

Amending the Energy Code

Opportunities for Reach Codes in 2022
BayREN Forum
November 18, 2021



Preparing for 2022 Reach Codes

Technical teams completing preliminary work

Focus on opportunities for all-electric designs

Similar measure package types (efficiency, electrification, renewables)

Draft results for public review in March/April 2022

Final reports June/July 2022



New Construction

- Single “mixed fuel” baseline includes heat pumps for most occupancies.
 - Single Family and ADUs: Either HVAC or HPWH
 - Multifamily: HVAC serving dwelling units
 - Nonresidential: HVAC (some occupancies)
- Compliance credit for all-electric designs



The Importance of Efficiency



Effects of electrification with the most efficient technology versus standard technology

Consumer Savings*

Reduce Electricity Generation Needed By

19%



2.2
Billion

Reduction In Annual Utility Bill Costs

Electricity Generation Needed

Standard Technologies

47.6 TWh
Needed

Most Efficient Technologies

38.6 TWh
Needed

*In 2020 dollars

Note: "Standard Technologies" and "Most Efficient Technologies" represent a comparison of the "aggressive electrification" and "efficient aggressive electrification" scenarios examined by CEC staff.

Source: CEC staff

[Rider: Energy Efficiency is Critical for a Decarbonized Future](#)

Single Family New Construction

- Focus on all-electric designs
 - Packages include efficiency, electrification, PV, and storage measures
 - Individually and combined
- Replacing gas equipment in base case with heat pump (HVAC or HPWH) results in compliance credit for both EDR1 (hourly source energy) and EDR2 (efficiency)
- Consider EDR 2 requirement to realize all savings



Multifamily and Nonresidential New Construction

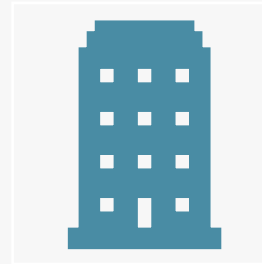
Packages include efficiency, electrification, PV, and storage, demand flexibility measures



Multifamily

Two prototype designs: three and five-story

Focus on electric water heating systems



Nonresidential

Four occupancy types: office, retail, small hotel, and restaurant

Focus on electrification and measures to optimize PV and storage



Existing Single-Family Homes

HVAC and water heating electrification at time of equipment replacement:

- On-Bill: Cost-effective in SMUD territory only
- 2019 TDV: Not cost-effective in any climate zone
- 2022 TDV:
 - HVAC – Cost-effective in CZ 1-4, 11-13
 - HPWH – Cost-effective in all EXCEPT 1 and 16

Optional Structures:

- Require specific cost-effective measures
- Flexible approach (allows additional measure options weighted by site energy savings).
 - Electrification measures yield favorable scores.

[Explorer.LocalEnergyCodes.com](https://explorer.localenergycodes.com)



Thank You!

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