2022 Energy Code

November 18, 2021, BayREN Reach Code Forum

Will Vicent, Manager, Building Standards Office

Warren-Alquist Act

Warren-Alquist Act

- Established CEC in 1974 to reduce wasteful, uneconomic, inefficient, or unnecessary consumption of energy
- Authorizes CEC to update the Energy Code on a regular basis and local jurisdictions to enforce
- CA uses 31% less energy than US
- Must be cost-effective and feasible
- Least-cost means to achieve CA's climate actions goals

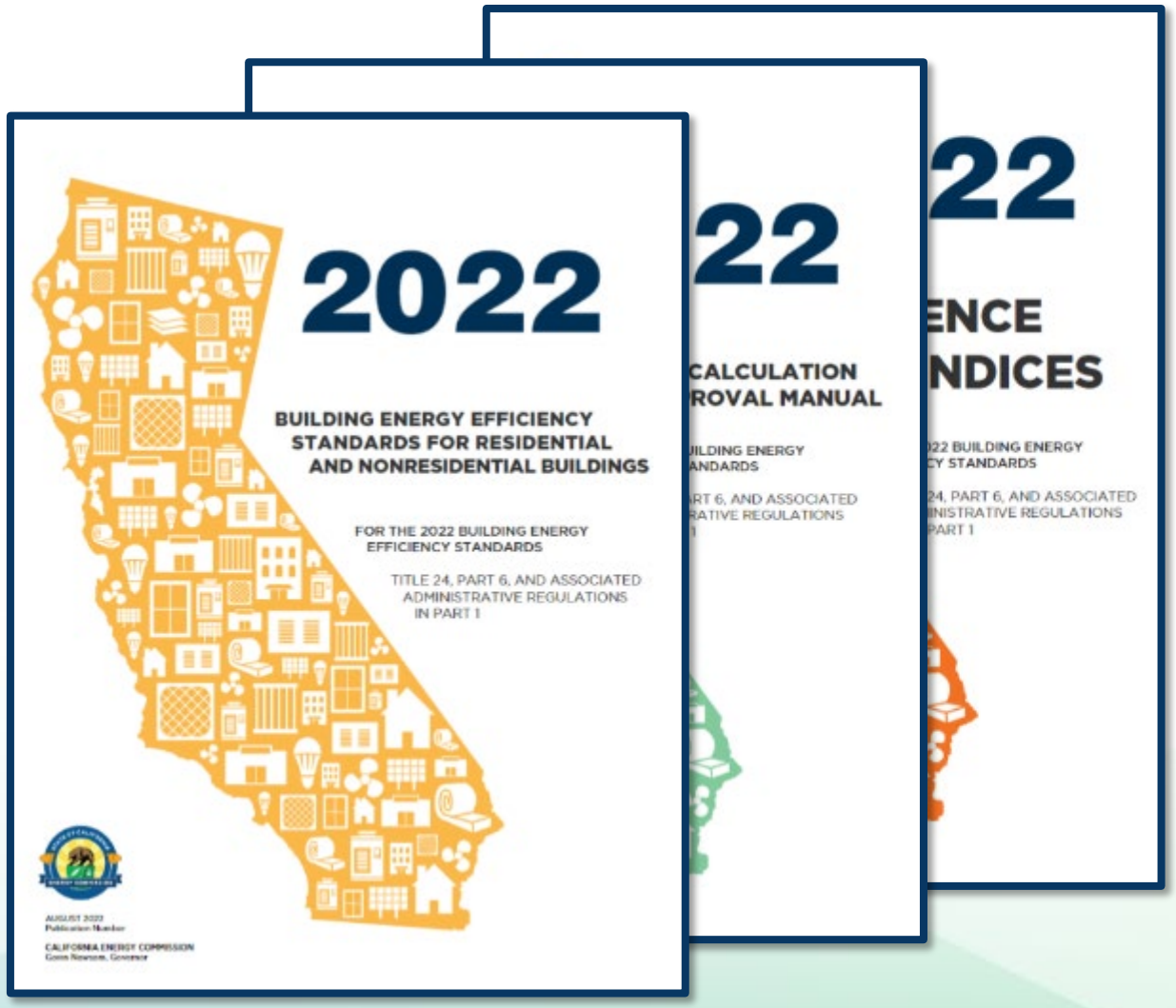
Codes & Standards Network

2022 Energy Code Process

	Part 6	Environmental Impact Report (EIR)	Parts 11 + 2-5
Open Rulemaking	April 27, 2021	NA	June 22, 2021
Start 45-Day Public Comment	May 7, 2021	May 20, 2021	July 2, 2021
Lead Commissioner Workshop	May 24, 27, 28	NA	TBD
End 45-Day Public Comment	June 21, 2021	July 8, 2021	August 16, 2021
Start 15-Day Public Comment	July 14, 2021	NA	TBD
End 15-Day Public Comment	July 28, 2021	NA	TBD
Energy Commission Adoption	August 11, 2021	August 11, 2021	September 30, 2021
CBSC Approval	December 14, 2021	NA	December 14, 2021
Effective Date	January 1, 2023	NA	January 1, 2023

2022 Energy Code Highlights

- Heat pump baselines
- Solar + storage baselines
- Electric-ready requirements
- Lighting
- Multifamily restructuring
- Ventilation requirements



Heat Pumps

<u>Electric water and space heating</u>

- Increases efficiency
- Reduces GHGs
- Encourages load flexibility

<u>2022 Energy Code</u>

- Single-family: water or space heating standard
- Multifamily: space heating standard
- Commercial: standards for schools, offices, banks, libraries, retail, grocery

Solar Energy & Battery Storage

2022 solar + battery standards

- High-rise multifamily
- Hotel-motel, tenant space
- Office, medical office, clinic
- Retail, grocery stores
- Restaurants
- Schools, civic spaces
- Solar + battery sized modestly

Residential Electric-Ready

- Dedicated electrical circuits for single-family and multifamily: space heating, cooking, clothes drying & water heating
- Energy storage system-ready requirements for single-family, including minimum electric panel busbar rating of 225 amps

Indoor Air Quality

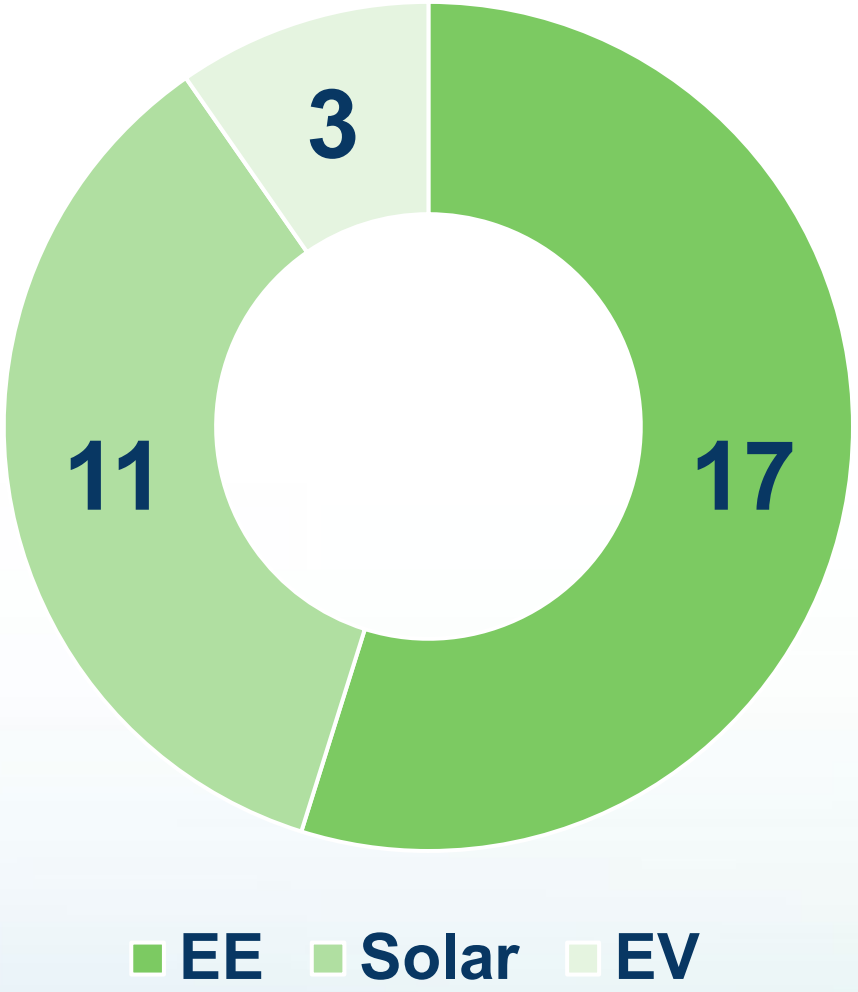
- Recognizes differences in pollutants created by natural gas and electric cooking, as well as role of indoor air volume in pollution concentrations

30-Year Environmental Benefit

2022 Measure Categories	% Total	Emissions Savings (MTCO2e)	Emissions Benefit ($)
Single Family Heat Pump Standard	5.38%	729,698	$115,564,424
Multifamily Heat Pump Standard	0.49%	71,639	$11,345,665
Nonresidential Heat Pump Standard	1.50%	214,917	$34,036,994
Multifamily PV + Battery	2.32%	202,702	$32,102,422
Nonresidential PV + Battery	10.04%	876,231	$138,771,230
Multifamily Energy Efficiency	0.82%	89,215	$14,129,309
Nonresidential Energy Efficiency	8.03%	768,793	$121,755,977
Nonresidential Alterations	34.65%	3,435,740	$544,127,893
Single Family Alterations	10.86%	977,604	$154,825,984
Covered Processes	25.92%	2,480,724	$392,879,357
TOTALS	**100%**	**9,847,264**	**$1,559,539,255**

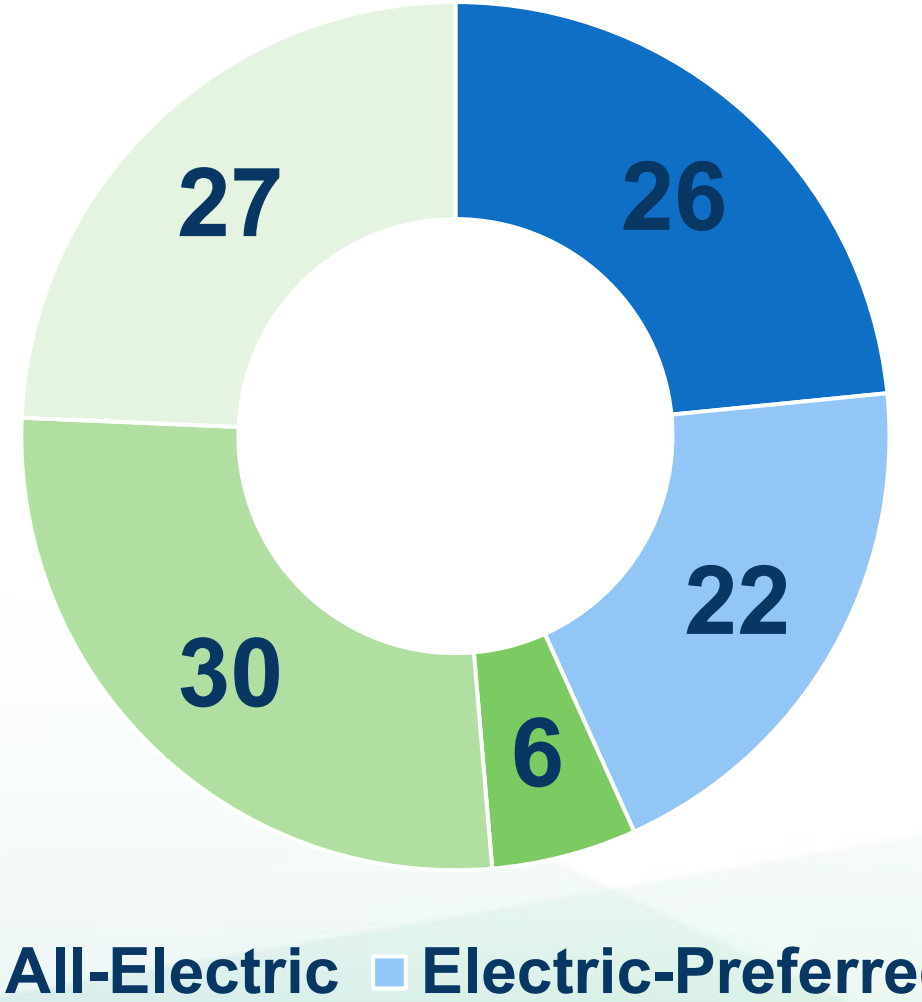
2016 Code Cycle

20 Adopted Reach Codes



2019 Code Cycle

50 Adopted Reach Codes

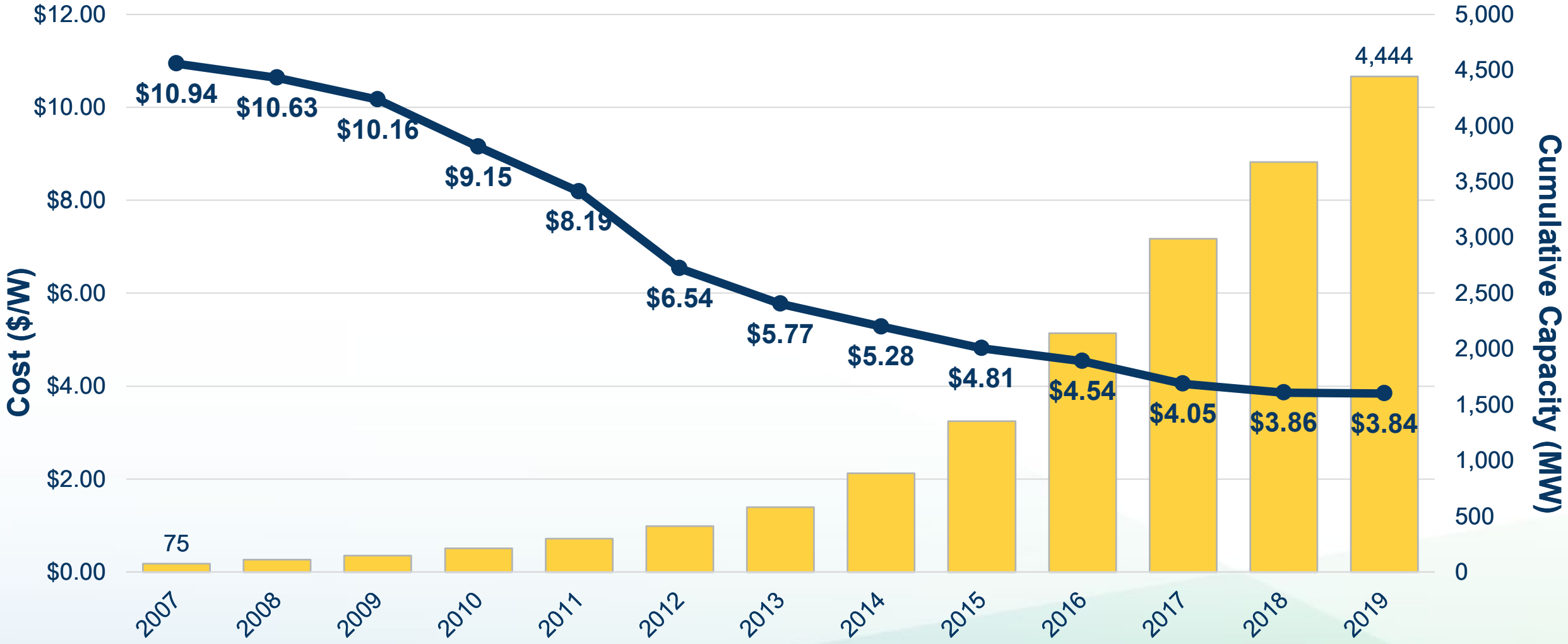


2022 CALGreen

- Voluntary single-family proposal to help standardize local policies across the state
- Starts by selecting two of eight prerequisite options
- And also meet a whole home margin of compliance by Climate Zone

CA Climate Zone	Compliance Margin (Hourly Source Energy)	Compliance Margin (%)
1	4.3	7%
2	4.4	10%
3	6.0	14%
4	5.8	13%
5	5.8	16%
6	3.5	9%
7	2.9	8%
8	2.1	6%
9	3.6	10%
10	6.5	14%
11	4.3	10%
12	4.4	10%
13	4.9	11%
14	5.8	14%
15	1.8	5%
16	4.3	8%

Story of Residential Solar



Support Resources Survey

2. Are the following California Energy Code support resources useful to your job?

	What Is This?	Not Useful	Somewhat Useful	Useful	Vital
Energy Code (Title 24, Part 6)	◯	◯	◯	◯	◯
Reference Appendices	◯	◯	◯	◯	◯
Compliance Manuals	◯	◯	◯	◯	◯
Compliance Forms	◯	◯	◯	◯	◯
Alternative					

Thank You