



Efficiency, Energy, and Safety Codes:
What Is Working Around the Country
to Foster Resilient Communities

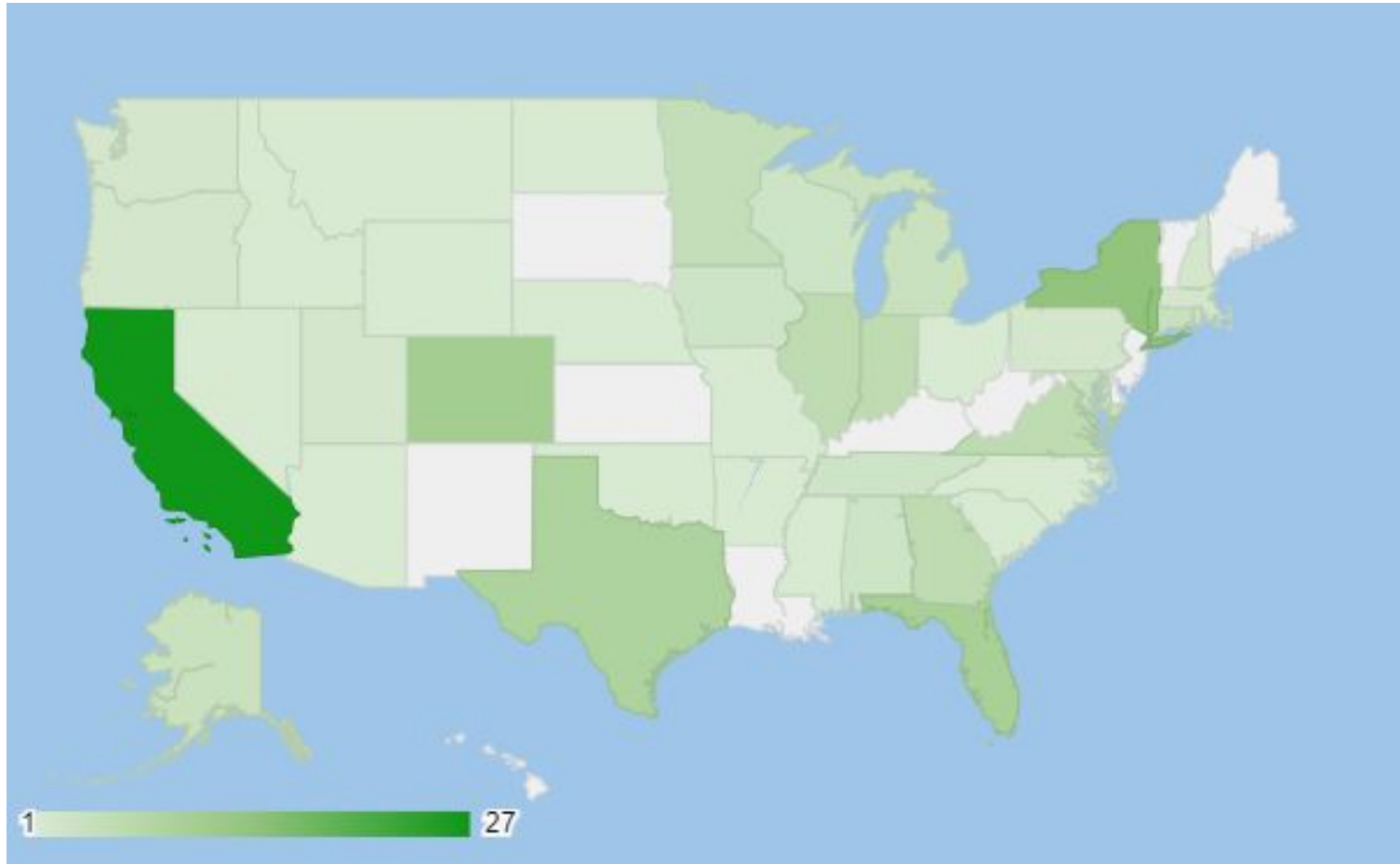
NOVEMBER 6 | 2-3:30 PM ET | 11 AM-12:30 PM PT

EMPOWERED

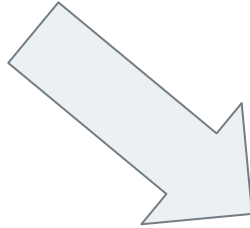
SOLUTIONS

WEBINAR SERIES

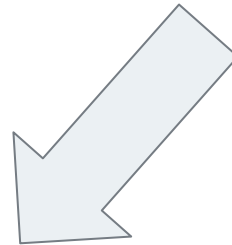
CleanEnergyClearinghouse.org



**General comments,
chat with attendees**



**All questions for
presenters**





Efficiency, Energy, and Safety Codes:
What Is Working Around the Country
to Foster Resilient Communities

NOVEMBER 6 | 2-3:30 PM ET | 11 AM-12:30 PM PT

EMPOWERED

SOLUTIONS

WEBINAR SERIES

CleanEnergyClearinghouse.org

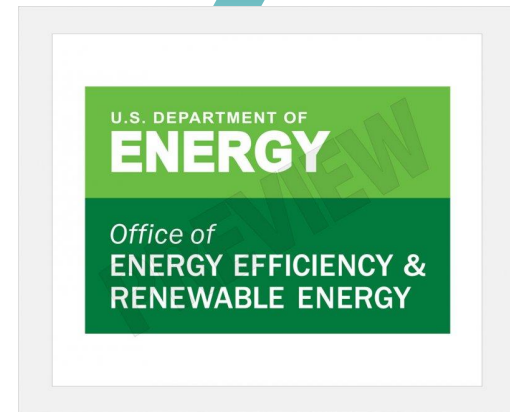
IREC builds the foundation for rapid adoption of clean energy and energy efficiency to benefit people, the economy, and our planet.





EMPOWERED

Education
Materials for
Professional
Organizations
Working on
Efficiency and
Renewable
Energy
Developments



Project Partners



INTERSTATE RENEWABLE ENERGY COUNCIL
Independent leadership. Trusted clean energy expertise.



Pacific Northwest
NATIONAL LABORATORY

nbi new buildings
institute



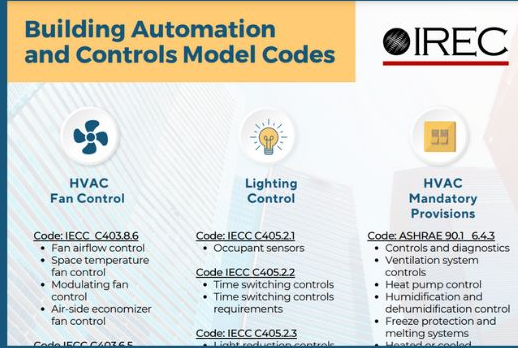
A Wide Variety of Educational Resources



As demand increases for efficient, resilient, and durable buildings, construction materials and technologies are rapidly evolving. Even external technologies that

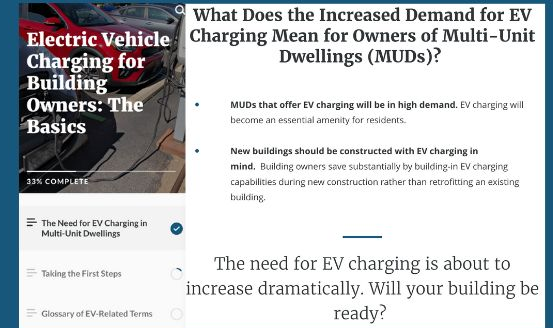
Videos

Quick explainer videos on topics such as "Inspecting the Building of the Future."



Infographics

Reference guides to model codes for EV charging, energy storage, solar PV and more!



Courses & Articles

Short courses and articles about existing and emerging technologies to keep you up to date.

CleanEnergyClearinghouse.org

← *Find recording
and slides here*

- Question of the week
- Webinar recordings
- Resources for first responders
- Solar
- Energy storage
- High performing buildings
- Electric vehicle supply equipment
- Permitting & inspection
- Links to CEU-bearing training (mostly for code officials)

CleanEnergyTraining.org

Find CEU-bearing courses here

The screenshot displays the IREC website homepage. At the top left is the IREC logo with the tagline "Clean Energy Resources and Training". To the right are navigation links: "Our Work", "About IREC", "Resources", "Blog", and a search icon. On the left side, there is a "Please Login" section with a text input field containing "matthewh@irecusa.org", a password field, and "Log In" and "Create Account" buttons. Below this are links for "Home", "Catalog", "FAQs", and "Cart (0 items)". A "Contact Us" section follows, with a message: "Like what you see here? Have questions? Email us at support@irecusa.org." Below that is a "Search the site" section with a "Search by Keyword" input field containing "keywords" and a "Find" button. At the bottom left, a section asks "What technologies would you like to learn about?" with options for "Energy Storage" and "Electric Vehicle Supply Equipment". The main content area features a "FEATURED UPCOMING WEBINAR" for "COMMERCIAL BUILDING ELECTRIFICATION PATHWAYS" on "MARCH 21 | 11:00 A.M. PT / 2:00 P.M. ET". The description mentions speakers: Alex Miller, Acting Director of Building Innovation, New Buildings Institute (NBI); Scott Hackel (Slipstream); Adam McMillen (EMEC Corp); and Mark Ditch (National Grid Energy Services). A "REGISTER TODAY" button is present. Below the webinar are six filter cards: "Search by Role" (with an image of a worker), "Search by Technology" (with an image of an electric car), "Search by Type" (with an image of a woman), "I Want To Help My Community Go Solar" (with an image of a solar farm), "I Want To Explore Careers in Clean Energy" (with an image of a worker in front of solar panels), and "I'm a Vet Interested in Clean Energy" (with an image of two people).

Today's Program

- Code adoption strategies for hurricane and flood prone areas- Randy Plumlee, SPEER
- Sneak peak at the 2024 International Energy Conservation Code (IECC) - Jim Meyers, SWEEP
- Residential Energy Codes education and training project in Louisiana, Maggie Kelley Riggins, SEEA
- Missouri Roadmap to Resilience- John Gossman, MEEA
- The new whole-home contractor - John Balfe, NEEP
- Question and Answers with panelists
- Summary & Next Steps



John Gossman
Building Associate, Midwest
Energy Efficiency Alliance
(MEEA)



John Balfe
Senior Manager, State and
Community Solutions,
Northeast Energy Efficiency
Partnerships (NEEP)



Maggie Kelley Riggins
Senior Program Manager,
Southeast Energy
Efficiency Alliance (SEEA)



Jim Meyers
Buildings Program Director,
Southwest Energy Efficiency
Project (SWEET)



Randy Plumlee
Energy and Code Program
Manager, South-Central
Partnership for Energy Efficiency
as a Resource (SPEER)



On to the Program



EMPOWERED SOLUTIONS

WEBINAR SERIES

***WHAT DID YOU THINK? TAKE A MOMENT TO
COMPLETE THE EVALUATION***

<https://irec.typeform.com/to/pTHwQ5g0>



Summary

- Every state in the nation has an interest in enabling more resilient buildings.
- Modern building energy codes contribute to the reduction of casualties, costs, and damages from disasters like floods and extreme temperatures.
- By improving the energy efficiency of buildings, energy codes help enhance occupant safety and comfort and reduce energy costs, use, and emissions.
- Building electrification can provide health benefits to occupants and decrease dependence on fossil fuels.
- Efficient electric buildings can be powered by clean energy.
- Centering human outcomes can lead to successful energy code compliance, and workforce expansion
- Transition to efficient and clean energy is spurring economic development and job growth.
- Small and medium sized communities are investing in resilience planning.
- Today's contractor has an opportunity to diversify their offerings and provide whole-home retrofit services

Next Steps

1. Learn more about clean energy technologies like high performing buildings, solar, energy storage, and electric vehicle charging - [CleanEnergyClearinghouse.org](https://www.CleanEnergyClearinghouse.org).
2. Encourage contractors to pursue whole-home solutions that benefit the building owner through weatherization and appropriately sized electric HVAC. Visit [The Total Building Performance \(TBP\) Certificate](#)
3. Identify technical assistance for resilience planning in your state or region.
4. Learn more about and support the work of our [Regional Energy Efficiency Organizations](#).

Resources

- [Roadmap to Resilience: Missouri Department of Natural Resources](#) (Roadmap Plan)
- [The Total Building Performance \(TBP\) Certificate](#) (Training)
- [DOE funding to help states, cities, tribes, and partnering organizations implement updated energy codes for buildings](#) (Funding Resources)
- [NREL Resilience Roadmap: A Collaborative Approach to Multi-Jurisdictional Planning](#) (Roadmap Plan)
- [National Building Code Adoption Tracking Portal](#) (Tool)
- ...and more at [CleanEnergyClearinghouse.org](https://www.CleanEnergyClearinghouse.org)

Upcoming Webinars



EMPOWERED
SOLUTIONS
WEBINAR SERIES

CleanEnergyClearinghouse.org

January 23, Clean Energy Technical Assistance Tools

Stay in touch!

Randy Plumlee, SPEER

rplumlee@eepartnership.org

Jim Meyers, SWEEP

jmeyers@swenergy.org

Maggie Kelley Riggins, SEEA

mkelleyriggins@seealliance.org

John Gossman, MEEA

jgossman@mwalliance.org

John Balfe, NEEP

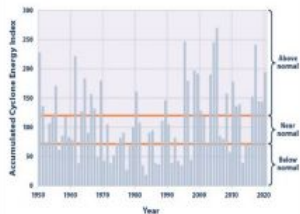
jbalf@neep.org

Matthew Harris, IREC

matthewh@irecusa.org

Communities at Greater Risk

1. Hurricane



- Increasing hurricane severity and frequency, prolonged EPOS
- Extensive infrastructure damage, limited resources, and obstructed roads hindering emergency responders

Example Strategies

- Ensure local building codes (e.g., International Code Council)
- Create community resilience hub
- Evaluate drainage capabilities and choke points
- Engage community members in EPO planning
- Collaborate with the utility on vegetation management

2. Wildfire

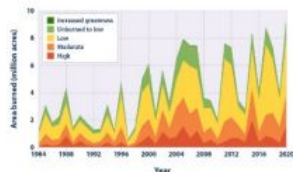


Figure 4. Damage caused by wildfires in the United States, 1984–2020¹⁰

- Increasing severity and growing wildfire areas
- Cause of power outage

Example Strategies

- Manage vegetation and infrastructure maintenance
- Update building codes and improve fire resistance in exterior building components
- Identify and support evacuation routes
- Establish plans for diverting wildlife fleeing nearby fires

3. Extreme Heat



Figure 5. Areas expected to experience heat above 125 degrees F in 2053¹¹

- Major concern for energy resilience in the U.S. cities
- Impact on the Electrical Grid

Example Strategies

- Focus on energy efficiency and demand respond capabilities
- Establish community resilience hubs, cooling centers
- Prioritize the elderly
- Work with local pharmacies for medication refrigeration
- Ensure extra water supplies

4. Extreme Cold



Figure 6. NERC 2022-2023 Winter Reliability Assessment¹²

- Increasing grid vulnerability
- Lack building codes requiring strong thermal envelopes, leading to inadequate insulation and window efficiency

Example Strategies

- Building codes and standard to improve thermal envelopes, support shelter
- Engage with the electric utilities (plowing/salting)
- Establish community resilience hubs, warming centers
- Prioritize elderly and unhoused populations

5. Flood



Figure 8. Integrated approach to flood risk management and multiple lines of defense¹³

- Cause: Extreme rainfall, coastal storm surge, infrastructure failures, and changes in runoff due to deforestation, urban development, and fires
- Vulnerability of Electrical Equipment

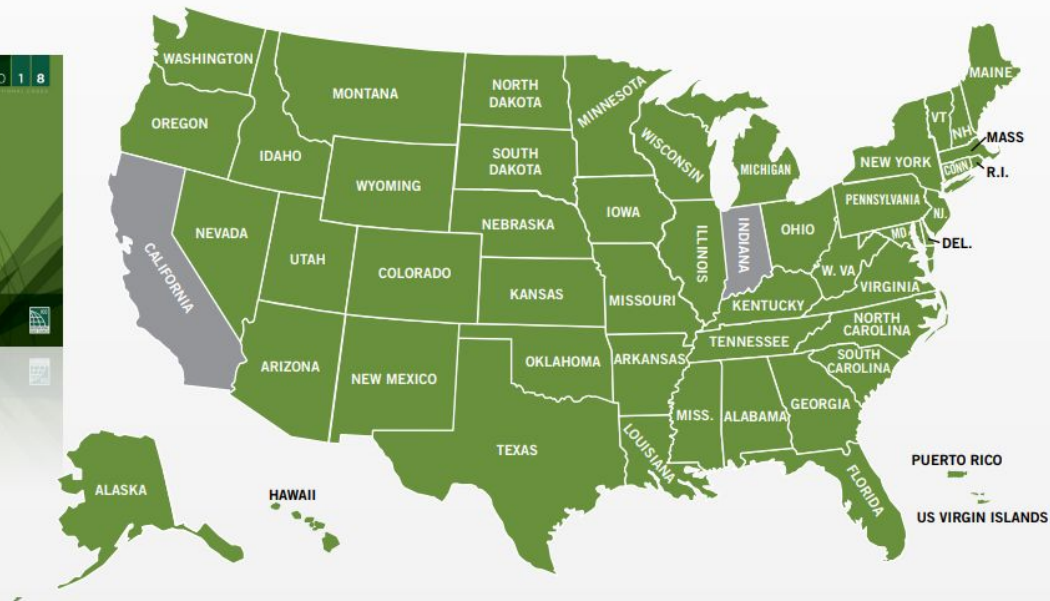
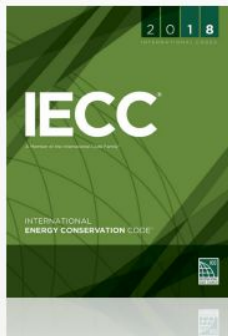
Example Strategies

- Zoning and building codes for proper drainage
- Nature-based solutions to create floodplains and drainage paths
- Elevating critical equipment – back up generation
- Pumping equipment for water relocation
- Fully-submersible switchgear for medium and low-voltage service



INTERNATIONAL ENERGY CONSERVATION CODE ADOPTION MAP

The IECC is in use or adopted in 48 states, the District of Columbia, Puerto Rico and the U.S. Virgin Islands.



■ IECC administered at the state and/or local level