How to Vote on the 2021 IECC

MAPC's Codes for Climate Webinar Series and Zero to 101 Initiative

November 13, 2019
The MAPC Region

101 municipalities
1,440 square miles
Nearly 3.2 million residents
1.8 million jobs
(2010 Census)
CLEAN ENERGY EXPERTISE

1) Regional Energy Projects
   • Green Municipal Aggregation
   • Municipal and Community Solar
   • LED Streetlight Retrofit Program
   • Solar Hot Water
   • Green Mobility Program
   • ESCO Procurement
   • Energy Resiliency

2) Climate and Energy Planning
   • Community energy and climate data, baselining, planning, and strategizing
   • Connecting municipalities with incentives + plug-and-play programs
   • Net Zero planning, guidance & education

3) Energy Technical Assistance
   • Peak Demand Management
   • Green Communities
   • Methane Leaks
   • Data Analysis
   • Solar Permitting and Zoning
   • State and Local Policy
   • Grant Writing
   • Codes for Climate
Agenda

1. Introduction
2. Update and Next Steps in the IECC Code Cycle
3. How to Vote
4. Exciting Energy Efficiency Code Proposals
5. Q & A
Net Zero as a Framework for Holistic Climate Planning

Multi-Benefit Outcomes

- Energy
- Economic
- Environmental
- Public Health
- Equity
- Livability

Bringing Net Zero to 101 Cities and Towns and Beyond
Codes for Climate

How the Energy Code Improves a Home

- **Thermal Barrier:** Installing adequate insulation on all sides of the home improves occupant comfort and reduces the heating and cooling load.
- **Air Barrier:** Sealing cracks and penetrations prevents unwanted air movement and improves indoor air quality by reducing contaminants in the living environment.
- **Efficient Windows:** It is critical that windows be well insulated and well-sealed to prevent unwanted heat transfer and moisture infiltration.
- **Efficient Lighting:** Installing LEDs or CFLs dramatically lowers electricity usage and reduces unwanted heat in the home.
- **Duct Sealing:** Sealing all components of the HVAC system, and testing to verify, improves indoor air quality, system efficiency, and increases occupant comfort by ensuring air is evenly distributed to all rooms in the home.
- **HVAC System Sizing:** Properly sizing the HVAC system reduces capital costs, prolongs the life of the system, and improves system efficiency.
### Codes for Climate

#### Massachusetts GHG by Sector

- **Buildings**: 31%
- **Transportation**: 41%
- **Electricity**: 21%
- **Other**: 7%

#### U.S. GHG by Sector

- **Commercial & Residential**: 11%
- **Industry**: 22%
- **Transportation**: 29%
- **Electricity**: 29%
- **Agriculture**: 9%


Efficiency Improvements of IECC

EnergyEfficientCodes.com
Next Steps in the IECC Code Cycle
2019 IECC Code Cycle

January 1st – March 29th
Registration of Governmental Members with ICC

March 29th – September 23rd
Voters for each Governmental Member ID’d by Primary Representative

November 18th – December 5th
Voting Guide in advance
3-Week Online Voting Window
IECC Code Proposal Process

Committee Action Hearings
May
ICC Members present code proposals to the code committees

Code Change Submission & Review
Jun - Aug
Proposers edit and members submit comments on proposals

Public Comment Hearings
Oct 23-30
Members who attend vote in person and finalize code proposals

Online Vote
Nov 18 – December 5
Members vote online
Results of MA Registration Efforts

Target: 400 votes

Municipal Voters: 520
## IECC Voting Window

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<td>20</td>
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<td></td>
<td></td>
<td></td>
<td>Newton Workshop</td>
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<td>25</td>
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- **November 25**: Newton Workshop
- **November 29**: Thanksgiving
How to Vote on the 2021 IECC
What You Need To Vote

- **A computer** with internet connection
- **40 to 60 minutes** to sit down and vote
- EECC’s voter guide
- **A username, password and PIN** to CDP Access

Voting Tutorial from ICC: https://www.youtube.com/playlist?list=PL9kEmc8-zghr041qNAc7jc6eRV120ENYx
Welcome back

Logout

myICC

NTA joins the Code Council family of solutions

The acquisition of NTA adds lab and testing capabilities, and fosters innovation by streamlining time-to-market for product manufacturers.

LEARN MORE →

Trusted Source for Codes & Standards

Our model building codes and standards provide the highest level of safety in the world.

Building Safety Experts

Our Family of Companies delivers a wide array of building safety services, including evaluation, accreditation, certification, codification, inspection, and training.

Professional Development

We support the building industry with the latest training, mentorship, and education resources.

Annual Conference

BEFORE YOU CREATE AN ACCOUNT — PLEASE READ:

If you already have an ICC Member account, please e-mail members@icc.org with your Member number and ZIP code, and we will send your login information usually within one business day. If you already have an ICC certification, please e-mail certexam@icc.org with the certification number, and we will send your login information usually within one business day.

IMPORTANT: YOU MUST ENTER YOUR FIRST AND LAST NAMES EXACTLY AS THEY APPEAR ON YOUR IDENTIFICATION DOCUMENTS THAT YOU WILL PRESENT AT THE TEST CENTER.

If there is not an exact match, you will not be able to take your test and you will not be reimbursed for any fees paid.

Provide your First Name
Provide your Last Name

Provide your email address
Create a PIN
(all digits and should not end with 0)

Provide your password
Confirm your password
(Password must be 8-14 characters with at least one number and one special character. Allowed special characters: @ # $)

Provide a security question
(in the event that you ever get locked out of your account our staff will ask this question. Up to 255 characters including numbers, letters and the following special characters: _ , !, $)

Provide the answer to the question above
Steps to Vote

• Log into CDP Access
  • You will need a username, password, PIN, and DOB

• Navigate to the Online Vote

• Locate the Code Proposals You Wish to Vote For
  • Organized by residential and then commercial proposals. Within these categories, in numerical order
  • Can use the search bar for individual proposals

• Save Your Progress

• Submit

• Verify
### Understanding Proposals for Vote

#### Version of the Proposal:

**AS**: As Submitted  
**AM**: As Modified by Committee  
**AM PC 1**: As Modified by Public Comment 1

<table>
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<tr>
<th>Prop. #</th>
<th>Cmtee Result</th>
<th>PCH Result</th>
<th>EECC Vote Recommendation</th>
<th>Proposal Summary</th>
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<td>AMPC1</td>
<td>Improves lighting efficacy requirements to 65 lumens/watt for lamps and 45 lumens/watt for luminaires; renames high-efficacy lamps as high-efficacy light sources; excludes kitchen appliance lighting fixtures.</td>
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Voting Member Survey: Online Remote Voting

The International Code Council (ICC) Board of Directors has appointed an ad hoc committee to evaluate the possibility of an online remote voting process for ICC Board of Directors elections and other business at the Annual Business Meeting and is interested in your feedback. ICC continually strives to provide exceptional value and opportunities for members to make their voices heard, so your input is critical.

We have partnered with an independent consulting firm, McKinley Advisors, to assist in this research effort and ensure a data-driven process. This effort includes a survey for Governmental Member Voting Representatives ("GMVRs") and Honorary Members. If you are a GMVR or Honorary Member, you may have received an e-mail from McKinley Advisors containing a link to this survey; however, you may also access the survey using the following link: http://mckinley.icecouncil.org/survey/.

As a reminder, only survey responses from Governmental Member Voting Representatives and Honorary Members will be considered, and you may only participate in the survey once.

Read More

2019 Group B Public Comment Agenda Now Available

The public comment agenda is now available. Click here for the agenda.

2019 Group B Discussion Guide and Public Comment Agenda Updates Now Available

Oct 8, 2019 059 EDT

Click here for the Group B Discussion Guide


Jun 11, 2019 2000 EDT

The 2019 Group B Report of Committee Action from the meeting in Albuquerque, NM are now available. Click here for the results.

2019 Group B CAH Results Now Available.

May 22, 2019 20:00 EDT

The 2019 Group B Committee Action Hearing results from the meeting in Albuquerque, NM are now available. Click here for the results. Note that the Report of Committee Action Hearings is scheduled to be posted June 11.
Profile Settings

Profile Settings

User Name
Nicole Sanches

Email Address
nsanches@mappc.org

Voter status for OGCV
Not Eligible - you are not validated to vote during the OGCV session. Please contact members@iccsafe.org if you feel this is in error.

Note: You must log into cdpACCESS with the same email address used for your voter validation if you are a Governmental Voting Representative, or your ICC Member account if you are an ICC Member. Please contact members@iccsafe.org if you have any questions about your membership status or voter validation.

Time Zone
America/New York (GMT -0400)

Save
Voter Guide and Code
Proposals to Look For
Get Out the Vote

Join us in Newton for an In-Person Workshop

Nov 21st 3:00 PM

RSVP:
https://www.eventbrite.com/e/how-to-vote-on-i-codes-regional-information-session-for-municipal-staff-tickets-80694823389

Plan a Voting Pizza Party

Nov 18th – Dec 5th
TIME TO VOTE!

Crossing the finish line and winning a 10%+ improved 2021 IECC

September 17, 2019
30,000 Feet
IMPORTANCE OF THE 2021 IECC

Building Sector Energy Consumption
- About 40% of all U.S. energy
- More than 70% of all U.S. electricity
- Accounts for about 40% of carbon emissions

Building Energy Codes Program
- Cumulative savings from 2010 to 2040:
  - $126 billion energy cost savings
  - 841 MMT avoided carbon emissions
  - 12.82 quads primary energy savings
The Bottom Line:

EECC-sponsored Proposals: 35 MMT CO₂

EECC-endorsed Proposals + 15 MMT CO₂

Total Potential Carbon Emissions Reductions = 50 MMT CO₂
INTO THE WEEDS
2021 IECC DEVELOPMENT PROCESS—THUS FAR

January 14
- Residential and Commercial Code Proposals were submitted to ICC

March 4
- Proposals Made Available by ICC

By March 29
- Governmental Members registered with ICC

April 28 to May 8
- ICC Committee Action Hearings, Albuquerque, NM

July 24
- Public Comments due to ICC

September 23
- Governmental Member Voting Representatives Assigned

October 23 to 30
- ICC Public Committee Hearings, Las Vegas, NV

Nov 18 – Dec 5
- Online voting via CDP Access

How the committee voted is very impactful. Determines whether we need a simple majority, or $2/3$ voting majority (to overturn committee’s decision)

The final BALLOT was set. Some proposals moved to consent agenda (go into code). Some withdrawn.

Need to assure GMVRs VOTE!
How the Energy Code Improves a Home

**Thermal Barrier**
Installing adequate insulation on all sides of the home improves occupant comfort and reduces the heating and cooling load.

**Ceiling Insulation**
Installing adequate insulation properly reduces heat transfer and prevents destructive ice-damming in the winter.

**Efficient Lighting**
Installing LEDs or CFLs dramatically lowers electricity usage and reduces unwanted heat in the home.

**Duct Sealing**
Sealing all components of the HVAC system, and testing to verify, improves indoor air quality, system efficiency, and increases occupant comfort by ensuring air is evenly distributed to all rooms in the home.

**HVAC System Sizing**
Properly sizing the HVAC system reduces capital costs, prolongs the life of the system, and improves system efficiency.

**Efficient Windows**
It is critical that windows be well insulated and well-sealed to prevent unwanted heat transfer and moisture infiltration.

**Mechanical Ventilation**
Installing a dedicated exhaust, supply or balanced ventilation system improves indoor air quality by guaranteeing source-controlled fresh air is being supplied to the home.
2021 IECC PROPOSALS

Residential Proposals
✓ Fenestration
✓ Lighting and Controls
✓ Duct Leakage Testing and Backstop
✓ Floors and Walls
✓ Mechanical Ventilation

...Plus:

- Rollbacks Trade-Offs

Commercial Proposals
✓ Fenestration
✓ Opaque Envelope
✓ Air Leakage Testing and Verification
✓ Controlled Receptacles
✓ Lighting
✓ EV-ready Circuitry and EV-capable Wiring
✓ Points Options
✓ Net-zero Energy “Stretch Codes” Appendix
Examples of Important Proposals
Proposals that Offer Flexibility to Builders
PROPOSAL: CE 218

Commercial Options for Section C 406

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<th>Existing Section C 406 Options</th>
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<tbody>
<tr>
<td>1. Efficient HVAC Equipment</td>
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<tr>
<td>2. Reduce Lighting Power Density</td>
</tr>
<tr>
<td>3. Renewable Energy</td>
</tr>
<tr>
<td>4. Dedicated Outdoor Air System</td>
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<tr>
<td>5. Service Water Heating</td>
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<tr>
<td>6. Efficient Fossil Fuel Water Heating</td>
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<tr>
<td>7. Enhanced Envelope Performance</td>
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<td>8. Reduced Air Infiltration</td>
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IECC Climate Zones

Source: [https://basc.pnl.gov/images/iecc-climate-zone-map](https://basc.pnl.gov/images/iecc-climate-zone-map)
### Commercial Points Table in CE 218

**Table C406.1(4) Additional Energy Efficiency Credits for Group M Occupancies**

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**INSTRUCTIONS**
1. Find appropriate table based on occupancy type
2. Select measure
3. Find climate zone
RE 209: RESIDENTIAL Flex Points Proposal

- Flexibility for builders
- Packages instead of individual energy saving measures
- 5 points are required
- Each point represents 1% savings; total greater than 5% savings
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<td>Improves insulation requirements</td>
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<tr>
<td>CE96, CE97 &amp; CE99</td>
<td>Requires air leakage testing and commissioning of air barrier</td>
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COMMERCIAL: Understanding how building operates

## Providing Data and Improving Building Operations

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<td>Provides data to improve building operations</td>
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<tr>
<td><strong>CE 215</strong></td>
<td>Adds energy monitoring system</td>
</tr>
<tr>
<td><strong>CE 216</strong></td>
<td>Allows for control of plug load receptacles</td>
</tr>
</tbody>
</table>

## Better Mechanical Systems

<table>
<thead>
<tr>
<th>Proposal Number</th>
<th>How?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CE 113</strong></td>
<td>Ensures highest efficiency equipment in code</td>
</tr>
<tr>
<td><strong>CE 140</strong></td>
<td>Requires efficient ventilation fans in multifamily buildings</td>
</tr>
</tbody>
</table>
CE 162: Clarifies and improves lighting for apartments and condos
CE 209: Improves lighting efficiency for plants / indoor agricultural lighting

- In many areas, indoor agriculture is fastest growing load on the grid.
- Developed in collaboration with the American Society of Agricultural and Biological Engineers
- Estimate to save 78% over high pressure sodium lamps
Improving RESIDENTIAL Building Efficiency

<table>
<thead>
<tr>
<th>Proposal Number(s)</th>
<th>How does it improve residential building efficiency?</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE29, RE32, RE33, RE34, RE36</td>
<td>Improves insulation requirements</td>
</tr>
<tr>
<td>RE35, RE37</td>
<td>Improves window performance to reduce heat loss and reduce cooling</td>
</tr>
<tr>
<td>RE112</td>
<td>Eliminates leaky ducts</td>
</tr>
<tr>
<td>RE139</td>
<td>Requires efficient ventilation systems</td>
</tr>
<tr>
<td>RE7, RE148</td>
<td>Increases efficiency of interior and exterior lights</td>
</tr>
<tr>
<td>RE182, RE184, RE192</td>
<td>Increases the efficiency of building when using Energy Rating Index (i.e. HERS) approach</td>
</tr>
</tbody>
</table>
Beneficial Electrification

- **RE 126** encourages higher efficiency water heating sources and requires lower efficiency water heater types to be installed with renewables

- **RE 147** - Requires electric circuits and receptacles near gas- and propane-fired equipment
Electrification in the IECC

CE 217 Part 1 – Commercial Code
CE 217 Part 2 – Residential Code
Efficiency FIRST, then add renewable energy

Renewables

• **RE 223**  Zero Energy Ready Appendix  
  - **OPTIONAL** provision for advanced jurisdictions  
  - Requires renewables in a way that aligns with rest of the code

• **CE 21** - updates the definitions of biomass-related renewable energy so virgin material cannot be used
Vote
OPTIONS for Voting

1. **Best, most impactful:** Use 2021 IECC Comprehensive Voting Guides (one each for Residential and Commercial (117 proposals))

2. **Second best (limited time):** Use the EECC Top Priorities Voting Guide (98 proposals)

3. **Third best (most limited time):** Just vote on the blue highlighted proposals

The Fastest Way to Vote

1. Log in to CDP Access and click on “Current Cycle”
2. Go to the OGCV Listing page
3. Search for “IECC” in the “Subject Matter” box
4. From there, you will see about 20 proposals per page
5. Use the EECC Voting Guide to select your choice
6. Continue through the pages until all your votes are cast!
### Summary of IECC CE (Commercial & Residential) Proposals and Online Voting Recommendations

<table>
<thead>
<tr>
<th>Proposed</th>
<th>Content</th>
<th>Ballot Position</th>
<th>Ballot Type</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE2</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>CE2 Part 1</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>CE6 Part 1</td>
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<td>D</td>
<td>D</td>
<td>D</td>
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<tr>
<td>CE6 Plan</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
</tbody>
</table>

#### Key Details:
- CE2: Detailed Online Voting Recommendations
  - Final Postcard Version: September 8, 2019
  - Summary of IECC CE (Commercial & Residential) Proposals and Online Voting Recommendations

#### IECC Analysis, Summary for Recommendations and Issues:
- This approach significantly improves the energy efficiency of the recommendation by addressing multiple building sectors.
- CE2: Overview of IECC Energy Efficiency Improvement Results in Commercial Buildings
  - Detailed examination of the IECC's impact on commercial energy consumption and efficiency.

#### Detailed Online Voting Recommendations:
- Final Postcard Version: September 8, 2019
  - IECC Proposals and Online Voting Recommendations

#### Summary of IECC RE (Residential) Proposals and Online Voting
- Detailed examination of theIECC RE Proposals and Online Voting Recommendations
  - Final Postcard Version: November 6, 2019
  - IECC Analysis, Summary for Recommendations and Issues
EECC Top Priorities Voting Guide

Energy-Efficient Codes Coalition 2021 IECC Voters Guide

Thank you for doing your part to significantly strengthen the 2021 International Energy Conservation Code®. This document contains the most important energy-efficiency and climate change provisions that have been included in the 2021 International Energy Conservation Code to help reduce energy use and carbon emissions in buildings by at least 50%.

We hope you enjoy this important tool for everyone. If you have any questions, please contact us at info@energyefficientcodes.org or visit our website at www.energystar.gov.

Table of Contents

<table>
<thead>
<tr>
<th>Code Change</th>
<th>Project and Risk Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>#120</td>
<td>Decrease energy costs</td>
</tr>
<tr>
<td>#130</td>
<td>Increase energy efficiency</td>
</tr>
<tr>
<td>#140</td>
<td>Encourage renewable energy usage</td>
</tr>
<tr>
<td>#150</td>
<td>Reduce greenhouse gas emissions</td>
</tr>
<tr>
<td>#160</td>
<td>Improve indoor air quality</td>
</tr>
<tr>
<td>#170</td>
<td>Enhance occupant comfort and health</td>
</tr>
<tr>
<td>#180</td>
<td>Support overall sustainability</td>
</tr>
</tbody>
</table>

For more information, visit www.energystar.gov or call 1-800-346-3117.

Energy-Efficient Codes Coalition

53
Visit EECC Online at energyefficientcodes.org for Everything You Need to Know...

✓ How-to Vote Videos
✓ First-time Voters Webinar
✓ Voting Guides
✓ Much More
THANK YOU!

Maria Ellingson
MEllingson@ase.org

November 13, 2019
Building Codes for Climate

Take Action Today to Help Set Higher Efficiency Minimums!

BACKGROUND

Massachusetts municipalities can help support their residents’ health and safety through the adoption and enforcement of state building codes. These codes also set forth essential energy policies, setting minimum efficiency requirements for a variety of building practices and technologies used in our cities and towns. With the Green Communities act of 2008, Massachusetts created to option for municipalities to adopt a stretch energy code.

QUESTIONS? NEED HELP?

For more information or for help walking through the process, contact Nicole Sanches at nsanches@mapc.org or 617-933-0760.
Questions?
Contact

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(617) 933-0791