Colorado Model Low Energy and Carbon Code

COLORADO
Energy Office

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Engineering & Sustainability

Colorado Code Adoption & Enforcement Structure

- Home Rule
- Compliance/enforcement handled at the local level
- State law requires minimum energy code upon local adoption/update of any other building code
- State role includes providing resources and assistance

Minimum Energy Codes

Phase 1: Model Electric & Solar Ready Code

Now until June 30, 2026

Phase 2: Model Low Energy and Carbon Code

July 1, 2026 and on

Energy Code Board

- 21 Member Board
- Diversity of roles and regions
- Experts across the building industry
- Dedicated for 3 years to develop both codes

Triggers for Energy Code Adoption

- Adopting or updating any building code, including the IBC, IRC, IMC, IFC, IECC, or any other building code, requires the immediate adoption of the state minimum energy code.

- Locally adopting the Colorado electrical code or plumbing code by reference to align with the state-adopted codes requires adoption of the state minimum energy code by a certain later date:
  - Adopting between July 1, 2023 and June 30, 2026 - minimum energy code must be adopted by June 30, 2026
  - Adopting after July 1, 2026 - minimum energy code must be adopted by June 30, 2030

- Adoption of the state Wildfire Resilience Code does not trigger energy code adoption requirements.

Model Electric & Solar Ready Code

- Current minimum energy requirement: 2021 International Energy Conservation Code and Electric + Solar Ready Code
- EV-Ready – prewiring and planning for electric vehicles
- Electric-Ready – prewiring for all electric equipment to avoid costly retrofits
- Solar-Ready – for roofs with good solar access reserve space and electric capacity for future solar
- Required now until June 30, 2026

Model Low Energy and Carbon Code

- Two primary statutory priorities
  - Maximizing greenhouse gas emissions reductions
  - Taking into account housing affordability
- Colorado's next minimum energy code - updated energy efficiency requirements for new construction
- Based on the 2024 IECC
- Published on September 2, 2025, goes into effect July 1, 2026

What to consider?

- Triggers – when will this be required?
- Resources – what does my community need to be successful?
- Staff impacts – what will my staff need to be successful?
- Community outcomes – how will the energy code support my community's quality of life?

What are the Minimum Energy Codes and what do they do?

Model Electric Ready and Solar Ready Code

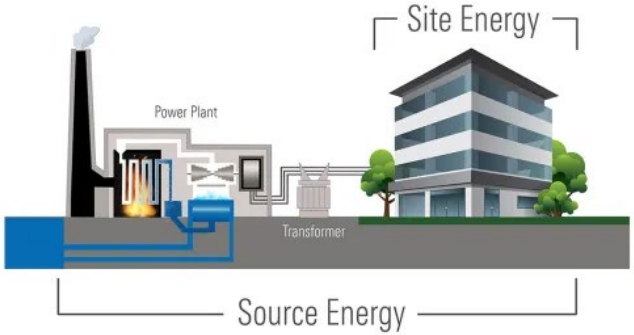
- Colorado's current minimum energy code along with 2021 IECC

- Requirements for pre-wiring new residential and commercial buildings for future:
  - Electric space heating, water heating, cooking, and clothes drying equipment
  - Rooftop solar photovoltaic or solar thermal systems
  - Electric vehicle charging equipment

- Pre-wiring requirements apply for "major renovations" - when adopting the code (whether as a standalone or part of the LECC), jurisdictions need to define "major renovations" to set the trigger threshold.

Model Low Energy & Carbon Code: Site Energy vs. Energy Cost

- Low Energy and Carbon Code updates metric for verifiying energy efficiency
- Energy cost is not a consistent metric:
  - Location dependent - based on utility costs, which vary
  - Biases towards cheaper fuels, not efficiency
- Site energy use is more effective for:
  - Consistency
  - Measuring actual energy use/energy savings
  - Leveling fairness for gas vs. electric



Model Low Energy & Carbon Code: Fuel Debiasing

- Historically, energy codes have not treated all electric and mixed fuel buildings equally
  - Buildings with minimum efficiency fossil fuel heating and water heating (furnaces and boilers) can be just as code compliant as buildings with heat pumps or heat pump water heaters, despite vast differences in efficiency

- Model Low Energy and Carbon Code levels the playing field and encourages electrification

Model Low Energy & Carbon Code: Home Size Requirements (1 of 3)

- The average home in Colorado is just over 2,000 ft^2
- Many mountain resort communities and suburbs see much larger residential construction - some upwards of 30,000 ft^2!
- Energy use increases exponentially with home size, driven largely by amenity loads suchs as:
  - Snow and ice melt systems
  - Pools and spas
  - Entertainment centers/rooms
  - Outdoor kitchens, fireplaces, and fire pits
  - Amenity/decorative lighting

Model Low Energy & Carbon Code: Home Size Requirements (2 of 3)

- Different requirements based on home size
  - Less stringent requirements for smaller homes and dwelling units that trend towards starter homes - affordability highly important
  - More stringent for larger homes and dwelling units that are typically not starter homes and are often second, third, or fourth homes.
- Three home size tiers, based on conditioned floor area:
  - Small - less than 5,000 sq ft
  - Large - 5,000-7,499 sq ft
  - Extra-large - 7,500 sq ft or more

Model Electric Ready and Solar Ready Code Updates

- Now included in the Model Low Energy and Carbon Code
- Updated a few items based on experience of early adopting jurisdictions:
  - More specific requirements for electric infrastructure sizing for electric readiness
  - Revised allowances for solar-ready subzone areas in commercial buildings
  - Allowance for some EVSE installed spaces and EV ready spaces in multifamily buildings to be Level 1 EV charging instead of Level 2
  - More specific EV charging accessibility requirements

Other Major Differences from 2024 IECC

- Removed renewable energy **requirement** in 2024 IECC prioritizing efficiency first
- Simplified prescriptive compliance pathway and made points easier to understand
- Added XL home requirements
- Demand response capability in building systems

Summary of Community Benefits

- Make buildings more efficient to lower energy bills
- Encourage use of electric appliances to improve heath and safety
- Build homes that are future-ready – built to last, allows for future owner choice, maximize comfort and efficiency
- Support climate, energy and quality of life goals
- Enable regional consistency to support workforce

Closing

- Model Low Energy and Carbon Code is cheaper to comply with, more flexible, and less complex than the 2024 IECC for most homes and commercial buildings.
- CEO is working with the International Code Council to publish the Model Low Energy and Carbon Code.
    - Code books should be available to order from the ICC by the end of 2025
- Sign up for energy code email updates!

How to consider next steps?

Key Considerations

- New codes require new learning
- Workloads for staff will likely increase, be cognizant and resource adequately
- Begin planning for your code adoption now, how to manage with staff, and support training
- CEO has available resources

CEO Resources to Support Energy Codes

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SME Training and Technical Assistance

The Colorado Energy Office works with a number of industry partners, similar to circuit riders, to provide technical assistance and training on the latest energy codes and stretch codes to local governments and the building industry. Trainings include:

- Bi-weekly Webinars
- On-Demand Training
- Role-Based Training
- Blower Door Training

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Colorado Code Helpline & Adoption Toolkit

The Colorado Building Code Helpline provides opportunities for building departments, design teams, builders, or members of the public to submit questions on building code related topics, which are answered by a SME within 2 business days. Common questions include:

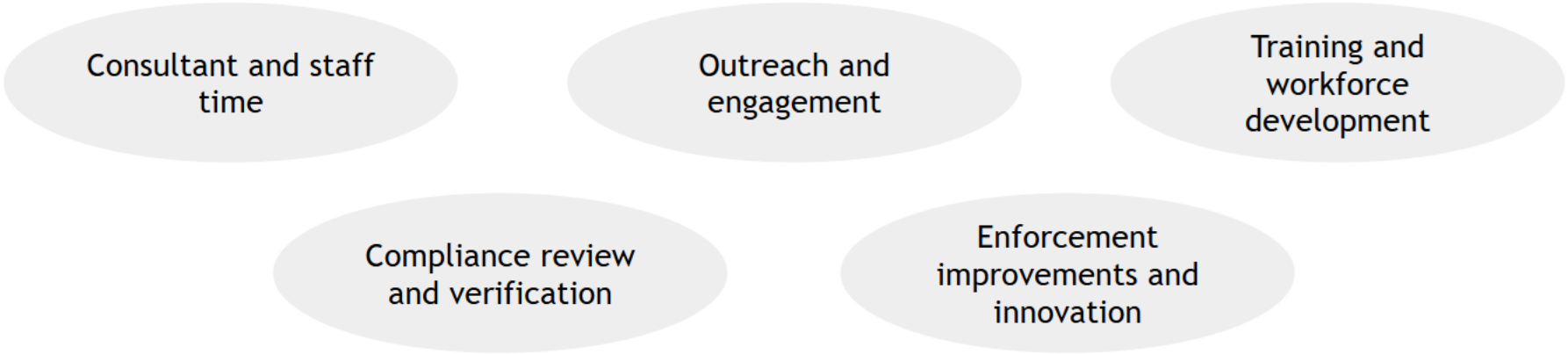
- Specific requirements of any of the I-Codes
- Specific requirements of any stretch code
- How to review or inspect for a measure
- How different provisions of the I-Codes interact
- Whether or not a certain design or material would comply with adopted code (we don't provide design advice)

Building Code Helpline

Submit a question on any Building Code!

Energy Code Adoption & Enforcement Grant Program

- Provides funding to local governments to assist with adoption, implementation, and enforcement of the latest energy codes or stretch energy codes.
- Examples of funding areas:

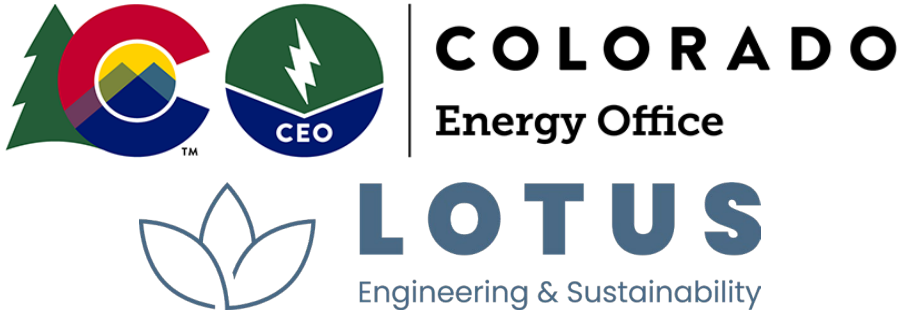


Energy Code Adoption Toolkit - Compliance Resources

The Energy Code Adoption Toolkit includes many resources to assist with energy code compliance, including:

- Compliance & Commissioning Checklists
- REScheck and COMcheck Guides
- Manual J & D Cheat Sheets
- HERS vs. ERI Information
- Webinar Recordings
- Major Changes Across Code Editions
- Technical Factsheets
- Decarbonization Code Resources

Thank You!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