

The ZERO Code



Design an energy efficient building in minimum compliance with Standard 90.1-2019, the IECC 2021 or better.



Source: Architecture 2030, Graphic Adaptatons: Safaira and Green Ideas

Other standards can be substituted when at least as stringent The renewable energy requirement can be reduced with the performance approach

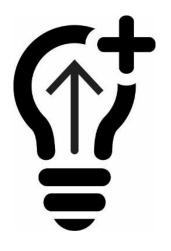
On-site renewable energy will be inadequate for tall and energy intensive buildings

Various off-site renewable energy procurement options are available

- First version released April 2018
- Updated in 2020 to reference ASHRAE
 Standard 90.1-2019 and the IECC 2021
- See zero-code.org for more information
- Applies to commercial, institutional, hotels/ motels, and high-rise residential



2020 ZERO Code Options



Beyond-Code Energy Efficiency

However, the prescriptive compliance path is not available



Electrification

On-site combustion is prohibited



Performance Path

Modeled energy performance meets or exceeds the minimum building energy efficiency requirements







ZERO Code Derivatives

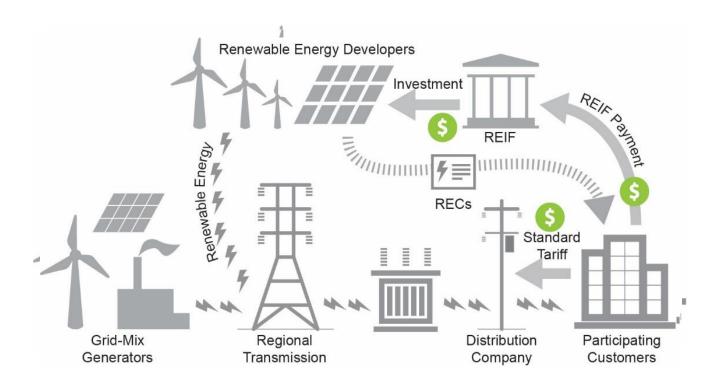
- Special California Version
 - First version October 2018
 - 2022 Version Proposed for CalGreen
- Standard 189.1-2020 and IgCC 2021
- IECC 2021 Renewable Energy Appendix





Off-Site Renewable Energy Procurement Methods

- Direct Ownership
- Community Solar
- Green Pricing
- Unbundled RECs
- Virtual Power Purchase Agreements
- Utility Renewable Energy Contracts
- Renewable Energy Investment Fund (REIF)

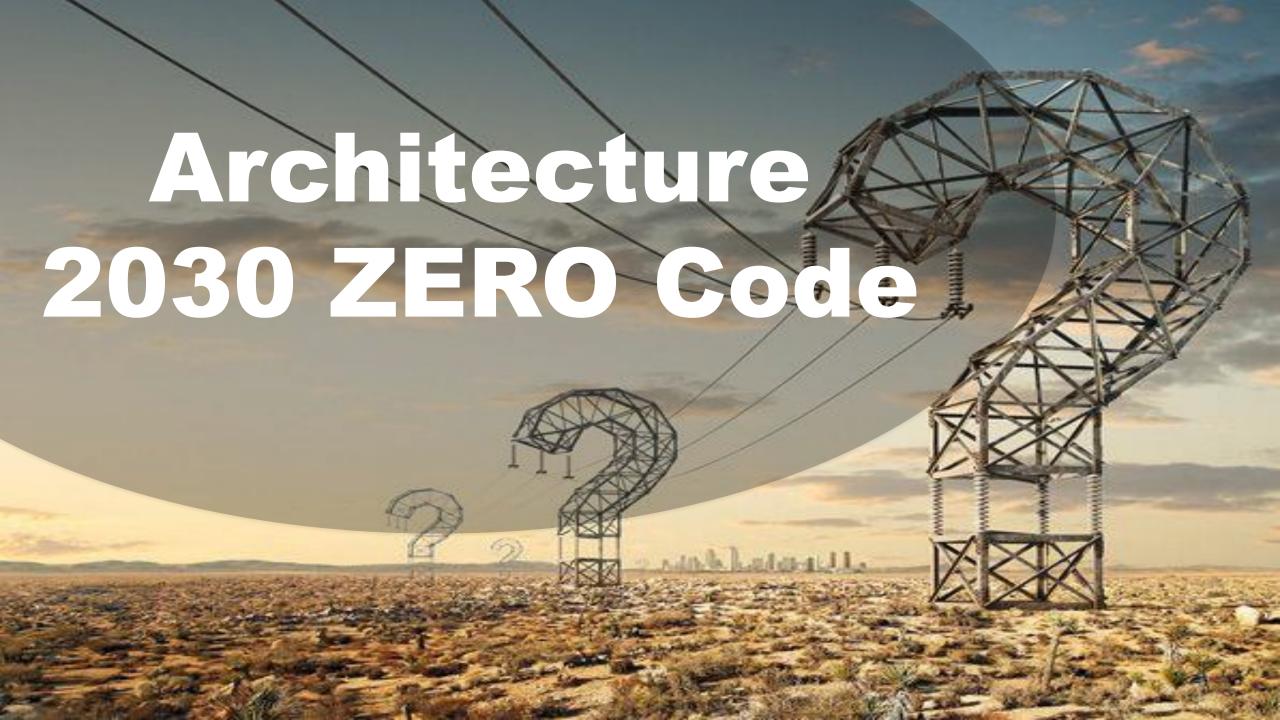




Minimum Requirements for Off-Site Renewable Energy

- Generators must be solar, wind, or small hydro
- Long-term and durable commitment to purchase
- Renewable energy certificates (RECs) must be retired on behalf of the ZERO Code building.





Documents (visit <u>zero-code.org</u>)

National

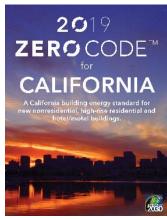


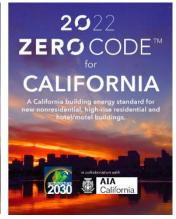


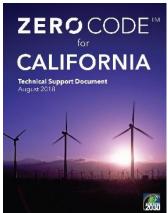


2020 Off-Site TSD Coming soon

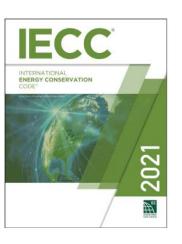
California







I-Codes





Pathways to ZERO Code Adoption

Do you work for a CITY or STATE? **PATHWAY OPTIONS** CITY ZER **OPTION 2: OPTION 3: OPTION 1: CITY ENERGY CODE** LEAD BY EXAMPLE PROVIDE INCENTIVES Adopt the 2021 IECC, Adopt the 2021 IECC with Provide incentives YES Does which includes the Zero the Zero Code Appendix for for projects that meet the 0 your city municipal buildings or buildings Zero Code Appendix. Code Appendix. have the receiving municipal funding. C legal 0 authority O (home rule) PATHWAY OPTIONS Ш to update П non-Z residential **OPTION 1: OPTION 2: OPTION 3: AMEWORK** building CITY ZONING* CITY ORDINANCE* **EXISTING BUILDINGS*** Pass a local ordinance to Update or adopt new zoning Pass a local ordinance codes? NO regulations to incentivize or requiring or incentivizing require or incentivize adding on- or off-site renewable require Zero Code-compatible** Zero Code-compatible new new commercial buildings. commercial buildings. energy for existing buildings. **PATHWAY OPTIONS** D **OPTION 2: OPTION 1: OPTION 3:** OPTED LEAD BY EXAMPLE** **VOLUNTARY STRETCH CODE**** STATE CODE Adopt the 2021 IECC with the Zero STATE Adopt the 2021 IECC with the Adopt a voluntary stretch Code Appendix through state building Zero Code Appendix for state code based on the Zero Code code adoption or on top of an existing buildings or buildings that Appendix with incentives to commercial building energy code. receive state funding. encourage adoption.

