



Summary of IECC RE (Residential) Proposals and Online Voting Recommendations

Detailed Online Voting Recommendations

**Final Post-PCH Version
November 8, 2019**

The IECC is the nation’s model building energy code and is revised every three years. Online voting by ICC Governmental Member Voting Representatives is the culmination of years of work by numerous stakeholders and determines the content of the next version of the IECC. To vote on these proposals, go to www.cdpassess.com and vote between 11/18/19 and 12/5/19.

This Guide has been prepared by the EECC to provide a brief outline of the RE Proposals (for residential buildings) and EECC’s voting recommendations for ICC Governmental Member Voting Representatives for purposes of the ICC’s Online Voting process. We strongly encourage Voting Representatives to vote on all of the proposals listed below if possible. Previous hearings, including the recent Public Comment Hearings, have pared down the proposals for consideration by online voters. This document does not include those proposals that have been resolved through the consent agenda or where EECC offers no voting recommendation (see earlier versions of EECC’s guides for info on these proposals) and only includes the voting options available to online voters. For more information, see www.energyefficientcodes.com.

The summaries and recommendations below reflect careful consideration by the EECC Technical Committee and, as such, represent the EECC’s views at this time. Included for many of the proposals is a brief analysis and support for EECC’s recommendations. This document is not intended as a substitute for reviewing and assessing the actual proposals and public comments as published by ICC, and we encourage a full review. EECC makes no representations or warranties as to this document or its use. **See also EECC's separate summary for CE proposals, which addresses commercial and some additional residential building proposals.**

Prop. #	Cmtee Result	PCH Result	EECC Vote Recommendation	Proposal Summary	EECC Analysis, Support for Recommendation and Notes
RE7	AS	AMPC1	AMPC1	Improves lighting efficacy requirements to 65 lumens/watt for lamps and 45 lumens/watt for luminaires; renames <i>high-efficacy lamps</i> as <i>high-efficacy light sources</i> ; excludes kitchen appliance lighting fixtures.	Substantial energy savings. See also RE145.
RE10	AS	D	D	Adds new definition of <i>sampling</i> , a process where <100% of units are randomly inspected and/or tested to code requirements.	By definition, sampling a few homes for compliance does not guarantee that every home complies with the IECC. Sampling results should not be allowed to demonstrate code compliance.
RE20	D	AMPC1	AM PC1	Requires certificate to include the applicable code edition and compliance path selected.	This is useful information for code compliance and future homeowners.
RE21	D	D	AS	Requires certificate to include area-weighted average efficiency values where available, sizes of HVAC equipment, and ERI score (both with and without on-site generation).	Further improves the permanent certificate of energy-related information required to be posted in each home by providing additional useful information for the future use of the homeowner.
RE29	D	D	AS	Increases wall insulation in climate zones 4-5 from R-20 or 13+5 to R-20+5 or 13+10; adjusts equivalent U-factor requirements accordingly.	Reasonably improves the efficiency of wall insulation.

KEY:

PC – Public Comment

AS – Approve as Submitted

AM – Approve As Modified by Committee

AM PC 1 – Approve As Modified by Public Comment 1, etc.

D – Disapprove

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RE32	D	D	AS	Adds slab R-value requirement of R-10 at 2 ft in cz 3; increases slab insulation depth from 2 to 4 ft in cz 4 and 5.	Reasonably improves the efficiency of slab insulation.
RE33	D	D	AS	Increases ceiling insulation requirement in cz 2 and 3 from R-38 to R-49; makes corresponding changes to equivalent U-factors in Table R402.1.4.	Reasonably improves the efficiency of ceiling insulation.
RE34	AM	AM	AM	Eliminates loophole that allows floor insulation to be reduced to R-19 in cz 5-8 in the prescriptive path where space is insufficient for full insulation depth.	Reasonably improves the efficiency of floor insulation by eliminating inefficient loophole.
RE35	AS	AMPC1	AMPC1	Revises fenestration U-factor from 0.32 to 0.30 in cz 3-4; adds new footnote in cz 3-8 that permits fenestration U-factor of 0.32 where wind-borne debris protection is required or windows are installed above 4,000 ft.	Reasonably improves the efficiency of windows (U-factor).
RE36	D	D	AS	Revises ceiling insulation requirement in cz 4-8 from R-49 to R-60; makes corresponding changes to equivalent U-factors in Table R402.1.4.	Reasonably improves the efficiency of ceiling insulation.
RE37	D	D	AS	Adds fenestration SHGC requirement of 0.40 in climate zone 5.	Reasonably improves efficiency by establishing a maximum fenestration SHGC.
RE40	AS	D	D	Permits R-18 wall insulation in place of R-20 in cz 3-8 where framing factor is $\leq 20\%$.	Rolls back current IECC energy efficiency
RE43	D	D	D	Adds new provisions for batch sampling and outlines process under which one dwelling out of five is required to demonstrate compliance through testing and inspection after showing compliance with first five units; adds new definition of <i>batch sampling</i> ; expands sampling to cover units "other than stacked multiple-family dwelling unit projects" where sampling plan is approved.	Sampling is inadequate as it does not guarantee that every home complies with the IECC.
RE47	AM	AM	D	Creates new exception from access hatch and door insulation requirements that allows reduced R-value and U-factor requirements for pull-down stair-type access hatches in cz 1-4; clarifies that reductions from exceptions do not apply to U-factor alternative or Total UA approaches.	The proposed new exception will reduce efficiency.
RE59	AM	AM	AM	Divides the requirements that apply to basement walls and insulation into prescriptive and mandatory sections; designates basement wall insulation installation as "mandatory." <i>Modification deletes "mandatory" designation.</i>	

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RE60	D	AM PC2	AM PC2	Divides the requirements that apply to slab-on-grade floors into prescriptive and mandatory sections; designates as "mandatory" the insulation installation requirements.	
RE61	D	D	D	Deletes requirement for crawl space insulation to extend vertically or horizontally from the finished grade for 24 inches; adds requirement that insulation extend down from the sill plate on top of the crawlspace wall to the floor of the crawlspace; requires vapor retarder to be sealed to the stem walls.	
RE95	D	D	D	Establishes air leakage test sampling options for R2 multifamily dwelling units; requires at least 15% to be tested and outlines details for process and sample group identification, as well as process after any failed tests.	Sampling does not guarantee that every home complies with the IECC and should not be allowed to demonstrate code compliance.
RE102	AS	D	D	Adds options to test multifamily buildings for air leakage as a single zone, multiple zones, or individual dwelling units per ASTM E779.	This proposal could promote gaming; it could also allow too much air leakage between individual units of a multifamily dwelling.
RE107	D	AM PC1	AM PC1	Specifies natural gas systems and equipment that are not permitted to have continuously burning pilot lights.	By limiting continuously burning pilot lights, this proposal will save energy.
RE110	D	D	D	Creates a new exception from sealing requirements for ducts or portions located completely inside the building thermal envelope.	Duct systems must be sealed in order for the conditioned air to reach the intended space regardless of location; proponent acknowledges that this proposal could lead to occupant discomfort.
RE112	AS	AS	AS	Requires ducts located within building thermal envelope to be tested for total leakage to ≤ 8.0 cfm/sq.ft.	All ducts (regardless of location) should be tested for and achieve reasonable levels of tightness. Excessively leaky ducts will fail to properly deliver conditioned air, resulting in discomfort and potentially additional energy use as occupants offset discomfort by adjusting the thermostat.
RE116	D	D	D	Requires ducts to be tested to ≤ 4 cfm/sq.ft. for both total leakage and leakage to the outdoors; adds exception that allows systems serving < 1500 sq.ft. to be tested to 60 cfm/sq.ft.	Very concerned regarding exception for smaller dwelling units and the option to test ducts for leakage to outdoors.
RE117	D	D	D	Requires ducts to be tested to ≤ 4 cfm/sq.ft. regardless of duct location; adds exception for systems serving < 1500 sq.ft. to test to ≤ 60 cfm/sq.ft.	Very concerned regarding exception for smaller dwelling units and the option to test ducts for leakage to outdoors.
RE119	AS	D	D	Adds an alternative to test duct leakage to outside conditioned space.	Rolls back current IECC requirements, resulting in reduced energy efficiency.

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RE121	D	D	D	Establishes duct leakage test sampling options for R2 multifamily dwelling units; requires at least 15% to be tested and outlines details for process and sample group identification, as well as process after any failed tests.	By definition, sampling does not guarantee that every home complies with the IECC and should not be allowed to demonstrate code compliance.
RE130	AS	AS	AS	Requires mechanical ventilation systems to be tested; allows code official to require test to be conducted by approved third party.	
RE139	AS	AS	AS	Requires dwelling units in cz 7-8 to be provided with balanced HRV or ERV.	
RE145	D	D	AS	Requires all permanently-installed lighting fixtures to contain only high-efficacy lamps and to be controlled with a dimmer, occupant sensor, or other control (with some exceptions); revises definition of <i>high-efficacy lamps</i> to an efficacy ≥ 70 lumens/watt; adds new definitions for <i>dimmer</i> and <i>occupant sensor control</i> .	
RE147	D	D	AS	Requires electric circuits and receptacles to be installed near gas or propane water heater, dryer, or cooking equipment.	Will facilitate future switching to all-electrical appliances if desired.
RE148	D	AM PC1 and PC2	AM PC1 and PC2	Requires multifamily residential buildings to comply with exterior lighting requirements of commercial chapter.	
RE151	D	D	AS	Requires homes built to performance path to meet or exceed 2009 IECC envelope requirements.	Establishes a reasonable thermal envelope backstop (mandatory minimum envelope efficiency) for trade-offs under the performance compliance path.
RE156	D	D	D	Adds new section to performance path recognizing on-site renewable energy as a reduction in energy use of the building.	The addition of on-site renewables as a trade-off for energy efficiency to the scope of the performance compliance path would substantially roll back the efficiency of the code. Renewable energy is important and should be added to buildings where appropriate, but should not replace long-term energy efficiency measures. This proposal would substantially reduce long-term energy savings, comfort and sustainability and should be rejected as in past code cycles. See RE156, PC3 for further discussion of reasons for disapproval.
RE157	D	AS	AS	Deletes incomplete language regarding batch sampling of buildings from performance path compliance report.	By definition, sampling does not guarantee that every home complies with the IECC and should not be allowed to demonstrate code compliance.
RE165	AM	AM	D	Adds a default duct system efficiency to performance path for systems located inside conditioned space and verified pre-drywall.	This new default value awards too much efficiency credit for an untested system. The system should actually be tested.

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RE166	AS	AS	D	Adds details to standard reference assumption for service water heating efficiency and draw based on federal regulations; deletes reference to irrelevant footnotes.	Does not appear necessary and may cause confusion in application of the performance path, which could roll back efficiency.
RE171	D	D	D	Sets the standard reference assumption for thermal distribution system efficiency at 0.88, irrespective of whether system is tested or whether it is a non-ducted system.	This change rolls back energy efficiency by setting a lower standard than the current standard for many thermal distribution systems.
RE176	D	D	D	Adds efficiency trade-offs for heating, cooling, and water heating equipment in the performance path, based on federal minimum efficiencies.	This proposal rolls back the code, creating an enormous equipment trade-off loophole and a major reduction in energy efficiency. These types of equipment trade-offs have been consistently rejected by the ICC during every code development cycle since 2009 and by almost all states. Proposal would allow trade-offs that take advantage of free-ridership created by the difference between the efficiencies of commonly-installed HVAC and water heating equipment and the outdated federal minimum efficiencies that are proposed to be included in the standard reference baseline. Such trade-offs also trade away efficiency of much longer-life thermal envelope components for shorter-life equipment components. See RE176, PC2 for further discussion of reasons for disapproval.
RE182	D	D	AS	Moves current thermal envelope backstop for ERI compliance with on-site power production from footnote to main text; updates backstop from 2015 to 2018 edition of IECC.	This proposal is a reasonable and important improvement to update the current thermal envelope backstop applicable to the ERI with onsite power production.
RE184	D	D	AS	Specifies that for ERI compliance purposes, any reduction in energy use associated with on-site renewable energy shall not exceed 5% of total energy use.	This proposal does not affect the installation or amount of on-site renewable energy; it simply limits the amount of compliance credit that can be claimed under the ERI compliance approach for such energy to ensure that a reasonable level of efficiency is also installed and not traded off.
RE186	AS	AS	D	Replaces current exception that specifies a different ventilation rate in the ERI than is contained in RESNET/ICC 301.	This proposal may be misinterpreted by some in a manner resulting in reduced efficiency in the ERI.
RE190	D	D	D	Deletes thermal envelope backstop that applies to ERI path where on-site renewable energy is incorporated into ERI calculation; adds renewable energy to the scope of ERI; reduces ERI scores to 2015 IECC values.	Eliminating this backstop and allowing unlimited trade-offs between on-site generation and the permanent building envelope could wipe out all the efficiency gains made in the IECC over the past decade for those that comply under the ERI path when including on-site generation.

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RE192	D	D	AS	Lowers ERI scores by 5-8 points to reflect 2015 IECC ERI values	It is important to maintain and increase efficiency under the ERI compliance path over time. This proposal improves efficiency by improving target ERI scores by replacing the 2018 IECC levels with the more efficient levels originally in the 2015 IECC.
RE196	D	D	D	Weakens the thermal envelope backstop for ERI-compliant homes with on-site renewable energy, replacing the 2015 IECC reference with a requirement that the envelope be "within 15%" of the current prescriptive table	This proposal will substantially weaken the backstop that applies to homes with on-site generation, allowing major trade-offs between on-site generation and the permanent building envelope that will lead to significantly less-efficient homes.
RE202	D	AM PC1	AM PC1	Requires compliance report generated by ERI software to indicate that the ERI path has been selected	
RE204	D	D	AS	Adds a requirement for homes where on-site renewable energy is used in ERI calculation to substantiate that renewable energy credits associated with on-site renewable energy are owned by or retired by the homeowner, or that an equivalent quantity of renewable energy certificates are conveyed to the homeowner; adds new definition of <i>renewable energy certificate (REC)</i>	
RE206	D	D	AS	Improves overall efficiency of IECC by 5% by requiring code user to select 5 Flex Points from table of additional efficiency measures; provides alternatives to comply via performance or ERI path by incorporating a 5% efficiency improvement	RE206 is a refined version of the Flex Points proposal offered by EECC in previous code cycles and offers the most flexibility through mix and match compliance options, along with a reasonable efficiency improvement. We prefer RE209, which received more votes at both the CAH and PCH.
RE207	D	D	AS	Improves overall efficiency of IECC by 10% by requiring code user to select 10 Flex Points from table of additional efficiency measures; provides alternatives to comply via performance or ERI path by incorporating a 10% efficiency improvement	RE207, as submitted, is basically RE206, but requires 10 efficiency points (10%) rather than 5 efficiency points (5%). We prefer RE209, which received more votes at both the CAH and PCH.
RE208	D	D	D	Adds a requirement to select 3 points from new table of energy efficiency measures; adds efficiency trade-offs for heating, cooling, and water heating equipment efficiency based on federal minimum efficiency baselines	This proposal would result in a huge efficiency rollback because it includes trade-offs for heating, cooling, and water heating equipment in the performance path; points tables also would create conflicts and would complicate future code improvements. See RE208, PC2 for further discussion of reasons for disapproval.

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RE209	D	D	AS	Improves overall efficiency of IECC by roughly 5% by requiring code user to select from 5 Additional Efficiency Package Options; provides alternatives to comply via performance or ERI path by incorporating a 5% efficiency improvement	We strongly recommend adoption of RE209, which is an “additional energy efficiency package options” approach – offering a choice of five package options to achieve a substantial energy efficiency improvement. While this proposal is new to the IECC development process, a similar approach has been in the IECC Commercial Provisions for a number of cycles and can also be found in state energy codes. This approach is more simplified and straightforward than other efficiency option proposals and compliance should be straightforward for builders to achieve and code officials to enforce.
RE210	D	D	D	Adds new Pathway to Zero Energy Rating Index Compliance Alternative, based on ERI scores that are reduced to zero by 2042; requires code user to demonstrate ERI score with and without on-site renewables	We conceptually support increased efficiency over time. However, without a minimum thermal envelope trade-off backstop such as used for ERI compliance with on-site generation, this proposal could permit excessive reductions in efficiency for individual building components.
RE217	AMC	D	D	Creates an exception from roof replacement insulation requirements (explicitly stated to apply to “insulation entirely above the roof deck”) where required R-value cannot be installed due to “... thickness limitations presented by existing rooftop conditions ...”; requires “... maximum approved thickness of insulation compatible with the available space and existing uses...”	Roof replacement is one of the few opportunities to improve the efficiency of existing buildings; this proposal creates a broad exception that could potentially usurp the role of the code official to enforce the existing building section of the energy code in an effective and fair manner. The exception applies to a requirement (i.e. IEAD) that does not exist in the residential chapters of the IECC, creating an orphan provision that is irrelevant. Additionally, it introduces the term “rooftop conditions” that is undefined in the code, as well as the code-unenforceable word “including” followed by a laundry list of vague items. It also introduces a new requirement within an exception – “shall be installed” which is not acceptable code structure.
RE223	D	AM PC2	AM PC2	Adds new appendix with provisions for Zero Energy Residential Buildings; requires low ERI score without on-site power production and zero ERI where on-site power production is included; requires compliance with mandatory requirements and thermal envelope requirements of 2015 IECC	This proposal is important because it would establish a reasonable net zero option in an appendix for those jurisdictions interested in such an approach. It incorporates a substantial improvement in efficiency over the base code along with sufficient renewable energy to reach net zero. There are also requirements to meet mandatory measures and a reasonable thermal envelope backstop.
RE224 Part I	D	D	D	Adds new Stretch Energy Code appendix that requires compliance with ASHRAE/IES Standard 90.2.	For a stretch energy code, we would prefer that buildings also be required to meet IECC mandatory requirements and a strong envelope backstop such as the prescriptive requirements of the 2015 or 2018 IECC. Would also prefer requirements be set out in IECC rather than referencing another code. We prefer RE223.
RE224 Part II	D	D	D	Adds new Stretch Energy Code appendix that requires compliance with ASHRAE/IES Standard 90.2	