



27 IECC Proposals with a Significant Impact on Building Energy Efficiency¹

6 Residential Proposals that Improve or Protect Energy Conservation

RE18 (EECC) Improves residential floor insulation requirements in climate zones 2 and 4, making homes more comfortable and improving energy efficiency by roughly **1-2%** in these zones.

RE19 (EECC) Improves residential energy efficiency by strengthening the fenestration U-factor requirement in climate zones 3-8, improving energy efficiency by **0.6%** to **1.1%**, depending on climate zone; creates an exception to new U-factor requirement where impact-resistant glazing is required or where windows are installed in high altitudes. *See also RE31 PC1.*

RE103 (EECC) Establishes a trade-off backstop for duct tightness, helping to maintain better heating and cooling system efficiency and improving comfort for occupants.

RE135 (EECC) Improves residential energy efficiency by creating backstop requirements for the “performance path” compliance path – specifically requiring a minimum level of thermal envelope performance equivalent to that required for the ERI compliance path. This proposal promotes more equivalency between the various compliance paths and will reduce the negative impact of any trade-offs under the performance path. *See also RE134 PC2.*

RE173 (LBA) Increases ERI target compliance scores from a range of 51-55 depending on the climate zone to a range of 57-62, but implements a separate, more stringent backstop for the use of on-site renewable energy as a trade-off for efficiency. This proposal received broad support from a wide range of building, efficiency, and environmental stakeholders at the PCH and received near-unanimous support.

RE179 (EECC) “Flex Points” proposal was unanimously endorsed by the U.S. Conference of Mayors. Improves overall residential building energy efficiency across all IECC compliance paths by about **5%** through a new points-based table of additional energy efficient options from which a code user may select one or more improvements to meet the required energy efficiency level.

6 Commercial Proposals that Improve or Protect Energy Conservation

CE43 (EECC) Improves the overall efficiency of the IECC commercial provisions by roughly **5%**.

CE54 (EECC) Improves the efficiency of the commercial opaque envelope table by adopting the most efficient values from the IECC and ASHRAE 90.1 prescriptive tables.

CE91 (EECC) Improves efficiency requirements for fenestration in low-rise commercial buildings by applying a set of requirements similar to those that apply to low-rise multifamily buildings. Overall efficiency of these buildings could improve by roughly **0.5%** to **1.6%**, depending on climate zone.

CE92 (EECC) Improves efficiency of commercial buildings in climate zones 4-6 by roughly **2%** to **5%** by requiring lower fenestration SHGC.

CE93 (EECC) Improves the efficiency and simplicity of the IECC by specifying a single, more efficient fenestration SHGC requirement in the prescriptive path and establishing a projection factor/SHGC trade-off table for projects that include permanent shading.

¹ This document includes brief summaries of (1) IECC proposals that will have the most significant positive impact on energy efficiency; and (2) IECC proposals that roll back the energy efficiency of the code and/or are likely to have a significant negative impact on efficiency, along with estimates of impact on energy efficiency (where available). This is *not a complete list, but it does illustrate the importance and magnitude of the energy efficiency issues to be decided by the ICC governmental representatives this Fall.*

CE251 (Floyd) Limits credit for on-site energy production in commercial performance path to 5%. This helps reduce the likelihood that a building's permanent thermal envelope efficiency will be traded away for on-site power production.

8 Residential Proposals that Weaken Energy Efficiency

RE17 (NAHB) Creates a complete exemption from thermal envelope requirements of the IECC for log homes designed in accordance with ICC-400 (Log Homes). This could roll back efficiency from 2% up to 23%, depending on climate zone.

RE28 (CFEC) Creates a prescriptive path trade-off that would permit the use of R-25 wall insulation in climate zones 6-8 where fenestration with a U-factor no higher than 0.26 is used. This proposal is technically unsound and adds unnecessary complication to the simple prescriptive path.

RE58 (NAHB) Allows envelope tightness to be traded off in performance compliance options and establishes a mandatory trade-off backstop. Proposal contains several technical flaws and could result in a significant loophole.

RE108 (NAHB) – Allows an option for testing post-construction duct leakage to outdoors. This ignores the possibility that an excessive amount of conditioned air could be spilling into the furnace room instead of the intended rooms.

RE130 (EEI) Establishes “performance path” compliance trade-offs for lighting, by adding it to the standard reference design baseline. This proposal permits trade-offs between lighting and thermal envelope components with much longer lifecycles based on a one-year energy usage snapshot. This could result in a 1.4% to 7.2% loss in energy efficiency and substantial confusion for code enforcers.

RE134 (NAHB) Establishes “performance path” compliance trade-offs for heating, cooling, and water heating equipment; adds UA-based thermal envelope backstop that permits 15% higher total UA and 60% higher SHGC than current prescriptive requirements. This rollback and compliance loophole has been rejected consistently since 2009, but if reinstated, could result in an 11% to 22% reduction in efficiency nationwide. *PC2 would reduce the negative impact by eliminating the trade-off.*

RE146 (CFEC) Sets glazing area assumption in the “performance path” standard reference design at a fixed 15%, creating a trade-off loophole (credit) that allows reduction in envelope efficiency in homes with less than 15% glazing area. This rollback and compliance loophole has been rejected consistently for many years, but if adopted, the resulting efficiency losses would be between 1% and 6% for such homes, depending on glazing area and climate zone.

RE156 (NAHB) Replaces current ERI backstop (based on the 2009 IECC envelope) with a UA-based thermal envelope backstop that permits 15% higher total UA and 60% higher SHGC than current prescriptive requirements. The net result will be a weaker thermal envelope and loss of energy efficiency.

7 Commercial and Admin Proposals that Weaken Energy Efficiency

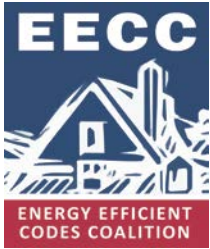
CE18 Part 2 (Cain) Includes on-site renewable energy in performance path as a trade-off against energy conservation measures. The result could be a significant weakening of the building's thermal envelope efficiency.

CE42 (Foster), CE46 (EEI) Reduces efficiency of commercial performance path by raising the allowable energy use from 85% of the base case to 95% (CE42) or 100% (CE46).

ADM42 Parts 1&2 (NAHB), ADM43 Parts 1&2 (EEI) Revises intent of IECC to cover the “net” energy use of building (ADM42) or to regulate the conservation and production of energy (ADM43). This could lead to confusion for code enforcers and disputes over the relative value of energy generation versus conservation.

ADM45 Parts 1&2 (NAHB) Removes “over the useful life of the building” from the scope of the IECC. This is an important touchstone for the IECC that maintains the focus on the long-term economics for building owner.

ADM46 Parts 1&2 (NAHB) Eliminates requirement for so-called “above-code” programs to meet mandatory provisions of the IECC, allowing such programs to avoid minimum code requirements and result in reduced efficiency.



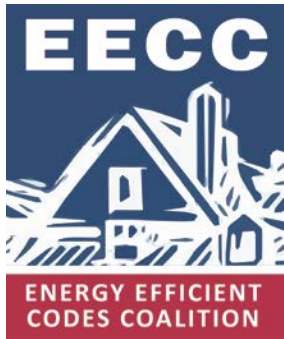
EECC Fast Track Voting Guide

This “Fast Track” Voting Guide provides in summary format the EECC’s recommendations for voting on the 2018 IECC Residential, Administrative, and Commercial Energy-related proposals. We encourage all ICC Governmental Voting Member Representatives to log onto CDPAccess (www.cdpass.com) during the appropriate voting period (approximately November 8-22) and vote in favor of energy efficiency. **Proposals shaded in blue are the most critical proposals in terms of impact on energy efficiency**, though we recommend voting on all of the proposals listed below. For a more detailed voting guide, including descriptions of proposals and supporting reasons, as well as other materials from the EECC, see <http://energyefficientcodes.com/>.

Prop #	EECC Recommended Vote	Prop #	EECC Recommended Vote	Prop #	EECC Recommended Vote
RESIDENTIAL		RE138	D	CE43	AS
RE3	AMC	RE139	D	CE46	D
RE12	D	RE142	D	CE48	D
RE15	D	RE145	D	CE51	D
RE17	D	RE146	D	CE54	AS
RE18	AS	RE153	AMPC	CE55	AMPC2
RE19	AS	RE156	D	CE57	D
RE22	AMPC	RE159	AS	CE60 P2	D
RE23	AS	RE162	D	CE61	AMPC2
RE26	AS	RE166	D	CE66	D
RE27	AS	RE170	D	CE87 P1	AMC
RE28	D	RE173	AMPC	CE87 P2	AMPC1
RE30	D	RE177	D	CE91	AS
RE31	AS	RE178	D	CE92	AS
RE36	AS	RE179	AS	CE93	AS
RE37	AS	RE181	D	CE105	AM PC3/PC5
RE51	D	RE183	AS	CE107	AS
RE52	D	RE191	AS	CE114 P1	AS
RE58	D	ADMINISTRATIVE		CE114 P2	AS
RE60	D	ADM4 P2	D	CE115 P1	D
RE77	D	ADM4 P3	D	CE115 P2	D
RE85	D	ADM35 P3	D	CE175 P1	AS
RE86	AS	ADM42 P1	D	CE175 P2	AS
RE87	D	ADM42 P2	D	CE200	AMPC
RE92	D	ADM43 P1	D	CE222	AS
RE100	D	ADM43 P2	D	CE224	AMPC
RE103	AS	ADM45 P1	D	CE225	AMC
RE104	D	ADM45 P2	D	CE228	AS
RE106	D	ADM46 P1	D	CE232	AS
RE108	D	ADM46 P2	D	CE233	AS
RE113	AS	COMMERCIAL		CE247	AS
RE114	AS	CE5 P1	AS	CE249	AS
RE116	AS	CE5 P2	AS	CE251	AMC
RE120	AS	CE8 P2	D	CE259 P2	D
RE121	AS	CE18 P2	D	CE277	AS
RE123	AS	CE19	AS	CE287	D
RE130	D	CE23 P1	D	CE289	AMPC
RE134	D	CE23 P2	D	CE290	AS
RE135	AS	CE31 P1	AS	CE292	AS
RE136	D	CE31 P2	AS	CE296	AS
RE137	AS	CE42	D		

KEY:

AS – Vote “As Submitted” AMC/AMPC – Vote “As Modified” D – Vote “Disapprove”
 Cells shaded **blue** indicate “Key Proposals” likely to significantly impact energy efficiency.



Final IECC Voting Guide for Supporters of Energy Efficiency

This Voting Guide provides the Energy Efficient Codes Coalition’s **FINAL** recommendations for the 2018 IECC Residential, Administrative and Commercial Energy-related provisions (combined into one guide for ease of use). This updated guide has been prepared after the Public Comment Hearings in Kansas City, incorporates the effects of the actions taken at those Hearings and, as a result, **replaces previous Public Comment Hearing Recommendations Guides**. EECC’s recommendations in this document are intended to maintain and/or improve the efficiency and usability of the IECC, by supporting steps forward, while eliminating potential rollbacks, weakening amendments, and loopholes proposed by other stakeholders. EECC recommends that ICC Governmental Member Voting Representatives carefully review the recommendations in this Voting Guide (along with the proposals and EECC’s public comments), log onto www.cdpass.com during the appropriate voting period (approximately November 8-22) and, most importantly, **VOTE to improve energy efficiency in buildings**.

Final Version 10-28-16

RE – Residential Energy Voting Guide			
Proposal #	EECC Recommended Vote	Proposal Summary	EECC Reasons, Comments and Notes
RE3	AMC	Adds definition for <i>air permeable insulation</i> and new referenced standard. The Committee modification removed references to standards and simplified definition.	Recommended for Approval AMC at PCH.
RE10	NR	(LBA) - Specifies that where whole-house mechanical ventilation is provided, the airflow must be tested; written report must be provided to code official.	
RE12	D	Adds two new compliance options to the IECC residential chapter: An energy cost index (ECI) approach and an energy use index (EUI) approach. Contains thermal envelope backstop equal to 2018 prescriptive requirements.	Weakens the code. Recommended for Disapproval at PCH. Additional compliance options are unnecessary and will complicate code enforcement. Proposed backstop is a positive feature, but proposal would allow full equipment trade-offs, which are subject to enormous free ridership.
RE15	D	(NAHB) - Creates an option for multifamily buildings to be air leakage tested either as a single zone or as individual dwelling units; permits area-weighted averaging of all zones to demonstrate compliance for whole building. The Committee modification adds an option to test as multiple zones; removes requirement for common areas to be treated as isolated test zones.	Weakens the code. Recommended for Disapproval at PCH. Proposal introduces an undefined, potentially broad exception to the air leakage test requirement for multi-unit and single-family attached buildings. It also introduces a sampling option that could create code compliance problems. The result could be substantial inconsistency and reduced energy savings.
RE17	D	(NAHB) - Adds an exception to the residential thermal envelope requirements for log homes complying with ICC-400.	Weakens the code. This proposal would reduce the efficiency of the code for log homes by 2% to 23%, depending on climate zone. ICC-400 requirements are not as efficient as the IECC, and this could become an even bigger problem as the IECC evolves. Moreover, establishing a separate set of requirements in a separate standard for one type of home also creates confusion and significant compliance and enforcement problems. <i>See the EECC PC on this proposal for additional information.</i>

KEY:

AS – Vote “As Submitted” AM/AMC/AMPC – Vote “As Modified” D – Vote “Disapprove” NR – No EECC Recommendation CAH – Committee Action Hearing PC – Public Comment
 PCH - Public Comment Hearing **Cells shaded blue indicate “Key Proposals” likely to significantly impact energy efficiency.**

RE – Residential Energy Voting Guide

Proposal #	EECC Recommended Vote	Proposal Summary	EECC Reasons, Comments and Notes
RE18	AS	(EECC) - Improves floor insulation requirement in cz 2 from R-13 to R-19; and in cz 4 from R-19 to R-30.	Strengthens the code. This will make homes more comfortable and will improve overall efficiency by roughly 1% to 2% in these homes. <i>See the reason statement and the EECC PC for additional supporting information.</i>
RE19	AS	(EECC) - Lowers vertical fenestration U-factors in cz 3 & 4 from 0.35 to 0.32 and cz 5-8 from 0.32 to 0.30; exception permits 0.32 U-factor in cz 5-8 for vertical fenestration installed in high altitude or wind-borne debris regions.	Strengthens the code. CAH Floor Motion to approve As Submitted was successful, 126-106. Recommended for Approval AS at PCH. Improves residential buildings by strengthening fenestration U-factor, improving overall efficiency by 0.6% to 1.1%, depending on climate zone, while still allowing fenestration in high altitude or wind-borne debris regions to meet current U-factor requirements. <i>See the reason statement and the EECC PC for additional supporting information.</i>
RE22	AMPC	Adds requirement to insulate heated slab to R-5 under the full slab area.	Strengthens the code. Recommended for Approval AMPC at PCH.
RE23	AS	Divides mass wall insulation requirements into two categories: interior insulation method and exterior insulation method; divides slab insulation requirements into heated and unheated slab insulation requirements; clarifies wood frame wall, basement wall, and crawl space wall insulation requirements.	
RE25	NR	Adds climate zone "0" to all references to climate zone 1.	
RE26	AS	Divides wood frame wall insulation column of R-value table into three columns: cavity insulation only; combination cavity and continuous; and continuous only; adds new cavity-only and continuous-only options to current options.	
RE27	AS	Adds continuous insulation roof design column to prescriptive R-value table with the following R-values: cz1 - R-28; cz2-3 - R-34; cz4-8 - R-38.	
RE28	D	Lowers vertical fenestration U-factors in cz 3-4 from 0.35 to 0.32 and in cz 5 from 0.32 to 0.30; in cz 6-8, U-factor is lowered from 0.32 to 0.30, or in the alternative, U-0.26 if wood-framed walls are insulated to R-25 cavity-only.	Weakens the code. Specific prescriptive trade-offs such as this one between windows and walls are unnecessary, confusing and technically incorrect; indeed, this specific trade-off will cost energy efficiency according to the analysis by proponent. This type of trade-off should be addressed under the UA trade-off and/or under the performance-based compliance paths for a specific building where the specific impact can be precisely determined and accounted for in any trade-off.

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Proposal #	EECC Recommended Vote	Proposal Summary	EECC Reasons, Comments and Notes
RE30	D	(NAHB) - Permits R-18 insulation in place of R-20 in wood-framed walls if framing factor is ≤ 20% with 24 inch o.c. stud spacing. The committee modification clarifies that the R-20 refers to cavity insulation.	Weakens the code. Recommended for Disapproval at PCH. Will roll back the code and reduce energy efficiency. <i>See EECC PC on this proposal for additional information.</i>
RE31	AS	(NAHB) - Lowers vertical fenestration U-factors in cz 3-4 from 0.35 to 0.32 and in cz 5-8 from 0.32 to 0.30.	Strengthens the code. Recommended for Approval AS at PCH.
RE36	AS	(DOE) - Lowers vertical fenestration U-factors in cz 3-4 from 0.35 to 0.32; in cz 5-8 from 0.32 to 0.30.	Strengthens the code.
RE37	AS	(EECC) - Adds SHGC column to U-factor equivalent table consistent with SHGC requirements in R-value table; adds corresponding footnotes to U-factor table.	Strengthens the code. Adding the current SHGC requirements to the U-factor equivalent table has no effect on the stringency of the code, but will make the IECC easier to use and will improve compliance and enforcement. <i>See the reason statement and the EECC PC for additional supporting information.</i>
RE40	NR	Clarifies that exception for insulation in ceilings without attic spaces applies where the full height of uncompressed R-30 insulation extends over the top of the wall plate at the eaves.	
RE47	NR	Deletes eave baffle and attic access hatches sections and moves requirements into air barrier/insulation installation table; eliminates exception that allows vertical doors to meet the prescriptive fenestration requirements instead of the R-value of the surrounding surfaces.	
RE50	NR	Adds an exception to access hatch requirements for horizontal pull-down stairs with an average of R-10, weatherstripping, and a framed opening no more than 13.5 square feet; pull-down stair exception does not apply to U-factor analysis.	
RE51	D	Adds mass timber (cross-laminated timber, structural composite timber) to list of materials considered above-grade mass walls.	Weakens the code. No showing by proponent that the performance of proposed new materials is equivalent to current mass walls.
RE52	D	Specifies five different types of above-grade walls that can be considered mass walls, based on material type, weight, or heat capacity.	Weakens the code. Recommended for Disapproval at PCH. Compliance option #2 in proposal could be construed to add brick veneer walls to mass walls category, thereby substantially reducing energy efficiency in these cases. <i>See EECC PC on this proposal for additional information.</i>

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Proposal #	EECC Recommended Vote	Proposal Summary	EECC Reasons, Comments and Notes
RE56	NR	Adds two new air leakage testing options for multifamily buildings; permits each dwelling unit to be tested separately; in buildings with 7 or more units, permits sampling under specified procedures; requires separation walls between dwelling units to be air sealed per R402.4; requires specific details on written report of test results.	We support air sealing between units, but we do not generally support compliance through sampling.
RE58	D	(NAHB) - Increases mandatory maximum air leakage rate to 6 ACH50 in cz 1-2 and 5 ACH50 in cz 3-8; sets prescriptive maximum air leakage rate at 5 ACH50 in cz 1-2 and 3 ACH50 in cz 3-8, allowing trade-offs.	Weakens the code. Recommended for Disapproval at PCH. We still have concerns about the enforceability of the language and other technical errors. While we could have supported PC 1 as a reasonable compromise, that PC is not an option for online voters, so we urge Disapproval of RE58. <i>See EECC PC on this proposal for additional information.</i>
RE60	D	(DOE) - Maintains mandatory air leakage test but makes air leakage levels prescriptive, allowing for full trade-offs.	Weakens the code. Recommended for Disapproval at PCH. We could have supported PC 1 as a reasonable compromise, but that PC is not an option for online voters, so we urge Disapproval of RE58.
RE63	NR	Specifies that expanding foam shall not be used to seal air barrier penetrations by refrigerant piping.	
RE69	NR	Adds air barrier and insulation installation criteria for adiabatic walls; adds new definition for adiabatic.	
RE70	NR	Clarifies that where fire sprinkler systems must be installed outside the building thermal envelope, insulation tenting shall be installed in a way that limits disruption to integrity of thermal envelope.	
RE72	NR	Clarifies that spaces behind electrical or phone boxes in exterior walls shall be insulated or filled by insulation that readily conforms to available cavity space.	
RE73	NR	Clarifies that air barrier installed at exterior walls shall separate exterior wall from showers, tubs, and fireplaces; adds requirement to seal tub and shower drain trap penetrations through the subfloor; requires exterior walls adjacent to fireplaces to be insulated.	
RE74	NR	Specifies that penetrations for plumbing, wiring, and other obstructions shall be sealed; clarifies installation of batt insulation around wiring, plumbing, and other obstructions in exterior walls, floors, and ceilings.	
RE76	NR	Clarifies that duct shafts, utility penetrations, flue shaft opening, "or other similar penetrations" to exterior or unconditioned space shall be sealed.	

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Proposal #	EECC Recommended Vote	Proposal Summary	EECC Reasons, Comments and Notes
RE77	D	Deletes prescriptive crawl space wall insulation requirements and moves provisions into air barrier/insulation installation table; removes requirement that insulation extend vertically or horizontally beyond the finished grade level by 24 inches; adds requirement for class 1 vapor retarder over exposed earth in both vented and unvented crawl spaces.	Recommended for Disapproval at PCH. We would prefer to see these provisions maintained in section R402.2.11.
RE78	NR	Adds details to floors over unconditioned space or vented crawl spaces, including proper sealing of obstructions; requires insulation in floor to meet one of two methods of insulation.	
RE79	NR	Requires rim joist insulation to be encapsulated; adds new definition for <i>encapsulated</i> .	
RE81	NR	Adds requirement to seal the junction of the rim board to the sill plate and the junction of the bottom plate to the subfloor on exterior walls, as well as junction of top plate and drywall adjacent to unconditioned spaces; also requires knee walls to be encapsulated and sealed; adds new definition of encapsulated.	
RE82	NR	Clarifies that continuous air barrier shall be provided throughout the building thermal envelope, either on the interior or exterior or any combination; requires air-permeable insulation to be encapsulated inside an air barrier except in unconditioned attic spaces; requires Grade 1 installation for all insulation; requires verification and certification of insulation installation per Section R303; adds new definitions for <i>encapsulated</i> and <i>grade 1 insulation</i> .	
RE85	D	Replaces current air tightness test with new test requirements based on equivalent leakage area; requires detached buildings or dwelling units to demonstrate air leakage ≤ 1.1 sq. inches equivalent leakage area/100 sq. ft. dwelling unit enclosure area; requires attached buildings or dwelling units to demonstrate air leakage ≤ 1.3 sq. inches equivalent leakage area/100 sq. ft. dwelling unit enclosure area; adds new definition for <i>dwelling unit enclosure area</i> .	Weakens the code. Recommended for Disapproval at PCH. Change is unnecessary and would be confusing for many. Proposal also fails to address the performance path, which could lead to a separate set of requirements for prescriptive and performance approaches.
RE86	AS	Adds new section requiring test of garage separation air leakage as part of air leakage test.	
RE87	D	(NAHB) - Increases maximum tested air leakage level in climate zones 3-8 from 3 ACH50 to 4 ACH50.	Weakens the code. Recommended for Disapproval at PCH. Will roll back the code and reduce energy efficiency. <i>See EECC public comment on this proposal for additional information.</i>
RE89	NR	Clarifies language related to testing of fireplace doors.	

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Proposal #	EECC Recommended Vote	Proposal Summary	EECC Reasons, Comments and Notes
RE92	D	(NAHB) - Deletes requirements for rooms containing fuel-burning appliances.	Weakens the code. CAH Floor Motion to Disapprove was successful, 160-108. Recommended for Disapproval at PCH. Will reduce energy efficiency for buildings with rooms containing fuel-burning appliances.
RE98	NR	Requires specific information to be provided to code official when an energy storage system is installed; adds new definition for <i>energy storage system</i> .	
RE100	D	(NAHB) - Revises definition of "ducts inside conditioned space" to include 1) where duct system is located within continuous air barrier & within building thermal envelope OR 2) where ducts are completely buried in ceiling insulation \geq the proposed ceiling insulation value, air handler is within air barrier/thermal envelope, duct leakage is \leq 1.5 cfm to the outside; establishes same insulation criteria for supply and return ducts buried within ceiling insulation as RE99. The committee modification reduced buried duct insulation R-value from R-18 to R-13.	Weakens the code. EECC opposes this proposal because it permits testing air leakage to the outdoors, instead of a total leakage test consistent with duct testing in the current IECC. Proponent also did not demonstrate efficiency equivalence to ducts in conditioned space. <i>See EECC PC on this proposal for additional information.</i>
RE101	NR	Provides additional details and requirements for duct sealing; deletes exception for ducts with low static pressure classification.	
RE103	AS	(EECC) - Classifies duct tightness test as mandatory; sets mandatory level at 8cfm/100 sq. ft. and prescriptive level at 4cfm/100 sq. ft., permitting trade-offs.	Strengthens the code. Duct tightness levels were mandatory in the 2012 IECC. Although this proposal would restore a mandatory limit to duct tightness trade-offs, the limit would still allow significant flexibility for builders. <i>See the reason statement and the EECC PC for additional supporting information.</i>
RE104	D	Requires ducts to be pressure tested in accordance with ANSI/BRS/RESNET/ICC 380.	Allowing ANSI/BRS/RESNET/ICC 380 may be a reasonable test option, but it should not be the exclusive option at this point.
RE106	D	Replaces duct test requirements with a requirement to test for duct leakage to outdoors; creates 3 exceptions: 1) ducts and air handlers are located inside air barrier and thermal envelope; 2) where HVAC duct system serves \leq 1200 sq. ft. floor area, duct leakage to outside shall be \leq 60 CFM; total duct leakage of \leq 60 if that level of duct leakage demonstrates compliance with code. Also deletes exception that applies where all ducts and air handlers are located in conditioned space.	Weakens the code. Recommended for Disapproval at PCH. Total duct leakage test should not be replaced with test for leakage to the outdoors. Total duct leakage is a better measurement, since ducts with lower overall leakage are more likely to accomplish intended purpose of distributing conditioned air and improving comfort. Moreover, changing the test would reduce efficiency in many cases.
RE107	NR	Requires ducts to be tested for total leakage and leakage to outdoors; adds exceptions similar to those in RE106.	The proposed language needs improvement.

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Proposal #	EECC Recommended Vote	Proposal Summary	EECC Reasons, Comments and Notes
RE108	D	(NAHB) - Allows an option for testing post-construction duct leakage to outdoors.	Weakens the code. Recommended for Disapproval at PCH. Total duct leakage test should not be replaced with test for leakage to the outdoors. Total duct leakage is a better measurement, since ducts with lower overall leakage are more likely to accomplish intended purpose of distributing conditioned air and improving comfort. Moreover, changing the test would reduce efficiency in many cases.
RE109	NR	Would permit individual wall framing cavities to be used for transfer air between two spaces on the same level complying with IMC Section 602.3.	
RE113	AS	In climate zones 1-5, requires one of 6 prescriptive options for water heating: desuperheater, heat pump water heater ≥ 2.0 EF, solar water heater with heating fraction of ≥ 0.50 , instantaneous, storage gas water heater ≥ 0.67 EF, or grid-enabled water heater; adds definitions for <i>desuperheater/water heater</i> and <i>grid-enabled water heater</i> .	Strengthens the code. Will improve energy efficiency. However, the proposal only applies to prescriptive path.
RE114	AS	Limits flow rate of lavatory faucet installed in dwelling unit to ≤ 1.5 gpm.	Strengthens the code.
RE116	AS	Clarifies that building shall be provided with <u>mechanical</u> ventilation that meets IRC or IMC requirements.	
RE120	AS	Clarifies that HRV/ERV fans are exempt from efficacy requirements that apply to whole house mechanical ventilation fan efficiency; updates fan efficacy requirements to latest Energy Star standards.	
RE121	AS	Adds new criteria for HRV/ERV fan efficacy to mechanical ventilation system fan efficacy table.	Recommended for Approval AS at PCH.
RE123	AS	(DOE) - Requires buildings in cz 6-8 to have a balanced HRV/ERV system; requires HRV/ERV fans to meet the fan efficacy requirements except where the fan is integral to tested and listed HVAC equipment and fan motor is electrically commutated.	Strengthens the code.

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Proposal #	EECC Recommended Vote	Proposal Summary	EECC Reasons, Comments and Notes
RE130	D	Includes lighting in the scope of performance path; sets standard reference design assumption based on Section R404.1 requirements.	Weakens the code. Recommended for Disapproval at PCH. Will roll back the code and reduce energy efficiency by 1.4% to 7.2%. Proposal would create a loophole by allowing trade-offs of lighting for other efficiency measures that have much longer service lives. Given rapid changes in federal lighting standards, such a trade-off would also create substantial free ridership issues as builders would receive trade-off credit (reducing efficiency elsewhere in the home) simply for meeting minimum federal requirements. <i>See the EECC PC on this proposal for additional information.</i>
RE131	NR	Creates exception from performance path for energy used to recharge or fuel vehicles used off-site.	
RE134	D	(NAHB) - Establishes performance path trade-offs for heating, cooling, and water heating equipment; adds a thermal envelope backstop to the performance path that requires total UA to be ≤ the prescriptive UA X 1.15.	Weakens the code. CAH Floor Motion to Disapprove was successful, 157-118. Also recommended for Disapproval at PCH. This proposal is the single biggest roll-back proposed for the code and would substantially reduce energy efficiency. RE134 would allow full equipment trade-offs, which are subject to enormous free ridership problems by giving trade-off credit against other efficiency requirements for equipment that would be installed anyway. Moreover, allowing equipment with short service lifetimes to replace long-life building envelope measures such as insulation will substantially reduce long-term energy efficiency and energy and cost savings for the homeowner. As a result, equipment trade-offs have been consistently rejected by governmental voters for the IECC since 2009. Similarly, almost all states adopting the IECC do not allow these trade-offs either. <i>See the EECC and other PCs on this proposal for additional information.</i>
RE135	AS	(EECC) - Establishes mandatory minimum thermal envelope requirements for performance path equivalent to the backstop applicable to the ERI compliance path; clarifies that this requirement must be met in order for software to show compliance.	Strengthens the code. An important proposal that promotes residential energy efficiency and consistency across compliance paths by requiring a minimum level of thermal envelope performance equivalent to that already required for the ERI compliance path. <i>See the reason statement and the EECC PC for additional supporting information.</i>
RE136	D	Adds an option to base performance path calculation on site energy; modifies source energy multiplier from 3.16 to 2.04.	Recommended for Disapproval at PCH.
RE137	AS	(EECC) - Modifies performance path analysis from annual energy cost to the energy cost over a 30 year useful life of the building; provides clarifications on assumptions to be used in calculation.	Strengthens the code. <i>See the reason statement and the EECC PC for additional supporting information.</i>

RE – Residential Energy Voting Guide

Proposal #	EECC Recommended Vote	Proposal Summary	EECC Reasons, Comments and Notes
RE138	D	Replaces option to base performance path calculation on source energy with an option to base calculation on site energy; deletes source energy multipliers.	Recommended for Disapproval at PCH. Source energy should not be deleted as an option.
RE139	D	Adds an option to base performance path calculation on site energy; adds new tables with source energy estimates from NERC regions and eGRID subregions.	Recommended for Disapproval at PCH.
RE142	D	Permits batch sampling for compliance reports for stacked multifamily units.	Compliance should not be demonstrated through sampling some homes; all homes should meet mandatory efficiency measures.
RE145	D	Deletes the glazing area assumption in standard reference design of performance path; also deletes footnote h, which established glazing area assumption for residences with conditioned basements.	Weakens the code. Recommended for Disapproval at PCH. This proposal is technically flawed because it removes a key assumption in the Performance Path.
RE146	D	Sets standard reference design glazing area assumption at a fixed 15%; also deletes footnote h, which established glazing area assumption for residences with conditioned basements.	Weakens the code. Recommended for Disapproval at PCH. RE146 will roll back the code and create a significant efficiency loophole for buildings with glazing area less than 15% by giving them artificial trade-off credit as if actually they had 15% glazing area. The proposal is estimated to lead to a reduction in efficiency of 1.4% to 3.1% for buildings with low glazing areas under this compliance option. <i>See the EECC PC on this proposal for additional information.</i>
RE153	AMPC	Where the proposed design is for an electric heating system that is grid-interactive electric thermal storage, the standard reference design assumption for thermal distribution system efficiency shall be "as proposed."	
RE154	NR	Sets performance path standard reference design assumption for ductless electric heating systems at "as proposed," rather than an air source heat pump.	

RE – Residential Energy Voting Guide

Proposal #	EECC Recommended Vote	Proposal Summary	EECC Reasons, Comments and Notes
RE156	D	(NAHB) - Modifies thermal envelope backstop of Energy Rating Index to be \leq the Total UA of current code x 1.15; deletes SHGC requirement. Committee modification reduces the stringency of the SHGC backstop from 0.30 to .40 in climate zones 1-3.	Weakens the code. CAH Floor Motion to Disapprove was successful, 133-132. RE156 was also recommended for Disapproval at PCH. Proposal will roll back the code and reduce energy efficiency. The proposal establishes less efficient requirements than current backstop requirements, is likely to create compliance and enforcement confusion, and will have an uneven impact across climate zones. The committee modification added an SHGC backstop, but at a weaker level (0.40) than the current backstop requirement (0.30). <i>See the EECC PC on this proposal for additional information.</i>
RE159	AS	(EECC) - Clarifies that mandatory requirements must be met before computer software will calculate the Energy Rating Index; compliance report must show that building components meet this section.	Strengthens the code. This proposal provides key guidance for software companies to help ensure that all mandatory requirements are met. <i>See the reason statement and the EECC PC for additional supporting information.</i>
RE161	NR	Revises language of ERI section to clarify requirements; modifies calculation procedure to account for dual-zone homes.	
RE162	D	Deletes thermal envelope backstop from Energy Rating Index; requires that ERI be calculated before solar is added into the calculation.	Weakens the code. Recommended for Disapproval at PCH. EECC strongly opposes deletion of the thermal backstop, which ensures that all homes built to the ERI have an envelope at least equal to the 2009 IECC prescriptive requirements. The concerns raised in this proposal are better addressed by RE173 AMPC.
RE166	D	Replaces ERI calculation methodology with reference to RESNET 301; requires compliance software tools to be approved per RESNET 301. Modifies the calculation methodology for ventilation rate for buildings constructed in accordance with the IRC.	Weakens the code. EECC opposes RE166 because it makes RESNET 301 the exclusive source of the ERI compliance path, can be construed to permit unlimited on-site generation trade-offs without improvements in the thermal backstop (EECC supports RE173 AMPC which better addresses this issue), and removes key assumptions and code language from the IECC. If RE166 is adopted, it is particularly important that RE173 AMPC be adopted as well. <i>See the EECC and other PCs for additional information.</i>
RE170	D	Bases ERI reference design on RESNET 301; requires proposed home to have annual energy cost less than energy cost of ERI reference design; includes new equation for calculation of ERI.	Weakens the code. Recommended for Disapproval at PCH. Proposal creates an unworkable and incomplete methodology for calculating the ERI and would lead to confusion for code officials.

RE – Residential Energy Voting Guide

Proposal #	EECC Recommended Vote	Proposal Summary	EECC Reasons, Comments and Notes
RE173	AMPC	(LBA) - Increases maximum ERI scores from (51-55) to (57-62) and clarifies that where on-site renewable energy is included for compliance, the building shall meet the mandatory requirements of R406.2 and the thermal envelope shall meet or exceed the requirements of the 2015 IECC.	Strengthens the code. Recommended for Approval AMPC at PCH. RE173 (with the modification) implements a separate, more stringent backstop for the use of on-site renewable energy as a trade-off for efficiency. This compromise proposal was broadly supported by a broad range of building, efficiency, and environmental stakeholders at the PCH, and received near-unanimous support from the PCH voters.
RE177	D	Permits consideration of on-site renewable energy in ERI calculation only if the ERI without on-site renewable energy included would meet the ERI values in new table (scores between 57-61, depending on cz); adds definition of on-site renewable energy.	Recommended for Disapproval at PCH. Prefer RE173 AMPC, which implements a reasonable limitation on trade-offs for on-site power production.
RE178	D	Adds criteria that apply to ERI compliance report; limits batch sampling to only stacked multifamily units; requires compliance report to be submitted with permit application; also requires compliance report on as-built building to be submitted before certificate of occupancy is issued.	We do not support batch sampling; proposal should also call out mandatory requirements and backstop in compliance documentation. Recommended for Disapproval at PCH.
RE179	AS	(EECC) – Improves energy efficiency of all compliance paths by 5%; includes new points-based table of energy-efficient options from which a code user may select one or more improvements to meet the required improvement in energy efficiency.	Strengthens the code. EECC’s Builder Flex Points proposal was unanimously endorsed by the U.S. Conference of Mayors because its framework will put the 2018 IECC on a path of steady, modest energy efficiency gains; it gives builders flexibility to achieve 5% gains after building on the 2015 IECC; it is the only residential proposal that would bring about an across-the board roughly 5% energy efficiency improvement to all compliance paths. <i>See the reason statement and the EECC PC for additional supporting information.</i>
RE181	D	Recognizes three new compliance alternatives based on ICC-700 National Green Building Standard: (1) performance path "silver" level; (2) prescriptive path; or (3) HERS Index target path.	Weakens the code. Recommended for Disapproval at PCH. This proposal would significantly roll back the current code for those choosing these new options. Additional compliance options based on ICC-700 are unnecessary and will further complicate the code. Moreover, proposal fails to require compliance with the mandatory provisions of the IECC as with other above-code programs.
RE183	AS	Clarifies that new heating, cooling, and duct systems that are part of an addition or alteration must comply with all of Section R403.	Recommended for Approval AS at PCH.
RE187	NR	Deletes Appendix RA, Recommended Procedure for Worst-Case Testing of Atmospheric Venting Systems.	

RE – Residential Energy Voting Guide

Proposal #	IECC Recommended Vote	Proposal Summary	IECC Reasons, Comments and Notes
RE189	NR	Moves Appendix RB, Solar-Ready Provisions into the main body of the IECC.	
RE191	AS	Adds a prescriptive limit on the distance between water heater and certain fixtures; establishes performance path calculation that includes distance between water heater and fixtures.	Strengthens the code.

ADM – Administrative Voting Guide

Proposal #	IECC Recommended Action	Proposal Summary	IECC Reasons, Comments and Notes
ADM4 Part 2 (CE)	D	Removes language in IECC definition of <i>approved</i> that references acceptable principles or tests by nationally recognized organizations; sets new definition as "acceptable to the code official."	The current language in IECC establishes reasonable standards for the code official to determine whether to approve; by contrast, the proposal would remove all guidance.
ADM4 Part 3 (RE)	D	Removes language in IECC definition of <i>approved</i> that references acceptable principles or tests by nationally recognized organizations; sets new definition as "acceptable to the code official."	The current language in IECC establishes reasonable standards for the code official to determine whether to approve; by contrast, the proposal would remove all guidance.
ADM6 Part 2 (CE)	NR	As modified, this proposal would make minor revisions to definition of <i>approved agency</i> .	
ADM6 Part 3 (RE)	NR	As modified, this proposal would make minor revisions to definition of <i>approved agency</i> .	
ADM9 Part 2 (CE)	NR	Adds definition of <i>change of occupancy</i> to be consistent with other I-Codes.	
ADM9 Part 3 (RE)	NR	Adds definition of <i>change of occupancy</i> to be consistent with other I-Codes.	
ADM35 Part 3 (CE)	D	Adds four-story townhouses to the definition of <i>residential building</i> .	CAH Floor Motion to Disapprove was successful, 215-113. Also recommended for Disapproval at PCH. Parts 1, 2, and 4 were disapproved and did not receive a public comment.
ADM42 Part 1 (CE)	D	(NAHB) - Revises intent of commercial energy code as follows: "to regulate the design and construction of buildings for the <u>effective-net energy</u> use and conservation of energy over the life of the building."	Weakens the code. Recommended for Disapproval at PCH. Proposal negatively modifies the intent of the code by replacing the key word "effective" with "net energy use." Definition change could be construed as a substantial scope expansion for the code by adding all on-site energy production to the scope of the IECC; the current scope reasonably focuses only on energy conservation. <i>See the IECC PC for additional information.</i>

ADM – Administrative Voting Guide

Proposal #	EECC Recommended Action	Proposal Summary	EECC Reasons, Comments and Notes
ADM42 Part 2 (RE)	D	(NAHB) - Revises intent of residential energy code as follows: “to regulate the design and construction of buildings for the effective <u>net energy</u> use and conservation of energy over the life of the building.”	Weakens the code. CAH Floor Motion to Disapprove Part 2 was successful, 190-140. Recommended for Disapproval at PCH. Proposal negatively modifies the intent of the code by replacing the key word “effective” with “net energy use.” Definition change could be construed as a substantial scope expansion for the code by adding all on-site energy production to the scope of the IECC; the current scope reasonably focuses only on energy conservation. <i>See the EECC PC for additional information.</i>
ADM43 Part 1 (CE)	D	Revises intent of commercial energy code to add words as follows: “to regulate the design and construction of buildings for the effective use, conservation <u>and production</u> of energy over the life of the building.”	Weakens the code. Recommended for Disapproval at PCH. Proposal makes an unwarranted modification to the intent and expansion of the scope of the code by adding “production” of energy. <i>See the EECC PC for additional information.</i>
ADM43 Part 2 (RE)	D	Revises intent of residential energy code to add words as follows: “to regulate the design and construction of buildings for the effective use, conservation <u>and production</u> of energy over the life of the building.”	Weakens the code. Recommended for Disapproval at PCH. Proposal makes an unwarranted modification to the intent and expansion of the scope of the code by adding “production” of energy. <i>See the EECC PC for additional information.</i>
ADM45 Part 1 (CE)	D	(NAHB) - Revises intent of commercial energy code as follows: “to regulate the design and construction of buildings for the effective use and conservation of energy over the useful life of the building. ”	Weakens the code. CAH Floor Motion to Approve Part 1 As Submitted failed 142-180. Recommended for Disapproval at PCH. The current code properly recognizes that the durability of construction practices (useful life of energy efficiency measures) is an appropriate consideration for the code; the proposal would delete this consideration from the intent. In other words, a measure that lasts one year is not the equivalent of a measure that lasts 50 years. <i>See the EECC PC for additional information.</i>
ADM45 Part 2 (RE)	D	(NAHB) - Revises intent of residential energy code as follows: “to regulate the design and construction of buildings for the effective use and conservation of energy over the useful life of the building. ”	Weakens the code. CAH Floor Motion to Disapprove Part 2 was successful 152-130. Recommended for Disapproval at PCH. The current code properly recognizes that the durability of construction practices (the useful life of energy efficiency measures) is an appropriate consideration for the code; the proposal would delete this consideration from the intent. In other words, a measure that lasts one year is not the equivalent of a measure that lasts 50 years. <i>See the EECC PC for additional information.</i>

ADM – Administrative Voting Guide

Proposal #	EECC Recommended Action	Proposal Summary	EECC Reasons, Comments and Notes
ADM46 Part 1 (CE)	D	(NAHB) - Eliminates requirement that above-code programs meet "mandatory" requirements of the code.	Weakens the code. Recommended for Disapproval at PCH. "Mandatory measures" have been established in those cases where it is determined that these measures are critical for energy efficiency no matter what compliance method is utilized. Ignoring these measures simply because an "above-code" program is utilized would defeat the purpose of making these measures mandatory. <i>See the EECC PC for additional information.</i>
ADM46 Part 2 (RE)	D	(NAHB) - Eliminates requirement that above-code programs meet "mandatory" requirements of the code.	Weakens the code. CAH Floor Motion to Disapprove Part 2 was successful, 174-132. Recommended for Disapproval at PCH. "Mandatory measures" have been established in those cases where it is determined that these measures are critical for energy efficiency no matter what compliance method is utilized. Ignoring these measures simply because an "above-code" program is utilized would defeat the purpose of making these measures mandatory. <i>See EECC PC for additional information.</i>

CE – Commercial Energy Voting Guide

Proposal #	EECC Recommended Action	Proposal Summary	EECC Reasons, Comments and Notes
CE3 Part 1	NR	Clarifies that <i>air barrier</i> refers to materials that <u>restrict or prevent</u> passage of air through the <u>thermal envelope and its assemblies</u> . Committee modification clarified that the air barrier may consist of one or more materials joined together in a continuous manner.	
CE5 Part 1	AS	Adds definition for <i>cavity insulation</i> .	Recommended for Approval at PCH.
CE5 Part 2	AS	Adds definition for <i>cavity insulation</i> .	Recommended for Approval at PCH.
CE8 Part 2	D	Adds definition for <i>compliance report</i> as "demonstrating adherence with the intent of the code".	Weakens the code. Recommended for Disapproval at PCH. Compliance report should demonstrate adherence with the code, not just the "intent."
CE11 Part 2	NR	Revises definitions of <i>skylight</i> and <i>vertical fenestration</i> .	

CE – Commercial Energy Voting Guide

Proposal #	IECC Recommended Action	Proposal Summary	IECC Reasons, Comments and Notes
CE18 Part 2	D	Establishes new provision in the performance compliance path that states that on-site renewable energy "shall be considered as a reduction in the energy use of the building." Adds new definitions for renewable energy and on-site renewable energy.	Weakens the code. Recommended for Disapproval at PCH. Will roll back the code and reduce energy efficiency. The intent of the code is to promote the effective use and conservation of energy. Reasonable levels of efficiency should not be traded off for renewable energy, which is not equivalent. By allowing renewable energy as a complete offset to energy use in the performance path with no minimum renewable energy requirement or limits, the proposal could easily result in substantial decreases in energy efficiency in any home utilizing renewables.
CE19	AS	Adds new definitions for <i>on-site renewable energy system</i> and <i>renewable energy source</i> .	This approach seems reasonably consistent with the approach to renewables in the commercial version of the IECC, where an on-site renewable energy system is one option in the Alternative Packages (C406).
CE21 Part 1	NR	Replaces current IECC climate zones with climate zones from ASHRAE 169, including climate zone map.	While we understand the logic behind making climate zones consistent between IECC and ASHRAE 90.1, we are concerned that it could result in a reduction in energy conservation and cause confusion.
CE21 Part 2	NR	Replaces current IECC climate zones with climate zones from ASHRAE 169, including climate zone map.	While we understand the logic behind making climate zones consistent between IECC and ASHRAE 90.1, we are concerned that it could result in a reduction in energy conservation and cause confusion.
CE23 Part 1	D	Establishes new performance-based compliance option for conditioned passive building based on source energy and a new passive conditioned building benchmark.	Weakens the code. Recommended for Disapproval at PCH. Proposal is very complex and could be difficult to administer and enforce; there is no demonstrated need for another compliance path of this type; the proposed compliance path does not appear to be related to the efficiency levels applicable under current compliance options in the code.
CE23 Part 2	D	Establishes new performance-based compliance option for conditioned passive building based on source energy and a new passive conditioned building benchmark.	Weakens the code. Recommended for Disapproval at PCH. Proposal is very complex and could be difficult to administer and enforce; there is no demonstrated need for another compliance path of this type; the proposed compliance path does not appear to be related to the efficiency levels applicable under current compliance options in the code.
CE25 Part 1	NR	Adds definitions for <i>emittance</i> and <i>reflective insulation</i> ; where reflective insulation is installed, information about the insulation shall be included on the certificate.	

CE – Commercial Energy Voting Guide

Proposal #	EECC Recommended Action	Proposal Summary	EECC Reasons, Comments and Notes
CE25 Part 2	NR	Adds definitions for <i>emittance</i> and <i>reflective insulation</i> ; where reflective insulation is installed, information about the insulation shall be included on the certificate.	
CE27 Part 1	NR	Adds new definition for <i>certificate of compliance</i> . <i>Committee modification replaced references to “certification” with “certificate of compliance.”</i>	
CE28 Part 2	NR	Adds new definitions for <i>emittance</i> and <i>radiant barrier</i> ; requires radiant barriers to have emittance of 0.1 or less and to comply with ASTM standard.	CAH Floor motion to Disapprove was successful, 119-71.
CE29 Part 2	NR	Clarifies NFRC labeling and certification requirement for garage doors and rolling doors.	
CE31 Part 1	AS	(EECC) - Clarifies that fenestration U-factor and SHGC must be certified by a nationally-recognized certification program, or else a default U-factor or SHGC applies.	Strengthens the code. Proposal clarifies the current requirement for proper certification of U-factor and SHGC; will help eliminate confusion and potentially misleading certifications. <i>See the reason statement and the EECC PC for additional supporting information.</i>
CE31 Part 2	AS	(EECC) - Clarifies that fenestration U-factor and SHGC must be certified by a nationally-recognized certification program, or else a default U-factor or SHGC applies.	Strengthens the code. Proposal clarifies the current requirement for proper certification of U-factor and SHGC; will help eliminate confusion and potentially misleading certifications. <i>See the reason statement and the EECC PC for additional supporting information.</i>
CE37	NR	Creates new outcome-based compliance option based on measured Energy Use Intensity.	While we generally favor the concept of verifying a building’s performance after construction, this proposal may be more appropriate as a new informative appendix, as envisioned by a Public Comment, which was not approved by voting members at the Public Comment Hearing.
CE38 Part 1	NR	Lists all mandatory requirements in a new table and eliminates "mandatory" and "prescriptive" distinctions from section headings.	
CE38 Part 2	NR	Lists all mandatory requirements in a new table and eliminates "mandatory" and "prescriptive" distinctions from section headings; adds language to performance path and ERI to clarify that mandatory provisions cannot be traded off.	
CE40	NR	Adds ASHRAE 90.4 as a new compliance option for buildings serving information technology loads greater than 10kW and greater than 20W/sq. of conditioned floor area.	

CE – Commercial Energy Voting Guide

Proposal #	EECC Recommended Action	Proposal Summary	EECC Reasons, Comments and Notes
CE42	D	Reduces efficiency of performance path by requiring proposed design to demonstrate building energy cost \leq 95% of the standard reference design, instead of current 85%.	Weakens the code. Recommended for Disapproval at PCH. Would roll back energy efficiency. The current 85% multiplier offsets the fact that the standard reference design is less efficient than the requirements under the prescriptive path.
CE43	AS	(EECC) - Increases efficiency of performance path by requiring proposed design to demonstrate building energy cost \leq 80% of the standard reference design, instead of current 85%; requires all other compliance paths to select 2 additional efficiency options under Section C406, instead of 1.	Strengthens the code. This is the only commercial proposal that improves all compliance paths by roughly 5%. It is critical that the commercial energy code continue to improve with each edition. Per action on CE230 (consent agenda), there are two new efficiency packages in Section C406.1. <i>See the reason statement and the EECC PC for additional supporting information.</i>
CE46	D	Reduces efficiency of performance path by requiring proposed design to demonstrate building energy cost \leq 100% of the standard reference design, instead of current 85%.	Weakens the code. Recommended for Disapproval at PCH. Would roll back energy efficiency; see discussion on CE42.
CE48	D	Allows area-weighted averaging of SHGC for fenestration products that face the same direction; clarifies that vertical fenestration and skylights cannot be combined in area-weighted average efficiency calculation; moves fenestration replacement requirement from Chapter 4 to Chapter 5 (Existing Buildings); creates new exception to replacement fenestration requirement that allows area-weighted averaging of U-factor and SHGC (for fenestration facing the same direction).	Weakens the code. Recommended for Disapproval at PCH. Area weighting SHGC would be overly complex and problematic at best when there are three different SHGC requirements for each side of the building based on projection factor. The language in the original proposal does not explain how to solve this problem. <i>See the EECC PC for additional information.</i>
CE50	NR	Adds small buildings used for electric distribution system purposes to the list of low-energy buildings that are exempt from thermal envelope provisions.	
CE51	D	Clarifies that greenhouses are exempt from thermal envelope requirements where used exclusively for cultivation/protection/maintenance of plants, or where the area of accessory occupancy spaces (non-greenhouse uses) occupy no more than 10% of the floor area (or a maximum of 1,000 square feet, whichever is less).	Potentially broadens exempt buildings, which could result in a reduction in energy efficiency. Public comment is still problematic because it creates a complete exemption from the thermal envelope requirements for accessory occupancy space.
CE52	NR	Expands references to climate zone 1 to climate zones 0 and 1.	

CE – Commercial Energy Voting Guide

Proposal #	EECC Recommended Action	Proposal Summary	EECC Reasons, Comments and Notes
CE54	AS	(EECC) - Revises prescriptive opaque envelope tables to incorporate ASHRAE 90.1 values where they are more efficient than the IECC values.	Strengthens the code. This is the only proposal that improves opaque envelope requirements across all categories, and it does so by selecting the most efficient requirement from the IECC and ASHRAE 90.1 – both of which have been deemed cost-effective. <i>See the reason statement and the EECC PC for additional supporting information.</i>
CE55	AMPC2	Moves requirements for below-grade wall insulation and opaque doors to two new sections; makes other editorial revisions.	Recommended for Approval AMPC2 at PCH.
CE57	D	Reduces wood frame wall insulation requirements for Group R in cz 5/marine 4 from R-13+7.5 and R-20+3.8 to R-13+3.8 and R-20; no changes to U-factor equivalents.	Weakens the code. Rollback in energy efficiency.
CE60 Part 1	NR	Adds new category to opaque envelope U-factor table for garage doors with <14% glazing; requires U-0.31 for all cz.	
CE60 Part 2	D	Adds new column to residential prescriptive R-value table for garage door U-factor with <14% glazing; requires U-0.31 for all cz.	Recommended for Disapproval at PCH. The changes to the Table are likely to cause confusion. Calling out a single type of garage door (less than 14% glazing) is unnecessary. The garage door, if in conditioned space, is already required to meet the fenestration requirements. Moreover the title of the Table should not be changed.
CE61	AMPC2	Revises F-factors for unheated and heated slabs; revises heated slab requirements for climate zone 7.	Recommended for Approval AMPC2 at PCH.
CE64	NR	Adds prescriptive opaque envelope requirements for new climate zone 0; separates out wall solar reflectance from the roof solar reflectance/thermal emittance section.	
CE66	D	Specifies that opaque envelope R-values must be measured at the lowest value from ASTM C 518 testing at 40°, 75°, and 110°; adds ASTM C 518 as new referenced standard.	Weakens the code. Recommended for Disapproval at PCH. This proposal would create confusion as to code compliance.
CE71	NR	Revises above-grade mass wall U-factor equivalent for Group R in cz 7 from .061 to .071; mass floors for Group R in cz 6 from .057 to .064.	
CE73	NR	Sets maximum allowed fenestration area in component performance alternative at 30% of gross above ground wall area or 40% where building complies with daylight responsive controls section; Eliminates below-grade walls from alternative; Adds fenestration as a trade-off component; adds new U-factor table for swinging and non-swinging doors.	

CE – Commercial Energy Voting Guide

Proposal #	EECC Recommended Action	Proposal Summary	EECC Reasons, Comments and Notes
CE79	NR	Relocates roof R-value exception for tapered insulation to its own new section; clarifies calculation of R-value for tapered insulation.	
CE87 Part 1	AMC	Provides specific requirements for airspaces where the thermal properties of airspaces are used to comply with the code. Committee modification added reference to ASTM C1363 and made other clarifying revisions.	Recommended for Approval AMC at PCH.
CE87 Part 2	AMPC1	Provides specific requirements for airspaces where the thermal properties of airspaces are used to comply with the code.	Recommended for Approval AMPC1 at PCH.
CE89	NR	Replaces the exception from roof solar reflectance/thermal emittance requirements for "roof gardens or landscaped" portions of roofs.	
CE91	AS	(EECC) - Creates a new fenestration U-factor/SHGC table for fenestration in commercial buildings three stories or less; U-factors and SHGC requirements for buildings three stories or less are consistent with current commercial fenestration table except fixed and operable fenestration must meet same U-factor requirements as residential prescriptive table; clarifies which fenestration table applies under performance path standard reference design.	Strengthens the code. CE91 applies the approach to windows in small commercial buildings that is currently followed for multifamily buildings. This proposal would improve energy savings in these buildings by 0.5% to 1.6% depending on the climate zone, using products that are widely available and are already being used in multifamily and residential buildings, as well as many small commercial buildings. Using improved fenestration will also result in reduced condensation, improved comfort, and reduced peak demands. <i>See the reason statement and the EECC PC for additional supporting information.</i>
CE92	AS	(EECC) - Lowers fenestration SHGC requirements in cz 4/5/6 from 0.40/0.40/0.40 to 0.25/0.25/0.25, with adjustments for PF and orientation.	Strengthens the code. This proposal reduces SHGC for windows in climate zones 4 to 6, which would result in energy and cost savings, electrical peak demand savings, reduced HVAC equipment sizing and improved comfort. Specifically, this proposal would improve the efficiency of commercial buildings by 2% to 5% depending on the climate zone. <i>See the reason statement and the EECC PC for additional supporting information.</i>
CE93	AS	(EECC) - Eliminates PF-specific SHGC specifications from prescriptive table and sets baseline SHGC requirement consistent with 2012 IECC levels: 0.25 for cz 1-3; 0.40 for cz 4-6; and 0.45 for cz 7-8; establishes fenestration SHGC multiplier consistent with ASHRAE 90.1 methodology.	Strengthens the code. CE93 establishes a projection factor trade-off that is more consistent with ASHRAE values and restores the more efficient SHGCs from the 2012 IECC. <i>See the reason statement and the EECC PC for additional supporting information.</i>
CE96	NR	Sets maximum skylight area at the greater of 5% (where daylight responsive controls are provided) or the skylight area required for compliance with C402.4.2.	

CE – Commercial Energy Voting Guide

Proposal #	EECC Recommended Action	Proposal Summary	EECC Reasons, Comments and Notes
CE99	NR	Modifies language for daylight zone and daylight zones next to vertical fenestration consistent with action on CE98.	
CE102	NR	Reorganizes and renumbers daylight zone-related requirements; relocates requirements for daylighting from the envelope section to the lighting section. Committee modification further tweaks terminology and clarifies requirements for toplit zone.	
CE105	AM PC3/PC5	Requires air leakage testing based on climate zone, building use type, and floor area; provides specific testing requirements and makes other editorial changes; adds exception to air leakage testing requirement for alterations to existing buildings; adds exception to the air leakage test for R-2 buildings provided specified portions of the building are tested.	Strengthens the code. Recommended for Approval AMPC3 and PC5 at PCH. We support improved air leakage testing, although we disagree with the use of sampling.
CE107	AS	Requires air barrier commissioning; adds new sections with requirements for air barrier commissioning, documentation, field inspections, and reporting.	
CE108	NR	Requires refrigerant piping penetrations to be sealed by gasketing and mechanically secured. Committee and PCH modifications clarify that sealing must allow for expansion and contraction and mechanical vibration.	
CE109	NR	Makes editorial changes to air barrier construction section.	
CE110	NR	Makes editorial changes to air barrier materials section: " fully-adhered single-ply roof membrane.	
CE111	NR	Makes editorial changes to air barrier materials section: " foil-back faced polyisocyanurate."	
CE112	NR	Makes editorial changes to air barrier materials section: " fully-adhered single-ply roof membrane.	
CE114 Part 1	AS	Revises and clarifies requirements related to rooms containing fuel-burning appliances; requires either that the equipment be located outside the building thermal envelope or that it be enclosed in a room and insulated to specific levels.	Recommended for Approval AS at PCH.
CE114 Part 2	AS	Revises and clarifies requirements related to rooms containing fuel-burning appliances; requires either that the equipment be located outside the building thermal envelope or that it be enclosed in a room and insulated to specific levels.	Recommended for Approval AS at PCH.
CE115 Part 1	D	Deletes requirements related to rooms containing fuel burning appliances.	Weakens the code. Recommended for Disapproval at PCH. Removes requirements entirely.
CE115 Part 2	D	Deletes requirements related to rooms containing fuel burning appliances.	Weakens the code. Recommended for Disapproval at PCH. Removes requirements entirely.

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Proposal #	EECC Recommended Action	Proposal Summary	EECC Reasons, Comments and Notes
CE175 Part 1	AS	Establishes 2.0 gallons per minute as the maximum water flow for showerheads.	Strengthens the code. CAH Floor Motion to adopt As Modified was successful, 105-84. Recommended for Approval AS at PCH.
CE175 Part 2	AS	Establishes 2.0 gallons per minute as the maximum water flow for showerheads.	Strengthens the code. Recommended for Approval AS at PCH.
CE200	AMPC	Establishes photon efficiency requirement for task lighting used for plant growth and maintenance.	Recommended for Approval AMPC at PCH.
CE222	AS	For buildings with >25,000 square feet of conditioned floor area, requires submetering for specific energy use categories	
CE224	AMPC	Permits the use of a variable voltage drive system as an exception to the requirement for escalators and moving walks reduce speed when not conveying passengers.	Recommended for Approval AMPC at PCH.
CE225	AMC	Establishes submetering requirement for specified energy use categories for buildings ≥25,000 sq. ft.; permits up to 5% of load for each energy end use to be from another end use type. Committee modification exempts dwelling units with separate electrical meters (per C405.6).	
CE228	AS	Establishes requirements for occupant sensor or time-of-day controlled receptacles in specified rooms and applications; provides exception for equipment requiring 24-hour operation.	
CE232	AS	Requires buildings built to the prescriptive options to comply with at least two “Additional Efficiency Packages.”	Strengthens the code. Per action on CE230 (consent agenda), there are two new efficiency packages in Section C406.1.
CE233	AS	Adds definition for <i>energy storage system</i> ; adds a new option in C406.1 for an energy storage system.	
CE247	AS	Establishes 1.5 gallons per minute as the maximum water flow for lavatory faucet heads in dwelling units.	Strengthens the code. Saving water also saves energy.
CE249	AS	Limits the heat loss rate of performance path to 110% of UA; calculation would not be required for building when all thermal envelope requirements are no higher than the maximum prescriptive values.	Strengthens the code. Important to establish trade-off limits for long-lived thermal envelope. Should also consider establishing limits on trading off fenestration SHGC. <i>See the EECC PC for additional supporting information.</i>

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Proposal #	EECC Recommended Action	Proposal Summary	EECC Reasons, Comments and Notes
CE251	AMC	Limits the reduction in energy cost from on-site renewable energy to 10% of total energy cost; also clarifies that renewable energy purchased from off-site sources shall be the same in the standard reference design and proposed design; requires documentation of any reduction in energy use associated with on-site renewable energy. Committee modified the limitation to 5%.	Strengthens the code. Recommended for Approval AMC at PCH. With the committee modification, this proposal will limit the amount of credit for on-site energy production to 5% in the performance path, and will help reduce the likelihood that a building's permanent thermal envelope efficiency will be traded away for on-site power production.
CE259 Part 2	D	Adds new equation for calculating the assumed vertical fenestration area in standard reference design; adds an assumed skylight area in standard reference design based on new equation and applies other assumptions similar to those for vertical fenestration; adds an assumption that skylights with shades in proposed design are shaded 50% of the time.	Proposal establishes a complex calculation to determine fenestration and skylight area. Appears to reduce energy efficiency by establishing an assumption as to skylight area in the standard reference design where the code currently assumes none.
CE272 Part 1	NR	Adds new chapter for multifamily buildings; in many cases, applies residential requirements to buildings ≤3 stories and commercial requirements to buildings >3 stories; otherwise makes choices between residential and commercial provisions. Some of the sections and tables referenced appear incorrect.	PC appeared to address most of the previous concerns; however, because it was not approved at the Public Comment Hearing, it is not an option for voters.
CE277	AS	Requires buildings undergoing a Level 3 Alteration to either demonstrate 5% efficiency improvement or select 2 measures from a new list of 14 efficiency measures.	
CE287	D	Creates an exception from roof replacement insulation requirements where there are thickness limitations created by existing rooftop conditions.	Weakens the code. The exception is too broad, and could lead to unnecessary weakening of the insulation requirements.
CE289	AMPC	In roof replacements, permits new skylights to be part of a UA calculation for entire roof assembly instead of the prescriptive fenestration requirements; alternative only applies where roof assembly is part of thermal envelope and is either part of metal building or incorporates insulation entirely above deck.	Recommended for Approval AMPC at PCH.
CE290	AS	Establishes commissioning requirements for new HVAC, hot water, and lighting systems installed in existing buildings.	
CE292	AS	Clarifies change of occupancy requirements by adding thresholds and specific requirements for heating, cooling, and ventilation, as well as lighting and service water heating.	

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Proposal #	EECC Recommended Action	Proposal Summary	EECC Reasons, Comments and Notes
CE296	AS	Requires automatic controls for not less than 50% of all 125V 15- and 20-amp receptacles in specified applications; controls may be either time-of-day or occupant sensor; exception where continuous power is needed for safety or security.	