America’s Model Energy Code Webinar

March, 2016
ICLEI is an energetic and flexible movement, an effective sustainable and environmental agency, a dedicated membership organization which enables and guides governments in implementing local and global sustainability targets.
Let’s Put America’s Building Energy Code on a Glide Path of Steady Gains

THE POWER IS IN YOUR HANDS!
America’s Building Energy Policy
Determined by Local Government

WILLIAM D. FAY
Executive Director
America’s Big Unsung Secret:

Since 2008, Local Governmental Officials Have *(almost)* Singlehandedly Boosted the Efficiency of America’s Home & Commercial Building Energy Code by 38%
Buildings Are The “Elephant In The Room” of National Energy Policy

America’s Homes & Commercial Buildings use:

- 42% of all energy
- 54% of natural gas
- 71% of electricity

... And they account for 39% of US manmade GHGs
AFTER MORTGAGE, PRINCIPAL & INTEREST, ENERGY IS THE HIGHEST COST OF HOME OWNERSHIP

Average U.S. Homeowner Costs 2007-2008
• Failing to address building energy efficiency will hinder sound national energy efficiency goals for 4-5 generations.
• “Build It Right the First Time” – Efficiency retrofits far more costly than the same improvements at initial construction.
• At today’s energy costs, an average home’s energy bills will total $170,000!!!
Codes Are Essential To Reducing Wasted Energy From Buildings

66% Covered By Codes

- Heating 31%
- Cooling 12%
- Water Heating 12%
- Lighting 11%
- Other 4%

Industry 32%

Buildings 40%

Transportation 28%

Residential 22%
Codes Are Tedious, Technical . . . Boring

Are You Bored Yet?
2008: Mayors Join Campaign for Dynamic IECC Efficiency Gains


- Endorse “30% Solution” & “Builder Flex”
- Oppose Rollbacks and Trade-Offs that Weaken the Stringency of Gains
- Encourage Municipal Support for All Eligible Code Officials to
  - Attend code hearings and
  - Vote in favor of continued efficiency gains for America’s model energy code, the IECC.
The 2011 Prediction:
Continued savings of the magnitude of recent efficiency gains in building energy codes and appliance standards "will completely offset the anticipated growth in demand in the residential, commercial, and industrial sectors combined, eliminating the need for additional power plants to serve these sectors through 2025."

Institute for Electric Efficiency White Paper May 2011

The 2016 Evidence:
“Improvements in energy efficiency for buildings & appliances appear to have broken the traditional connection between electricity demand & economic growth.”

Duke Energy CEO Lynn Good, 1/6/2014 Financial Times interview
Codes Are *The Most Cost Effective Means of Reducing GHGs*
DOE study uses a life-cycle approach, balancing first costs against longer-term energy savings over typical 30-year mortgage – but savings continue for decades more.

<table>
<thead>
<tr>
<th>IECC Climate Zone</th>
<th>30-Year Life-Cycle Savings ($US)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IECC 2009 vs. 2006</td>
</tr>
<tr>
<td>1</td>
<td>$2,877</td>
</tr>
<tr>
<td>2</td>
<td>$2,443</td>
</tr>
<tr>
<td>3</td>
<td>$1,944</td>
</tr>
<tr>
<td>4</td>
<td>$2,259</td>
</tr>
<tr>
<td>5</td>
<td>$2,466</td>
</tr>
<tr>
<td>6</td>
<td>$3,094</td>
</tr>
<tr>
<td>7</td>
<td>$3,622</td>
</tr>
<tr>
<td>8</td>
<td>$9,147</td>
</tr>
</tbody>
</table>
Your Window of Opportunity

Put the 2018 and Future IECC Updates on a Glide Path of Steady Building Efficiency Gains
2016 Success . . .
And How We Will Get There
Progress – 38-54% Efficiency Boost


- 1975: 100
- 1980: 90
- 1985: 80
- 1990: 70
- 1995: 60
- 2000: 50
- 2005: 40
- 2010: 30
- 2015: 20
- 2020: 10

- 2006 IECC: 15%
- 2009 IECC: 15%
- 2012 IECC: 15%
- 2015 IECC: 1%
A Glide Path for Net Zero by 2050

Modest 5% Gains Every 3 Years . . .
No Rollbacks; No Trade-Offs
OR . . . Rollbacks/Trade Offs Win

![Graph showing code stringency (EUI) from 1975 to 2045 with data points for 2006, 2009, 2012, 2015, and 2018 IECC. The graph indicates a trend of decreasing stringency, with a notable spike around 2018 IECC.]
Code Development Is Trench Warfare: Opponents Want Weaker Codes

Powerful Code Opponents Include:

• Powerful Home Builder Associations resistant to change
• Manufacturers of inferior products
• Code officials who don’t see energy as Health, Safety & Welfare
In the Long Run:
The IECC Is In Your Hands!
Why We’re Here Today:

It Just Got Easier for Local Governments to Vote for Building Energy Efficiency!
Voting with cdpACCESS

- Only ICC Governmental Member Voting Representatives can vote
- Allows many more GMVRs to determine the outcome of the 2018 IECC without travelling (saving time and money)
- Committee Action Hearings (CAH) and Public Comment Hearings (PCH) still set agenda for voting – GMVR testimony posted on cdpACCESS site
Simple 2016 Goals for the 2018 IECC

Achieve a minimum 5% efficiency boost in the 2018 IECC over the 2015 IECC

- Put 2018 and future IECCs on a glide path of steady efficiency improvements
- Defeat efficiency rollbacks and envelope trade-offs

Increase cdpACCESS voting participation by local and state governments

Urge elected officials to link code official voting to their jurisdiction’s energy and environmental policies
Only “Governmental Members” Vote on the 2018 IECC

• “2.1.1 Governmental Member - A Governmental Member shall be a governmental unit, department or agency **engaged in the administration, formulation, implementation or enforcement of laws, ordinances, rules or regulations relating to the public health, safety and welfare**....”

• “2.1.1.1 Governmental Member Voting Representatives - ....Governmental Member Voting Representatives shall be....employees or officials of the Governmental Member or departments of the Governmental Member, provided that each of the designated voting representatives shall be **an employee or a public official actively engaged either full or part time, in the administration, formulation, implementation or enforcement of laws, ordinances, rules or regulations relating to the public health, safety and welfare**....”

ICC Bylaws – February 2013
Only “Governmental Members” Vote on the 2018 IECC

The Cost and # of Eligible “Governmental Member Voting Representatives (GMVRs)” depends on population:

<table>
<thead>
<tr>
<th>Population</th>
<th># of Eligible Votes</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-50,000</td>
<td>Four (4)</td>
<td>$135</td>
</tr>
<tr>
<td>50,001-150,000</td>
<td>Eight (8)</td>
<td>$240</td>
</tr>
<tr>
<td>150,001+</td>
<td>Twelve (12)</td>
<td>$370</td>
</tr>
</tbody>
</table>
JOIN or RENEW YOUR JURISDICTION’S ICC MEMBERSHIP BY MARCH 18, 2016 TO ENSURE THAT YOUR REPRESENTATIVES CAN VOTE TO UPDATE THE 2018 IECC.
Check List – ITEM 2

Make Support For Steady IECC Gains The Policy Of Your Jurisdiction . . .

Tell Your ICC Voting Representatives
to Vote in Support of Efficiency Gains and Against Proposals That Roll Back Efficiency

ASAP
Check List – ITEMS 3, 4, 5

- Submit Names of Your Voting Representatives (GMVRs) to the ICC
- Send GMVRs to participate in Public Comment Hearings in Kansas City
- Make sure all GMVRs vote using cdpAccess to promote efficiency!
# A Simple, USCM Endorsed Yardstick for EECC Voting Recommendations

**SUPPORT** Proposals that Boost Efficiency Using Readily Available Technology.

**OPPOSE** Proposals that Roll Back or Trade Off Efficiency Gains.

<table>
<thead>
<tr>
<th>Prop. #</th>
<th>Standing Motion</th>
<th>EECC Recommended Action</th>
<th>Original Proposal Summary</th>
<th>EECC Evaluation &amp; Summary of Public Comments with Modifications</th>
<th>EECC Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE7</td>
<td>D</td>
<td>Support D</td>
<td>Replaces specific interior design temperatures with a reference to ACCA manual J, allowing additional flexibility in design.</td>
<td></td>
<td>Current code language promotes better equipment sizing than the proposed change.</td>
</tr>
<tr>
<td>RE8</td>
<td>D</td>
<td>Oppose D</td>
<td>Requires all new 1- and 2-family and multifamily dwellings with roofs oriented between 110°-270° to have solar ready zone of ( \geq 300 \text{ sq ft} ) or ( \geq 150 \text{ sq ft} ) for homes under 2000 square feet. Exceptions for buildings with on-site renewables or roof areas shaded ( &gt;70% ) of the time. Construction documents must indicate the zone and pathways for conduit, pre-wiring, or plumbing chase and the electrical service panel must reserve space for a breaker. Exception for buildings with installed pre-plumbing or chase from zone to water heating system.</td>
<td>PC – Removes requirement to have solar ready zone and to reserve space in electrical service panel, but maintains requirements to document solar-ready portions of the roof, keep these zones free of obstructions, and document conduit pathways and roof loads.</td>
<td>Agree</td>
</tr>
<tr>
<td>RE9</td>
<td>D</td>
<td>Support AM PC</td>
<td>Requires all new 1- and 2-family and multifamily dwellings with roofs oriented between 110°-270° to have solar ready zone of ( \geq 300 \text{ sq ft} ) or ( \geq 150 \text{ sq ft} ) for homes under 2000 square feet. Construction documents must indicate the zone and pathways for conduit, pre-wiring, or plumbing chase and the electrical service panel must reserve space for a breaker. Exceptions for buildings with on-site renewables or roof areas shaded ( &gt;70% ) of the time.</td>
<td>PC1 – Moves solar ready provisions into a new appendix; adds an exception for buildings with ( &lt;600 \text{ sq ft} ) of solar ready zone that is unshaded for more than ( 70% ) of daylight hours. PC2 – Move solar ready provisions into a new appendix; adds a scoping exception for buildings with ( &lt;600 \text{ sq ft} ) of solar ready zone.</td>
<td>Agree</td>
</tr>
</tbody>
</table>
WE WILL PROVIDE SUPPORT!

- Develop outreach materials
- Host advocacy meetings and webinars
- Training on use of cdpAccess
- Provide voting guide
- Organize Voting Parties
WHAT CAN YOU DO?

CONTACT US:

ICLEI – Riana Ackley
ria.Ackley@iclei.org

NARC – Taylor Markwith
taylor@narc.org

USDN – Garrett Fitzgerald
garrettfitzgerald@usdn.org

EECC – Harry Misuriello
hmisuriello@aceee.org
THANK YOU!

http://energyefficientcodes.org/POWER

WILLIAM D. FAY
Executive Director
1850 M Street, NW Suite 610
Washington, DC 20036
(202) 857-0666
bfay@ase.org