NEWPORT PACIFIC
FAMILY OF COMPANIES

Cirus
Development

Modular Lifestyles
Our Continual Quest For Energy Efficiency and Net Zero

Energy Efficient Affordable Factory Built Houses

Why it matters!

STEVEN LEFLER, Vice President
Newport Pacific/Modular Lifestyles

CA Building Standard Code

All Residential Houses must be Net Zero by 2020

CA. House Definitions

- **Title 24** - **Modular** = Site Built IRC-CRC-FBH
  Local Zoning Code

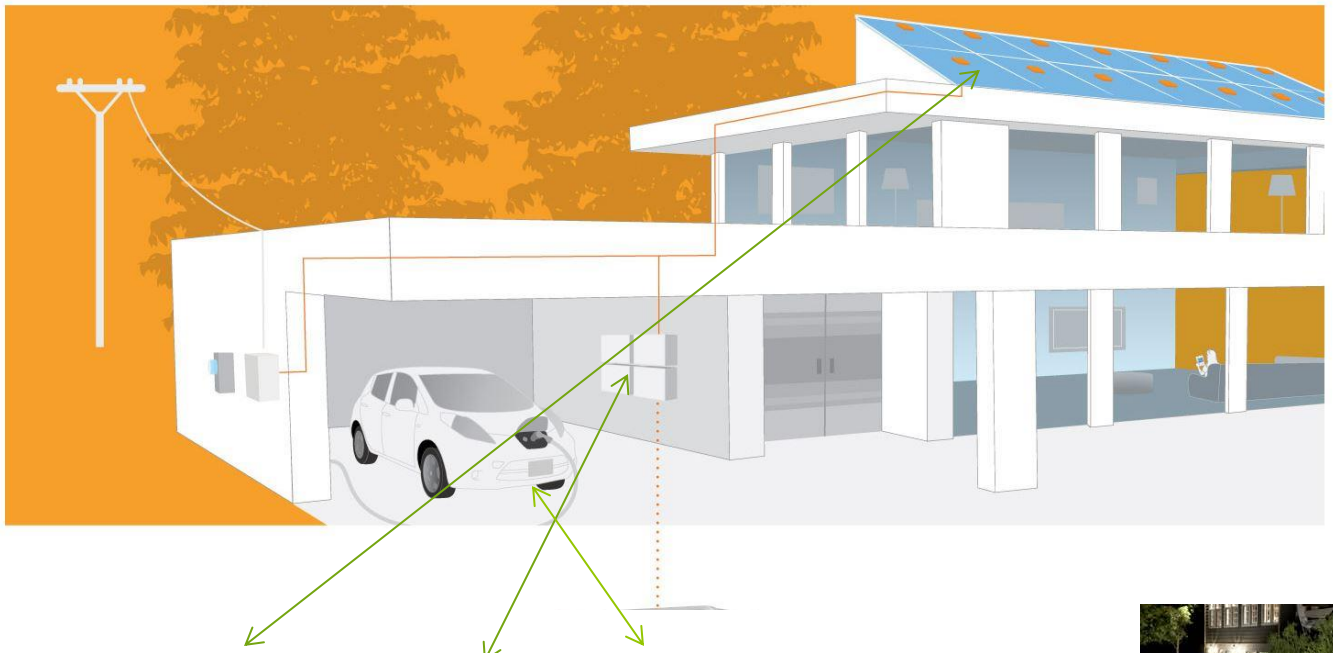
- **Title 25** = HUD code manufactured homes (manufactured home)
  - **After 1976 = Manufactured home**
  - **Before 1976= Mobile Homes** or Trailers
    (typically a City's registered affordable housing community)
    Federal Building Code

- **ANSI code or RV code** = Tiny House <400 sq. ft.
  American National Standards Institute

House in Parking lot
meets current zoning

- Recent Sonoma County Supervisors Changes
- https://patch.com/california/sonomavalley/supervisors-pass-urgency-ordinances-sonoma-co-fire-victims
- Recreational vehicles already are allowed as a temporary residence for displaced persons on fire damaged lots. Under the urgency ordinance, manufactured homes also will be allowed as emergency housing on fire-damaged lots but must be removed before occupancy of a *reconstructed primary residence* ***unless the manufactured home is permitted as an accessory or junior dwelling unit.***

The Concept



Solar to Battery to Electric Car

How to validate Energy Efficiency

Our CA. Building Envelope Factory= Best Practices for building

Super Tight and Insulated to minimize heating and cooling loss

Ceiling = R 48 w/Phase Change

Add Foil Products

2x6 Wall w/Mineral Wool = R-23

Passive house standards (PHIUS)

Example	Cities	Zone	Wall		Wall		Ceiling		Ceiling		Slab
Miami	Honolulu	1	19	-	27		44	-	60		2ft R-8 vertical perim
Jacksonville	Phoenix	2	19	-	27		30	-	70		Uninsulated
Charleston	Sacramento	3	15	-	31		30	-	60		Uninsulated, or 2-4ft R-8 vertical perim
San Francisco		Marine 3	19	-	23		30	-	38		4ft R8-20 vertical perim

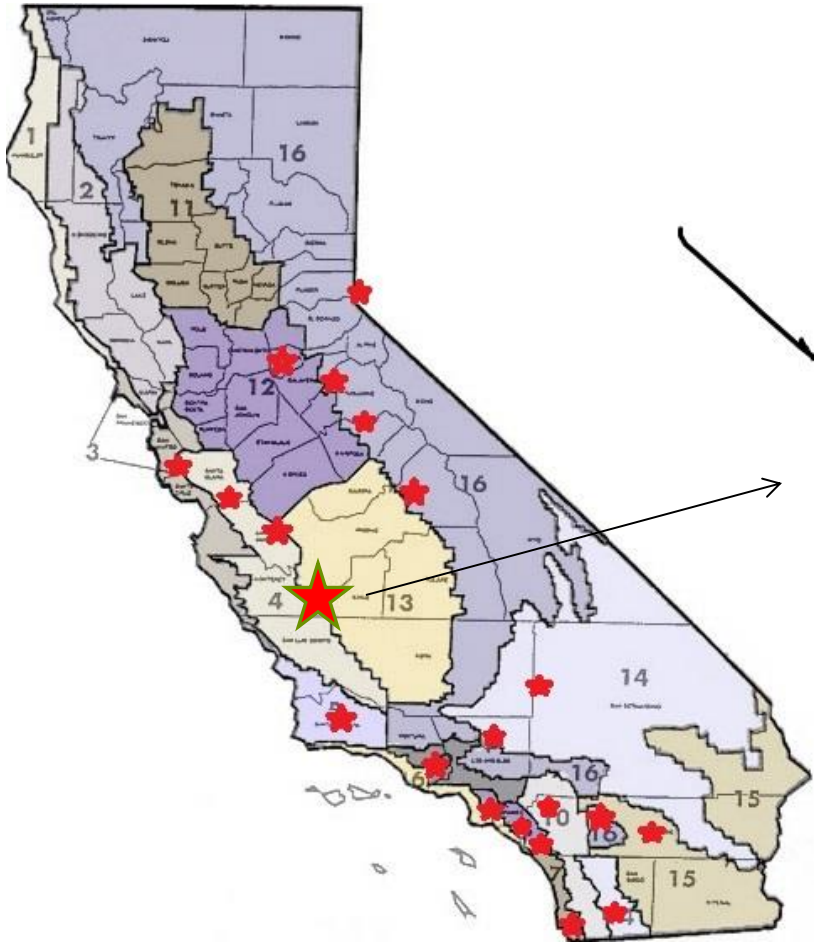
Determine CEC's - California Climate Zone Map

16 Climate Zones for home builders to reach Net Zero operation

Specific Envelope insulation requirements by Climate Zone

Modular Lifestyles

Star ★ our houses location in Climate Zones



My Modular house

So does it work?
My 2014 **Cavco Modular House**

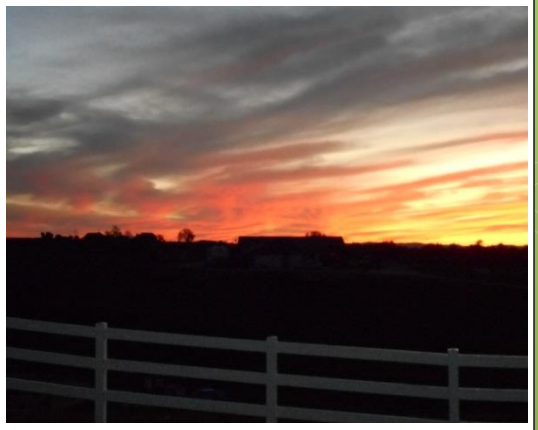



HOUSE ENERGY RATING

U.S. GREEN BUILDING COUNCIL

california advanced homes



Paso Robles, CA Climate

- CA. Climate Zone = 5
- Summer 90 – 110 degrees
- Winter 25 – 45 degrees
- House stays 60 to 80 degree without HVAC (most days)
- 295 Days of Clear Sun or 70 days without it

2013 - Design Building Goals:

Home's (TOU) operation

< 300 kWh per month a standard

- TIER 1 Allowance =**278 kWh = allotment**

05/11/2016 – 05/31/2016	PGE - RESULTS 6/2016			
Tier 1 Allowance	195.30	kWh	(21 days x 9.3 kWh/day)	
Tier 1 Net Usage				
Peak	-68.082000	kWh	@ $0.34166	-$23.26
Part Peak	-30.529000	kWh	@ $0.22639	-6.91
Off Peak	100.663000	kWh	@ $0.14961	15.06
06/01/2016 – 06/09/2016				
Tier 1 Allowance	83.70	kWh	(9 days x 9.3 kWh/day)	
Tier 1 Net Usage				
Peak	-37.293000	kWh	@ $0.34166	-$12.74
Part Peak	-5.118000	kWh	@ $0.22639	-1.16
Off Peak	70.180000	kWh	@ $0.14961	10.50
Energy Commission Tax				0.01
Monthly NEM Charges				**-$18.50**

Annual 2016 to 2017

Understanding Performance

By paying by the hour

PG&E www.pge.com/MyEnergy

Statement Date: 05/11/20

Due Date: 06/01/20

Summary of Your NEM True-Up Period Charges

Service For: 3533 DEBONAIR DR
Service Agreement ID: 0683920611
Rate Schedule: E6 XH Residential Time-of-Use Service

Summary of NEM Charges

Bill Period End Date	Net Peak Usage (kWh) 6AM to 6PM	Net Part Peak Usage (kWh) 6PM to 8PM	Net Off Peak Usage (kWh) 8PM to 6AM	Net Usage (kWh)	Estimated NEM Charges Before Taxes	Estimated Taxes	Estimated Total NEM Charges
06/09/2016	-105	-36	171	30	-$18.51	$0.01	-$18.50
07/11/2016	-10	27	257	274	41.23	0.08	41.31
08/10/2016	69	76	281	426	91.47	0.12	91.59
09/11/2016	29	54	268	351	65.17	0.10	65.27
10/10/2016	27	49	304	379	72.08	0.11	72.19
11/08/2016	0	27	199	226	35.49	0.06	35.55
12/08/2016	0	74	439	513	81.58	0.15	81.73
01/09/2017	0	71	581	652	109.34	0.19	109.53
02/08/2017	0	70	514	584	96.35	0.17	96.52
03/12/2017	0	52	274	326	52.31	0.10	52.41
04/10/2017	0	34	50	84	14.99	0.02	15.01
05/10/2017	-12	15	32	35	3.81	0.01	3.82
TOTAL	-2	513	3370	3880	$645.31	$1.12	$646.43

Supplemental Energy – Propane

$90.00 Annual cost to operate

What are your Solar Choices?

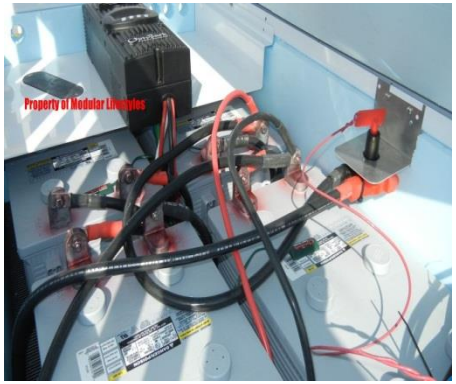
BIPV Shingles, Accessory Solar Panels or Community Solar Carports

SUNTEGRA

Community Solar Carports

Factory Installation of the Solar Roof Shingles

Solar + Batteries + Generator
Two Models - 2011 and 2014



Tiny House $52,000

Power System

3.0 kWh Solar Panels
Inverters
Software
Batteries

$22,500

6.0 kWh Generator = $4,100.00

Building a Green Community - 2008-2014

Oak Haven 62+ Senior Community, Ojai, CA

18 of 22 homes Solar Powered / Energy Star

"Master Meter" Community
Electrical Cost to operate
Over $15,000 monthly

1885 Maricopa Highway Ojai, CA.

Latest Residential Off-The-Grid Modular home Ojai, CA.


The best way to predict
your future is to
create it.
Abraham Lincoln