

SANTA BARBARA UNIFIED SCHOOL DISTRICT

Solar & Microgrid

Resiliency Symposium

March 27, 2023



Overview



- Grid vulnerability
- Solar and microgrid project
- Community resiliency
- Financing - power purchase agreement

School District



Santa Barbara Unified School District

- 12 Elementary
- 4 Junior High
- 5 High Schools
- Services 13,000 students
- 57.7% of students on free or reduced price meals
- 1700 staff

Grid Vulnerability



- Location and nature of Santa Barbara County
- No power generation within County
- County split - mountain range splits power service

Grid Vulnerability



Solar



- 14 solar arrays & 6 microgrids
 - Parking lots where feasible
 - Play fields for shading
- Provides 70% of SBUnified's overall electricity use
- Offsets 93% of GHG emissions from utility electricity use
- Microgrids for the largest facilities



Microgrid



Tier 1 loads:

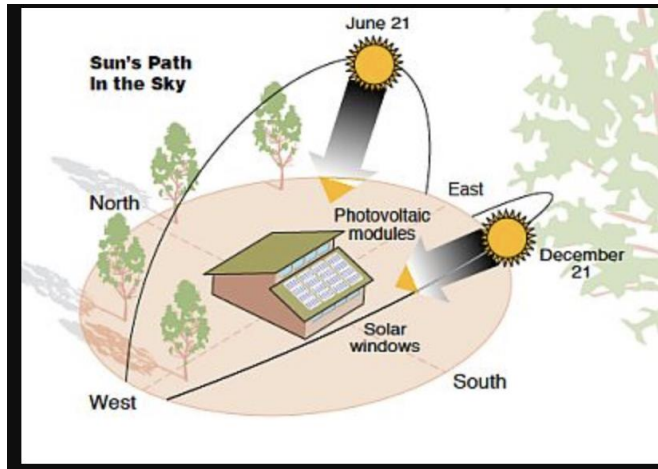
- Freezers, refrigerators, emergency shelter facilities, comms equipment (internet, radio etc)
- 100% resilience expected

Tier 2 loads:

- Multi-purpose rooms/gyms, site comms equipment
- 80% resilience expected

Tier 3 loads:

- Discretionary, <25% uptime



Normal usage to Emergency use continuum

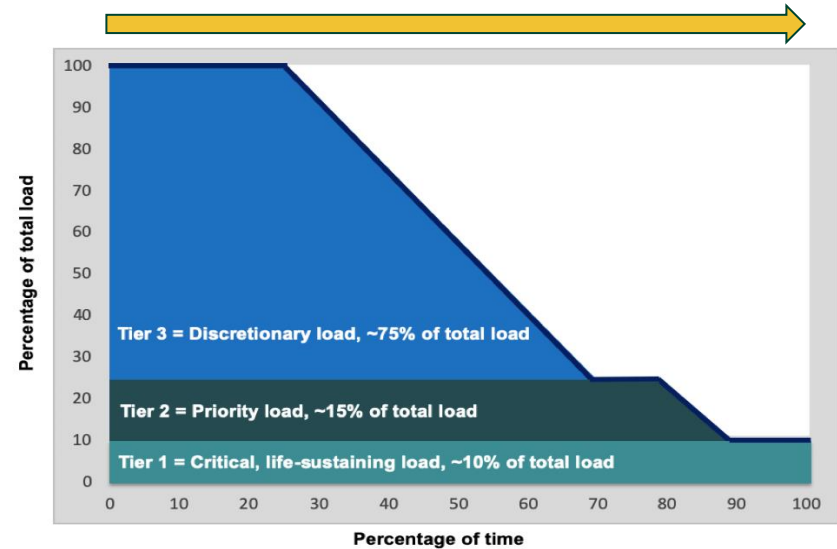
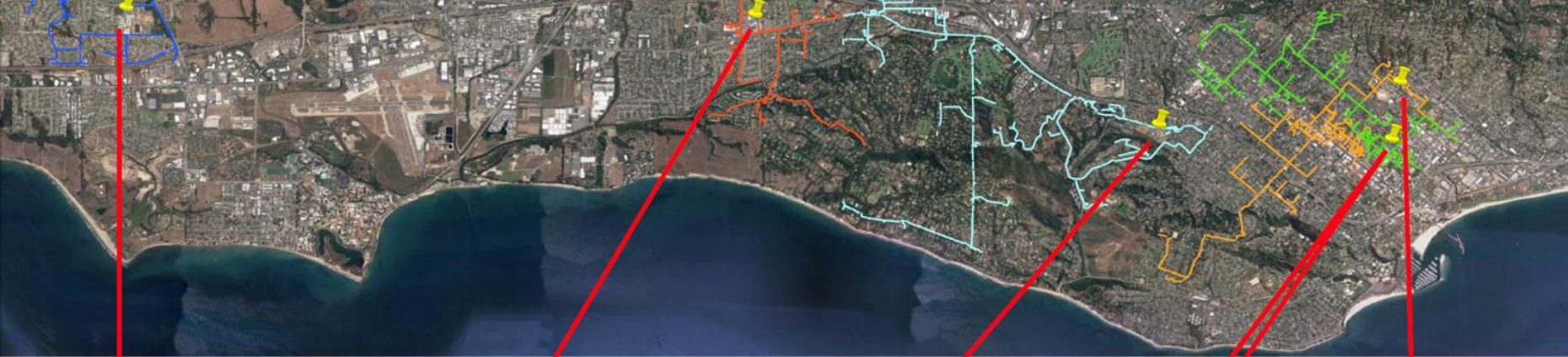


Illustration of resilience levels and loads for Tiers 1-2-3 load where (a) solar is sufficient to attain zero net energy (ZNE) and (b) storage capacity equals 2 hours of solar.

Source: Clean Coalition, analysis completed for UCSB

Microgrid



Dos Pueblos High School



San Marcos High School



La Cumbre Junior High School



District Office & Facilities
Maintenance Warehouse

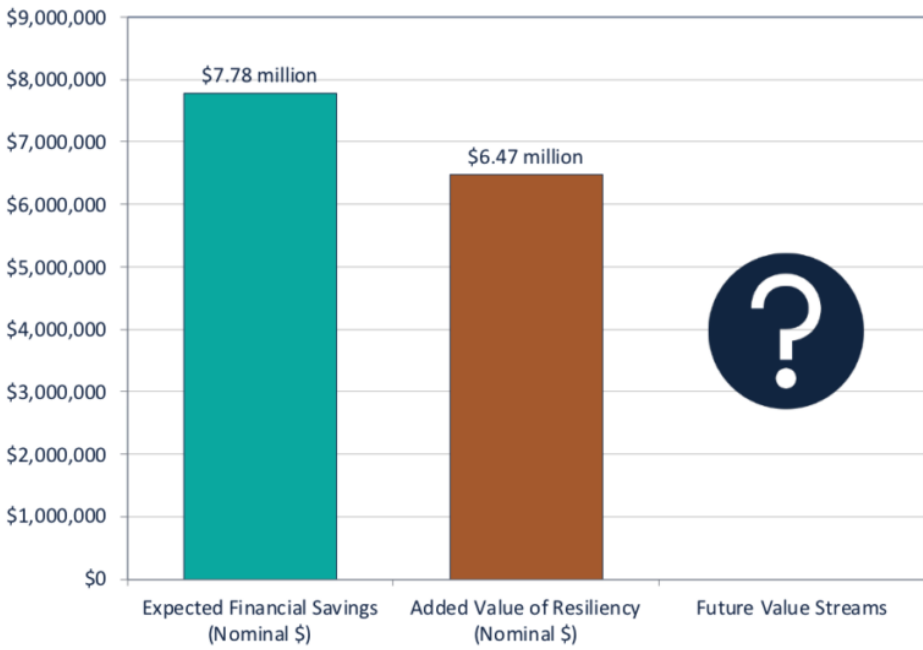


Santa Barbara HS

Community



- SBUUnified school sites serve as emergency shelters during natural disasters
 - Microgrids power largest kitchens
 - Gyms/MPRs shelter
- Thomas Fire 2017, mudslides 2018, flooding 2023, etc.



Power Purchase Agreement (PPA)

- Flat rate for 28-year term
- Traded slightly higher rates for \$1.2 million contingency fund
- No upfront capital costs
- Anticipated savings of \$7.7 million over term of project



Status



Construction Status February 2023

- Five sites completed
- Three sites near online
- Microgrid sites awaiting critical parts due to supply chain issues
- Project completion anticipated end of 2023

Thank You



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