEM
~2 MW, 8 MWh REPLACING THE FUEL CELL



EV CHARGERS AND INFRASTRUCTURE

UP TO 100 MAKE-READY EV CHARGING PORTS
UP TO 25 DC FAST CHARGERS

LA ZOO PROJECT BENEFITS



**NEM 370KW SOLAR
EST SAVINGS
\$120,000**



**NEM 6MWH BATTERY
SAVINGS OF AT LEAST
\$100,000**



**NEM BATTERY
PROVIDING BACKUP
POWER**



**OFFSETTING FOSSIL
FUELED
GENERATION**

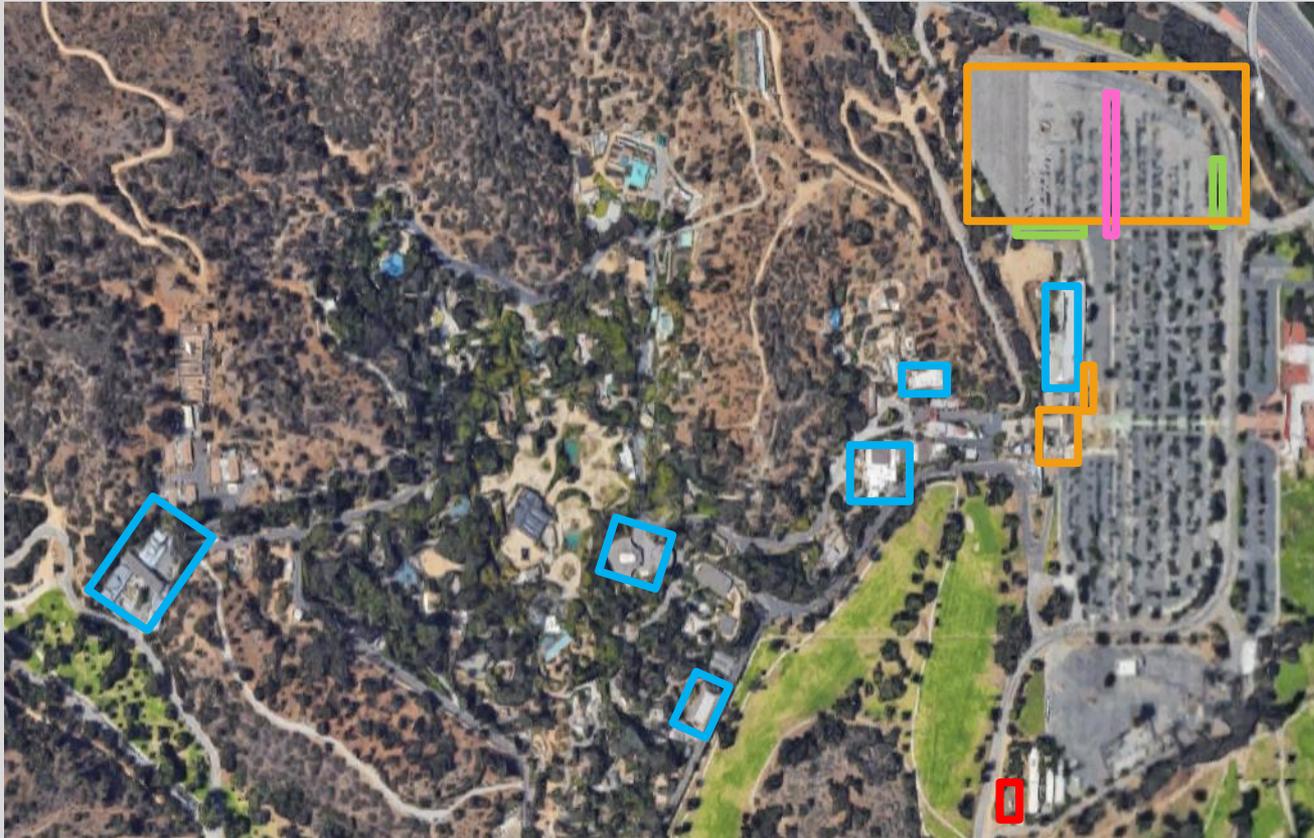


**PROVIDES EV
CHARGING FOR CITY
AND LA ZOO PATRONS**



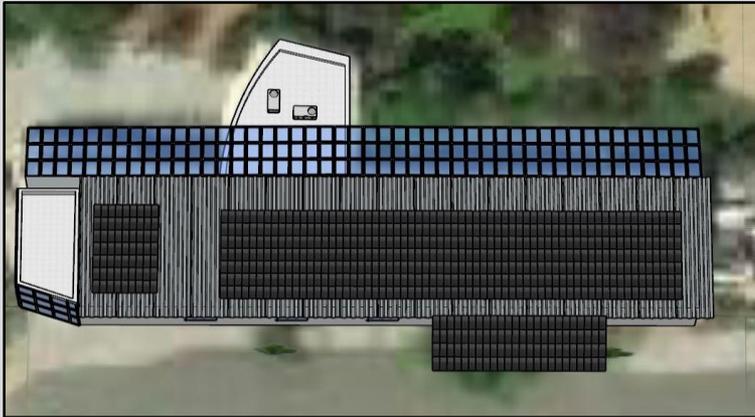
**EQUIVALENT TO
REMOVING 1,153 HOMES
OR 466 CARS**

LA ZOO PROJECT MAP



- FUEL CELL REMOVAL AND INSTALL OF 2MW/8MWh STANDALONE BATTERY**
- 3.5MW UBS SOLAR LOCATIONS (CARPORT, AND SOLAR SHADE CANOPIES IN FRONT ENTRANCE)**
- 370kW NEM SOLAR ROOFTOP/STORAGE INSTALLATION**
- UP TO 100 MAKE READY EV CHARGER INFRASTRUCTURE**
- UP TO 25 DC FAST CHARGERS AND INTERCONNECTION**

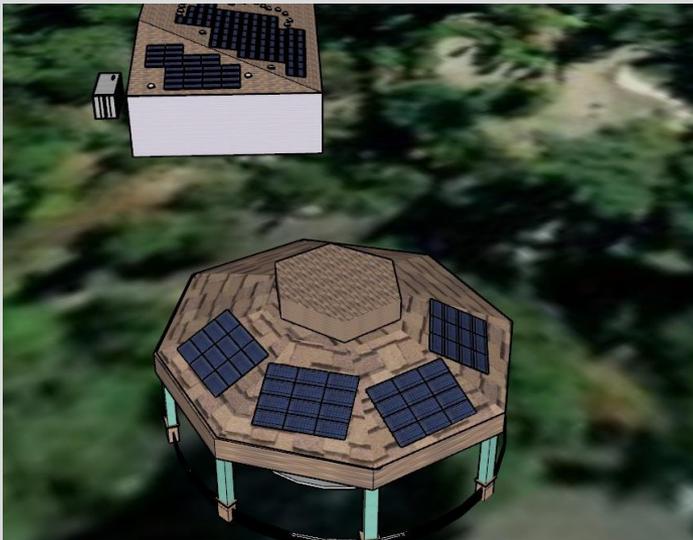
LA ZOO NEM SOLAR AND BATTERY



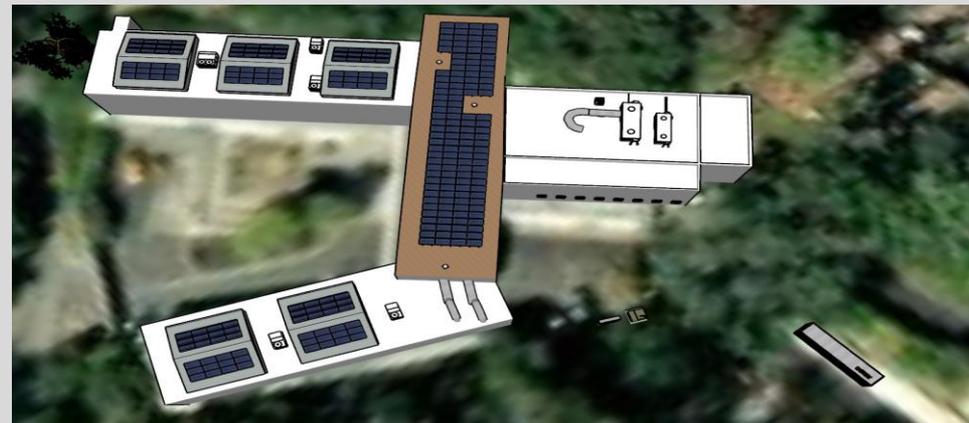
CHILDREN'S DISCOVERY CENTER



ADMIN BUILDING



LAIR AND CAROUSEL



ANIMAL HEALTH CENTER

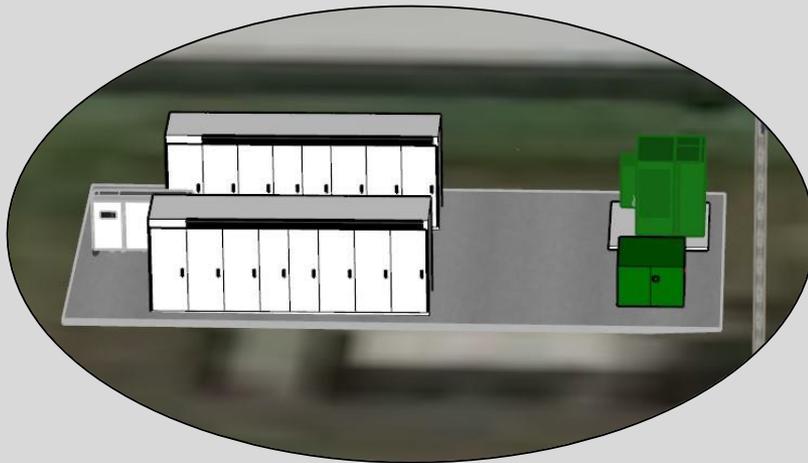
LA ZOO GRID CONNECTED SOLAR AND BATTERY RENDERINGS



100KW SOLAR SHADE CANOPY



3.4MW CARPORT SOLAR



2MW/8MWH ENERGY STORAGE

LA ZOO EV PROJECT RENDERINGS

ALL EV CHARGERS ARE
LOCATED IN THE ZOO'S NORTH
PARKING LOT

UP TO 25 DC FAST
CHARGERS

100 EV CHARGER
INFRASTRUCTURE
LOCATION



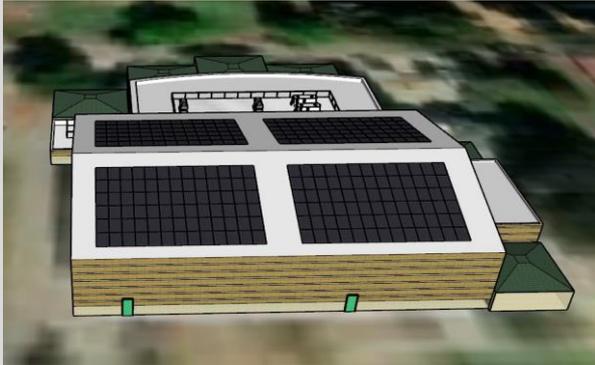
LA ZOO PROJECT COSTS

PROJECT COMPONENT		TOTAL (\$)
LA ZOO	360KW NEM SOLAR ROOFTOP (CDC, ADMIN BLDG, HEALTH CENTER, LAIR) PROJECT TOTALS	\$2,950,000
	6MWH NEM ENERGY STORAGE (ADMIN, HEALTH CENTER, LAIR) PROJECT TOTALS	\$4,102,000
	OH TO UG CONVERSION, SUBMETERING, SWITCHGEAR REPLACEMENT, EV CHARGER AT HEALTH STATION *PRELIMINARY COST ESTIMATE*	\$1,000,000
	LA ZOO NEM PROJECT TOTALS	\$8,052,000
LADWP	3.5MW GCS SOLAR CARPORT TOTALS	\$22,698,000
	ENERGY STORAGE 10 YEAR DURATION PROJECT TOTALS	\$9,155,451
	25 DCFC SEPARATELY METERED AND 100 MAKE-READY EV PROJECT TOTALS	\$2,275,500
	PROJECT MANAGEMENT AND CONTINGENCY (15%)	\$5,119,343
	LADWP PROJECT COST	\$39,248,294
TOTAL PROJECT COST		\$47,300,294

**Preliminary project cost, subject to change*

OTHER PROJECTS

BALBOA SPORTS CENTER



SCOPE

NEM: 50KW ROOFTOP SOLAR-\$480,000

RGS: 2MW CARPORT SOLAR

3 DCFC

3MWH ENERGY STORAGE

OTHER PROJECTS

VALLEY PLAZA RECREATION CENTER



SCOPE

NEM: 50KW ROOFTOP SOLAR- \$480,000

RGS: 200KW CARPORT SOLAR
DCFC CAPABLE
UP TO 3MWH ENERGY STORAGE

Q&A

