

2024 IECC – EECC Recommendations on Key Proposals

The EECC has identified key residential and commercial proposals for review and offers recommendations as follows.

The summary below is a brief outline of select proposals with potentially significant positive or negative impacts on the efficiency of the IECC, along with EECC’s initial recommendations. Included with the recommendation in many cases is a brief analysis and supporting language and/or a summary of potential concerns that require modification before any approval. This document is divided into two parts – residential and commercial – and proposals are in numerical order according to the proposal number assigned by ICC.

We recommend that the IECC-Residential and Commercial Consensus Committees and relevant subcommittees reject all proposals that would reduce efficiency. All proposals identified below as “rollbacks” conflict with the IECC Intent (C101.3 and R101.3) to increase energy savings with each new edition of the IECC, as well as ICC’s public commitment to not allow rollbacks. EECC has also created a separate summary of the most significant rollbacks proposed for the 2024 IECC, which can be found on energyefficientcodes.org. We also recommend that the committees and subcommittees advance reasonable improvements in the IECC that will improve efficiency and provide jurisdictions with the tools they need to meet efficiency and carbon-reduction goals. The summaries below are intended to highlight key issues but may not capture all aspects of each proposal. The recommendations reflect EECC’s collective views at this time, but do not necessarily represent the views of any specific individual supporter of EECC. These recommendations are also subject to change and may be updated as proposals evolve and/or as additional proposals are submitted.

This document is not intended as a substitute for reviewing the actual proposals published by ICC, and we encourage a full review. EECC makes no representations or warranties as to this document or its use.

| Residential | | | |
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| Prop # | Category | Proposal Description | EECC Recommendations and Comments |
| REPI-3 | Appendices | Creates alternative compliance option for homes complying with National Green Building Standard or LEED for Homes. | D (Rollback) – IECC section R102.1.1 already permits above-code programs that meet the requirements of the section to be approved by a code official. However, this proposal avoids the minimum thermal envelope and mandatory requirements that are required under section R102.1.1 and specifically designates two alternatives that have not been shown to be at least as stringent as the IECC and which permit substantially more trade-offs than are allowed in the IECC. Identifying specific programs as “above-code” is best left to the code official; designating various favored programs in the IECC would be bad policy. |

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| REPI-4 (EECC) | Appendices | Modifies trade-off backstop that applies to above-code programs from being based on 2009 IECC to Total UA*1.15 of current code. | AS – This proposal improves the current backstop by incorporating more flexibility and referencing the prescriptive baseline in the current code rather than an older version. |
| REPI-6 | Fenestration | For homes built to prescriptive path with >15% glazing area, more stringent U-factors apply: 0.30 in cz 0-2 and 0.27 in cz 3-8; requires slab edge insulation to be installed between conditioned and unconditioned spaces. | NM – We do not support two sets of requirements based on window area in the prescriptive path as proposed – instead, we support keeping the path simple and straightforward with one set of requirements. We do support reasonable improvements in U-factor in the northern climate zones, but we would apply these improvements to all homes (see our comments on REPI-28). |
| REPI-7 | Decarbonization | Moves solar-ready provisions from appendix RB into base code requirements; adds new provisions and additional details to integrate code language. | AS – This is a relatively low-cost, sensible next step toward expanding renewable energy. |
| REPI-8 | Decarbonization | Requires new residential buildings to have a dedicated location for energy storage equipment and documentation of pathways from location to electrical panel. | AS – This is a relatively low-cost, sensible next step toward expanding renewable energy. |
| REPI-15 | EV | Requires new 1- and 2-family dwellings to install at least one EV-installed or EV-ready space; requires all residential parking in new multifamily buildings to be EV-installed or EV-ready; adds related definitions. | AS – We generally support the inclusion of electric vehicle provisions in the IECC, and several proposals (REPI-15, CEPI-258, 146, 201, or 26) would be reasonable choices. |
| REPI-16 | Appendices | Creates a standalone compliance path based on Btu/hour heating and cooling loads with no minimum envelope backstops; based on proposal RE17-19 from the previous cycle. | D (Rollback) – Creates a new standalone compliance option that could substantially reduce efficiency in new buildings. Has not been technically justified and will not produce building performance, comfort, and energy efficiency at least as robust as buildings subject to current code requirements. Approach to compliance and verification is also unclear. Proposed alternative path does not require that building meet code mandatory minimums or envelope backstops. Original proposal was withdrawn by proponent in previous cycle. |
| REPI-18 | Additional Efficiency | Replaces five Additional Efficiency Options with points table; requires code user to select measures to achieve 10 points or achieve a 10% improvement in efficiency in performance or ERI paths. | NM – Although we would prefer improving upon the current Additional Efficiency Options (see REPI-19 and REPI-137), we generally support the proposed 10% overall improvement in IECC efficiency and, in concept, could support such a points-based approach if necessary as a fallback to the current Options. |
| REPI-19 (EECC) | Additional Efficiency | Improves efficiency by requiring projects to incorporate 2 additional efficiency measures instead of 1, or to improve efficiency by 10% in either the performance or ERI path instead of 5%. | AS – In the 2021 IECC, voters overwhelmingly supported the addition of the Additional Efficiency Options. In addition to improving the 2021 IECC, this framework was intended to provide an opportunity for future improvement in the IECC, through requiring more than one option. This |

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| | | | code proposal takes this next step by requiring 2 options or 10% improvement through other compliance paths. Code users maintain substantial flexibility in how they achieve compliance, and the overall efficiency of the IECC will improve by roughly 5% or more over the 2021 version. |
| REPI-20 | Additional Efficiency | Requires buildings over 5,000 square feet to comply with 2 additional efficiency options or demonstrate 10% improvement over standard reference design or ERI requirement. | AS – We prefer the 10% improvement for all new buildings in REPI-19, but this proposal would be a reasonable fallback. |
| REPI-21 | ERI | Reduces ERI efficiency by 5%. | D (Rollback) – Reduces the efficiency of the ERI path. |
| REPI-22 | ERI | Reduces ERI efficiency by 5%. | D (Rollback) – Reduces the efficiency of the ERI path. |
| REPI-23 | ERI | Reduces ERI efficiency by 5%; adopts a single thermal envelope backstop based on 2018 IECC for rated homes with or without on-site power production; removes 5% limitation on credit for on-site power production; modifies ventilation rate assumption. | D (Rollback) – Eliminates several key efficiency measures related to the ERI incorporated into the 2021 IECC or earlier versions and substantially reduces the stringency of the ERI path. |
| REPI-26 | Insulation | Adds heated and unheated slab F-factors to prescriptive table; revises Total UA alternative to include F-factors. | NM – The addition of slab F-factors would be an improvement to the IECC. A combination of REPI-26, 34, and 36 could be a reasonable update to the prescriptive and Total UA compliance paths. |
| REPI-27 | Fenestration | Modifies fenestration U-factors to 0.40 in cz 0-2, 0.30 in cz 3, 0.27 in cz 4-6, and 0.20 in cz 7-8; modifies fenestration SHGC to 0.19 in cz 0-1, 0.22 in cz 2-3, and 0.25 in cz4; incorporates projection factor-based SHGC trade-offs similar to those used in commercial chapter; increases wall R-value in cz 4 from R-19 to R-30; increases crawl space wall R-value in cz4 from R-10/13 to R-15/19. | NM – We do not recommend setting prescriptive window U-factor requirements in the code at a level more stringent than current Energy Star (Version 6.0) requirements. However, if U-factors lower than 0.27 are included in the code, they should be limited to CZ 7-8 as proposed. We also do not support the proposed reduction in SHGC in climate zones 1-3 or adding optional projection factor trade-offs and values from the commercial code. We support a more modest and reasonable compromise 10% improvement in U-factor in the northern climate zones (0.30 reduced to 0.27 in CZ 5-8; see our comments on REPI-28). |
| REPI-28 | Fenestration | Modifies fenestration U-factors to 0.40 in cz 0-2, 0.30 in cz 3-4, and 0.27 in cz 5-8; establishes trade-off that allows higher U-factors for fenestration with higher SHGC; deletes 0.40 SHGC requirement in cz 5; modifies skylight U-factors to 0.60 in cz 0-2, 0.53 in cz 3-4, and 0.50 in cz 5-8. | NM – There are several different proposals to change the fenestration prescriptive values for the 2024 IECC, none of which should be adopted without modification. For example, we think that the current Energy Star (Version 6.0) window U-factor maximum values included in REPI-28 are a reasonable compromise step forward for the 2024 IECC (in particular, the 10% reduction in window U-factor from 0.30 to 0.27 in CZ 5-8). |

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| | | | On the other hand, we oppose the proposed deletion of the prescriptive 0.40 maximum SHGC in CZ 5 (which was approved for the 2021 IECC and is important for HVAC sizing, peak demand control and comfort). We also oppose the proposed U-factor/SHGC trade-off—a trade-off that has been rejected for the IECC many times over the past couple of decades and is inappropriate for the prescriptive path of the IECC. |
| REPI-29 | Fenestration | Modifies prescriptive fenestration U-factors to 0.40 for cz 0-1, 0.30 for cz 2, 0.27 for cz3, and 0.25 for cz 4-8; deletes exception for high-altitude or impact-rated windows. | NM – We do not recommend setting prescriptive window U-factor requirements in the code at a level more stringent than current Energy Star (ES Version 6.0) requirements at this time. We are concerned with the proposal’s reliance on the draft ES Version 7.0 criteria and that the proposal will likely require triple pane in many windows across a large section of the country. Regardless of what U-factor criteria is ultimately adopted for ES Version 7.0, at a minimum, substantial experience should be gained and market penetration achieved with the new voluntary program requirements before requiring these values for the mandatory code. We also do not support the proposed removal of limited exceptions for windows in high altitude and wind-borne debris regions. We support a more modest and reasonable compromise 10% improvement in U-factor in the northern climate zones (0.30 reduced to 0.27 in CZ 5-8; see our comments on REPI-28). |
| REPI-31 | Fenestration | Modifies fenestration U-factors to 0.32 in cz 0-2, 0.28 in cz 3, 0.24 in cz4, and 0.22 in cz 5-8; modifies skylight U-factors to 0.50 in cz 0-4 and 0.45 in cz 5-8. | NM – We do not recommend setting prescriptive window U-factor requirements in the code at a level more stringent than current Energy Star (ES Version 6.0) requirements. We are concerned with the proposal’s reliance on the draft ES Version 7.0 and that the proposed U-factors will most likely require triple pane in most windows in CZ 4-8. Regardless of what U-factor criteria is ultimately be adopted for ES Version 7.0, at a minimum, substantial experience should be gained and market penetration achieved with the new voluntary program requirements before requiring these values for the mandatory code. We support a more modest and reasonable compromise 10% improvement in U-factor in the northern climate zones (0.30 reduced to 0.27 in CZ 5-8; see our comments on REPI-28). |
| REPI-33 | Insulation | Removes all wall, ceiling, and slab insulation improvements adopted in the 2021 IECC residential prescriptive tables and replaces Additional Efficiency Options table with less-stringent set of options. | D (Rollback) – Eliminates multiple efficiency improvements incorporated in the 2021 IECC and significantly reduces the overall efficiency of the code. |

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| REPI-34 | Insulation | Adds heated and unheated slab F-factor requirements to prescriptive U-factor table; revises performance path standard reference design to reflect prescriptive requirements for slab F-factors. | NM – The addition of slab F-factors would be an improvement to the IECC. A combination of REPI-26, 34, and 36 could be a reasonable update to the prescriptive and Total UA compliance paths. |
| REPI-35 | Insulation | Adds 2 additional prescriptive R-value options for insulating floors over unconditioned space. | AS |
| REPI-36 | Insulation | Adds column to prescriptive table for heated slab R-values; clarifies installation requirements of slab edge and full slab insulation. | AS – The addition of slab F-factors would be an improvement to the IECC. A combination of REPI-26, 34, and 36 could be a reasonable update to the prescriptive and Total UA compliance paths. |
| REPI-56 | Insulation | Revises insulation installation criteria; requires verification of air barrier and insulation installation by third party; requires air leakage test by third party. | NM – The table is generally a good improvement to the IECC, but there is some concern about listing a specific certification program. |
| REPI-58 (EECC) | Air Leakage | Moves air leakage testing exception to the correct place in the code (editorial). | AS |
| REPI-61 | Air Leakage | Allows the use of sampling when testing R2 multifamily units for air leakage instead of requiring that each dwelling unit be tested. | D (Rollback) – Sampling is not an effective means of demonstrating compliance in every building. The residential IECC has never allowed sampling to comply with residential envelope or mechanical system testing requirements, and similar proposals (RE43-19, RE95-19, RE121-19) were all disapproved in the 2021 IECC cycle by over 93% of voters. |
| REPI-62 | Air Leakage | Reduces allowable prescriptive air leakage to 3.0 ACH50 in cz 0-2, 2.5 in cz 3-4, 2.0 in cz 5-7, and 1.5 in cz 8; sets maximum trade-off backstop for all climate zones at 3.0 ACH50; exception for buildings with full encapsulation of basement, crawl space and attic; requires ERV/HRV in cz 4-8; requires additions and alterations to be air leakage tested. | NM – Although we support tightening air leakage rates in the thermal envelope, our preferred approach is contained in REPI-63 and REPI-64. There is also some concern with how broadly the encapsulated basement exception may be applied. |
| REPI-63 (EECC) | Air Leakage | Improves prescriptive and performance baseline requirement for air leakage in climate zones 0-2 from 5.0 ACH50 to 4.0 ACH50. | AS – This is a straightforward and cost-effective improvement in energy efficiency that will improve the long-term performance of residential buildings. |
| REPI-64 (EECC) | Air Leakage | Improves prescriptive and performance baseline requirement for air leakage in climate zones 3-8 from 3.0 ACH50 to 2.0 ACH50; improves trade-off backstop from 5.0 ACH50 to 4.0 AC50; improves air leakage/HRV additional efficiency option from 3.0 ACH50 to 2.0 ACH50. | AS – This is a straightforward and cost-effective improvement in energy efficiency that will improve the long-term performance of residential buildings. |

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| REPI-68 | Roofing | Adds cool roof requirements to residential buildings for climate zones 0-5, including prescriptive and performance path for new buildings, alterations, and tropical climate zone; adds new definitions for <i>low-sloped roof</i> and <i>steep-sloped roof</i> ; adds relevant referenced standards. | AS |
| REPI-70 | Mechanical | Requires programmable thermostats to have demand-responsive controls for cooling and heating setpoints; requires electric storage water heaters over 20 gallons to be provided with demand-responsive controls. | NM – We support this proposal, but if it is adopted, the requirement should be added to the list of mandatory requirements so that it applies across all compliance paths. |
| REPI-71 | Mechanical | Requires thermostats to be provided with grid-integrated controls; adds new definition for <i>grid-integrated controls</i> . | NM – We support requiring thermostats to interact with the grid, but if this proposal is adopted, the requirement should be added to the list of mandatory requirements so that it applies across all compliance paths. |
| REPI-85 | Mechanical | Allows the use of sampling when testing R2 multifamily units for duct leakage instead of requiring that each dwelling unit be tested. | D – Rollback. Sampling is not an effective means of demonstrating compliance in every building. The residential IECC has never allowed sampling to comply with residential envelope or mechanical system testing requirements, and similar proposals (RE43-19, RE95-19, RE121-19) were all disapproved in the 2021 IECC cycle by over 93% of voters. |
| REPI-90 | Mechanical | Requires electric storage water heaters between 37-120 gallons to be equipped with grid-integrated controls; adds new definition for <i>grid-integrated controls</i> . (See CEPI-125) | NM – We support this proposal, but if it is adopted, the requirement should be added to the list of mandatory requirements so that it applies across all compliance paths. |
| REPI-93 | Mechanical | Extends requirement for ERV/HRV from cz 7-8 to cz 5-8 and dwelling units in Group R occupancies in cz 3C. | NM – If this proposal is adopted, then the ERV/HRV option should be modified or removed from the Additional Efficiency Options and this requirement should be properly reflected in the standard reference design for performance path compliance. |
| REPI-97 | Mechanical | Allows the use of sampling when testing R2 multifamily units for mechanical ventilation flow rate instead of requiring that each dwelling unit be tested. | D – Rollback. Sampling is not an effective means of demonstrating compliance in every building. The residential IECC has never allowed sampling to comply with residential envelope or mechanical system testing requirements, and similar proposals (RE43-19, RE95-19, RE121-19) were all disapproved in the 2021 IECC cycle by over 93% of voters. |
| REPI-99 | Mechanical | Requires use of ductless mini-splits in buildings using electric zonal heating as primary heat source. | NM – We support the shift toward mini-splits, but it is not clear that these units would be ideal in every circumstance. |

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| REPI-100 | Lighting and Electrical | Modifies requirement for high-efficacy lighting from 100% to 90%; increases efficacy requirements for luminaires from 45 to 50 lumens/watt. | D – We support the improved lumens/watt requirement, but we believe the reduction from 100% to 90% high-efficacy lighting is an unnecessary weakening of the code. |
| REPI-111 | Decarbonization | Requires installation of electric circuits near certain gas or propane appliances. | AS – This is a relatively low-cost, sensible next step toward electrification that expands consumer choices. |
| REPI-112 | Lighting and Electrical | Requires dwelling units over 5,000 sq. ft. of conditioned floor area to having lighting control system; exception for 5% of total lighting power. | AS |
| REPI-116 | Performance Path | Establishes trade-off credit for on-site renewable energy in residential performance path; revises thermal envelope backstop from 2009 IECC to 2012 IECC for homes without on-site renewable energy, or 2015 IECC where on-site renewable energy is installed. | D (Rollback) – Would allow homes with on-site renewable energy to replace efficiency with renewable energy down to mandatory limits, including a thermal envelope at 2015 IECC levels. Unnecessary trade-off given other compliance options better suited to handle renewable issues (ERI and Appx RC) and better proposals in this cycle to address renewable energy issues. A similar proposal for the 2021 IECC (RE156-19) was rejected by the Code Development Committee and disapproved by 94% of voters. |
| REPI-117 | Performance Path | Allows energy use based on site energy expressed in Btu to be substituted for energy cost for an electric building using 100% renewable energy. | NM – We have concerns about whether this exception creates a loophole for purchased renewable energy or other unintended impacts. |
| REPI-118 (IECC) | Performance Path | Modifies trade-off backstop that applies to performance path from being based on 2009 IECC to current code total UA*1.15. | AS – This proposal improves the performance path thermal envelope backstop by incorporating more flexibility and referencing the prescriptive baseline in the current code rather than an older version. This is one of several proposals aimed at applying a consistent approach to various backstops included in the IECC residential sections. |
| REPI-122 | Performance Path | Establishes trade-off credit for heating, cooling, and water heating efficiency in residential performance path. | D (Rollback) – Introduces unwarranted trade-off credits into the performance path (that have not been in the IECC since 2006) and allows huge reductions in overall efficiency. Setting the standard reference design assumption at the outdated federal minimum efficiencies for this equipment creates enormous free-ridership issues given widespread use of much higher-efficiency equipment. Efficiency of permanent envelope and other measures should not be traded away against shorter-term efficiency of equipment. Similar proposals have been consistently rejected at ICC and the vast majority of states multiple times over the last decade. A similar proposal for the 2021 IECC (RE176-19) was rejected by the Committee and disapproved by 91% of voters. |

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| REPI-123 | Performance Path | Establishes trade-off credit for heating, cooling, and water heating efficiency in residential performance path. | D (Rollback) – Introduces unwarranted trade-off credits into the performance path (that have not been in the IECC since 2006) and allows huge reductions in overall efficiency. Setting the standard reference design assumption at the outdated federal minimum efficiencies for this equipment creates enormous free-ridership issues given widespread use of much higher-efficiency equipment. Efficiency of permanent envelope and other measures should not be traded away against shorter-term efficiency of equipment. Similar proposals have been consistently rejected at ICC and the vast majority of states multiple times over the last decade. A similar proposal for the 2021 IECC (RE176-19) was rejected by the Committee and disapproved by 91% of voters. |
| REPI-126 | ERI | Substantially revises ERI sections; eliminates both thermal envelope backstops; divides ERI score table into two columns of ERI scores based on whether on-site power is included; modifies ventilation rate assumption; deletes 5% limitation on credit for on-site renewables. | D (Rollback) – Eliminates several key efficiency improvements incorporated into 2021 IECC or earlier versions and reduces the stringency of the ERI path. Elimination of the ERI thermal envelope backstops would result in poor long-term performance in buildings. |
| REPI-127 | ERI | Adds option to comply with ERI by comparing proposed building to an ERI based on the standard reference design in performance path instead of ERI score listed in R406. | D (Rollback) – It is unclear how this compliance path would actually work, but it appears to establish an unnecessary additional, less stringent code compliance path alternative to the current ERI. |
| REPI-128 | ERI | Deletes enhanced thermal envelope backstop for ERI-rated homes with on-site power production. | D (Rollback) – Eliminates a significant efficiency improvement incorporated into the 2018 and 2021 versions of the IECC and allows significant reduction in envelope efficiency in rated homes by allowing a trade-off with on-site renewable energy. |
| REPI-129 (EECC) | Performance Path | Modifies trade-off backstop that applies to ERI projects that incorporate on-site renewable energy from being based on 2018 IECC to a Total UA calculation based on current prescriptive requirements. | AS – This proposal would provide additional flexibility for builders using the ERI compliance path and will bring consistency between the two trade-off backstops that apply to the ERI. It will also automatically adjust the backstop in future editions of the IECC by referencing the prescriptive requirements in the current code rather than an older version. |
| REPI-130 | ERI | Deletes enhanced thermal envelope backstop for ERI-rated homes with on-site power production. | D (Rollback) – Eliminates a significant efficiency improvement incorporated into the 2018 and 2021 versions of the IECC and allows significant reduction in envelope efficiency in rated homes by allowing a trade-off with on-site renewable energy. |
| REPI-133 P1 | ERI | Removes 5% cap on credit for on-site power production in ERI calculations. | D (Rollback) – Eliminates a significant efficiency protection incorporated into 2021 IECC and would allow unlimited efficiency trade-offs in rated homes with on-site renewable energy. |

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| REPI-134 | ERI | Removes 5% cap on credit for on-site power production in ERI calculations. | D (Rollback) – Eliminates a significant efficiency protection incorporated into 2021 IECC and would allow unlimited efficiency trade-offs in rated homes with on-site renewable energy. |
| REPI-137 (EECC) | Additional Efficiency | Adds additional Efficiency Option credit for on-site renewable energy of at least 1W/sq.ft. of conditioned floor area. | AS – The Additional Efficiency Option credits were added to the IECC in part so that additional technologies and building systems could be introduced to the IECC without violating federal preemption and without reducing efficiency or creating loopholes in the base code. If compliance credit is to be awarded for on-site renewable energy, we believe section R408 is the most appropriate location for such credit. |
| REPI-139 | Additional Efficiency | Modifies additional efficiency option for HRV/ERV to require envelope air leakage of ≤2.0, instead of ≤3.0. | AS – We support the current requirements for air tightness in this Option, but we could support further improvements in efficiency. |
| REPI-145 | Existing Buildings | Requires ducts extended into an addition to be leakage tested to code requirements if total duct volume increases by over 20%; requires ducts and plenums that serve new heating and cooling equipment in alterations to be tested. (See CEPI 219) | AS |
| REPI-146 | Roofing | Adds new exception to requirements for roof replacements for “maximum practical compliance”. | D (Rollback) – Introduces a potentially large exception from roof replacement requirements. A similar proposal in the 2021 Code Development Process (CE256-19) was rejected by the Code Development Committee and disapproved by 96% of voters. |
| REPI-147 | Roofing | Adds new exception to requirements for roof replacements where meeting specified R-values is deemed infeasible. | D (Rollback) – Introduces a potentially large exception from roof replacement requirements. A similar proposal in the 2021 Code Development Process (CE256-19) was rejected by the Code Development Committee and disapproved by 96% of voters. |
| REPI-149 | Roofing | Adds new exception to code requirements for alterations for roof membrane peel and replacement. | D (Rollback) – Would exempt certain roof replacements from the current code requirements. |
| REPI-150 | Existing Buildings | Adds more specific requirements for insulating portions of the thermal envelope when existing buildings are altered. (See CEPI-221) | AS – This proposal details a few simple efficiency improvements that should be applied when these portions of existing buildings are updated. The efficiency of the existing building stock must be improved whenever and wherever feasible in order to achieve the nation’s efficiency and sustainability goals. |
| REPI-151 | Existing Buildings | Requires new heating and cooling systems and ducts installed as part of an alteration comply with the requirements of R403 Systems. (See CEPI-228) | AS |

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| REPI-152 | Existing Buildings | Requires new heating or cooling equipment installed as part of alteration to be provided with controls required in new buildings. (See CEPI 227) | AS |
| REPI-155 | Appendices | Requires zero energy residential buildings in Appendix RC to be all-electric; adds definition for <i>all-electric building</i> . | AS |
| REPI-163 | Appendices | Lowers ERI scores in Residential Zero Energy Appendix to 38 in cz 3-4 and 34 in all other cz. | AS |
| REPI-167 | Insulation | Reverses residential insulation improvements adopted in the 2021 IECC for walls and ceilings; substantially revises additional efficiency requirements; exempts ERI path from compliance with additional efficiency; modifies percentage improvement required in performance path. | D (Rollback) – Eliminates multiple efficiency improvements incorporated in the 2021 IECC and significantly reduces the overall efficiency of the code. |
| REPI-168 | Appendices | Creates a shorter version of the residential energy code in a new appendix; eliminates trade-off backstops; allows renewables as trade-off against efficiency measures; adds equipment efficiency requirements; adjusts duct testing and other requirements. | D (Rollback) – Introduces equipment efficiency and renewable energy trade-offs (which would substantially reduce efficiency and are not permitted by the current code) with no limitations; eliminates multiple mandatory measures and trade-off backstops, etc. These trade-offs have been consistently rejected by Code Development Committees and disapproved by voters for several cycles. |

| Commercial | | | |
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| Prop # | Category | Summary | EECC Recommendation |
| CEPI-4 (EECC) | Insulation | Adds new thermal envelope backstop for buildings complying with above-code programs that requires thermal envelope components to be no more than 15% less efficient than values contained in prescriptive tables. | AS – With the increasing use of voluntary above-code programs developed by a range of entities, it is critical that all buildings meet certain basic minimum code requirements. This proposal still allows significant flexibility, but will help ensure the long-term efficiency and resiliency of commercial buildings. |
| CEPI-26 | EV | Adds new requirements for EV charging infrastructure for commercial buildings based on occupancy type; requires all residential parking in multifamily buildings to be EVSE-installed or EV-Ready Spaces; adds related definitions. | AS – We generally support the inclusion of electric vehicle provisions in the IECC, and several proposals (REPI-15, CEPI-258, 146, 201, or 26) would be reasonable choices. |

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| CEPI-30 | Insulation | Requires concrete, masonry, and masonry-veneer walls to comply with thermal bridging standard published by the American Concrete Institute; adds definition for <i>thermal bridge</i> . | D – This proposal establishes a carve-out for specific products that could result in a weaker set of efficiency requirements applying to these products. If the effects of thermal bridging are directly addressed in the 2024 IECC, all material types should be reviewed and assigned appropriate values. |
| CEPI-31 | Insulation | Adds requirements for buildings in climate zone 0 to meet solar reflectance criteria for above-grade walls. | AS |
| CEPI-33 | Insulation | Adds new requirements to mitigate thermal bridging in walls, balconies, slabs, decks, cladding, structural beams, vertical fenestration, and parapets; adds thermal bridges to performance path standard reference design. | NM – We agree that thermal bridging should be addressed in the IECC, and this proposal is the most complete of the group of proposals on the subject. |
| CEPI-40 | Insulation | Adds new requirements to account for effects of thermal bridging. | NM – Thermal bridging should be addressed in the IECC, but the values proposed in CEPI-40 may not be stringent enough to maintain adequate efficiency. |
| CEPI-45 | Insulation | Adds limitation on thermal bridging in prescriptive and performance paths; adds definition for <i>linear transmittance</i> . | NM – The concepts covered by this proposal are good but somewhat incomplete; the approach does not appear to include all of the necessary envelope assemblies. |
| CEPI-46 | Fenestration | Revises component performance alternative to set limits on fenestration trade-offs in base case. | D – We believe that the current language of the commercial UA trade-off already achieves the objective of this proposal (that the area of each assembly in the calculation is the same for the baseline and proposed buildings). If the language is to be changed, it should be simplified along the lines of the total UA alternative in the residential code (section R402.1.5). |
| CEPI-50 | Roofing | Expands cool roof requirements to climate zones 4 and 5. | NM – Cool roof requirements in these climate zones will save energy, but we also recommend adding these requirements to the standard reference design in the performance path (or incorporating CEPI-212). |
| CEPI-52 | Fenestration | Reduces fixed fenestration U-factors by about 10% in all climate zones. | NM – We favor reasonable improvement in U-factors for commercial fenestration. We are a bit concerned about the proposed values for climate zones 7-8. We would also like to see more support for the specific proposed values. |
| CEPI-53 | Fenestration | Adds Group R fenestration U-factors to prescriptive fenestration table; adds definition of <i>curtain wall</i> ; creates exception for curtain wall and Class AW fenestration in Group R category to comply with the | NM – We are not convinced that the fenestration prescriptive values for high-rise residential need to be at the same level as low-rise. However, if that is the objective, then for Group R, the commercial code should simply reference the requirements in the IECC residential prescriptive |

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| | | "all other" U-factors; increases stringency of lighting requirements for dwelling units. | table in order to ensure consistency. (We do not recommend the values for Group R shown in the proposal for the same reasons we do not recommend these values in REPI-29 for the residential code.) In addition, we oppose an exception or separate requirements for Class AW windows or Curtain Wall. In our view, the designer can choose any fenestration products they wish, but whatever is chosen, it should meet the same set of efficiency requirements and broad, less efficient exceptions should be avoided if possible. If there is to be an exception, the exception should require that qualification for Class AW be explicitly labeled and certified by an independent third-party. |
| CEPI-54 | Fenestration | Requires either limited E/W-facing fenestration or reduced SHGC. | NM – We recognize the value of reducing solar heat gain in commercial buildings to save energy, reduce peak demand and reduce HVAC system sizing and the important role of orientation. However, we are somewhat concerned about this proposal adding unneeded complexity to the IECC prescriptive path. |
| CEPI-58 | Air Leakage | Reduces allowable air leakage from 0.30 cfm/sq.ft. to 0.20 cfm/sq.ft. for dwelling units and from 0.40 cfm/sq.ft. to 0.25 cfm/sq.ft. for other buildings; establishes different size thresholds for testing requirements. | AS – This proposal would be a clear efficiency improvement, but we recommend coordinating with CEPI-56. |
| CEPI-71 | Air Leakage | Improves efficiency by reducing allowed air leakage for dwelling units from 0.30 to 0.23 cfm/sq.ft and for other buildings from 0.40 to 0.30 cfm/sq.ft. | AS – This proposal would be a clear efficiency improvement, but we recommend coordinating with CEPI-56. |
| CEPI-73 | Mechanical | Requires buildings >10,000 sq.ft. to be equipped with a building management system with ability to operate systems in at least 4 operating modes. | AS |
| CEPI-74 | Roofing | Establishes minimum height requirements for roof curbs for mechanical equipment; requires curbs that are part of an alteration to meet specified minimum height requirements. | AS |
| CEPI-81 | Mechanical | Specifies that curbs cannot be used as supply plenums unless used for return air only or tested for leakage at no higher than 4.0 cfm/100 sq.ft. duct surface. | NM – While we generally support this proposal, it should be revised so that code requirements are in the body text rather than in the section title. |
| CEPI-84 | Mechanical | Establishes efficiency requirements for dehumidification equipment used for indoor plant growth and maintenance. | AS |

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| CEPI-86 (EECC) | Mechanical | Clarifies application of Fault Detection and Diagnostics requirement for buildings with multiple HVAC systems. | AS |
| CEPI-95 | Mechanical | Requires package heating and cooling electrical equipment with capacity >6,000 Btu/hr to be heat pump, with some exceptions. | AS |
| CEPI-98 | Mechanical | Requires outdoor air to be provided to each occupied space by a dedicated outdoor air system; establishes DOAS fan power limits. | AS |
| CEPI-99 | Mechanical | Requires thermostats to be provided with grid-integrated controls; adds new definition for <i>grid-integrated control</i> . | AS – We support this proposal, but if it is adopted, the requirement should be added to the list of mandatory requirements so that it applies across all compliance paths. |
| CEPI-108 | Lighting and Electrical | Requires occupied standby controls for ventilation systems where the zones are required to have occupant sensor lighting controls; adds related definitions. | AS |
| CEPI-109 | Mechanical | Applies demand controlled ventilation requirements to single-zone systems and spaces larger than 250 sq.ft. in climate zones 5-8; maintains 500 sq.ft. threshold for other cz. | AS |
| CEPI-125 | Mechanical | Requires certain electric storage water heaters with tank capacity of 37-120 gallons to have grid-integrated controls; adds new definition for <i>grid-integrated control</i> . (See REPI-90) | AS – We support this proposal, but if it is adopted, the requirement should be added to the list of mandatory requirements so that it applies across all compliance paths. |
| CEPI-129 | Mechanical | Disallows the use of direct combustion fossil fuel or electric resistance heating for primary service water heating in R-1 and R-2 occupancies; establishes capacity limitations for supplemental water heating. | AS |
| CEPI-131 | Mechanical | Requires heated water circulation pumps to have electrically commutated motor and system balancing controls. | AS |
| CEPI-138 | Lighting and Electrical | Requires buildings ≥10,000 square feet to be equipped to measure, monitor, record, and report energy consumption data; adds exceptions for smaller residential occupancies and existing buildings. | AS |

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| CEPI-140 | EV | Requires energy monitoring for electric vehicles. | AS |
| CEPI-143 | Decarbonization | Adds requirement for on-site renewable energy for commercial buildings; adds renewable energy assumptions and credits to commercial performance path. | AS |
| CEPI-146 P1 & P2 | EV | Adds new requirements for EV charging infrastructure for commercial buildings based on occupancy type and requires one- and two-family dwellings to have one EV-ready space per dwelling unit; adds related definitions. | AS – We generally support the inclusion of electric vehicle provisions in the IECC, and several proposals (REPI-15, CEPI-258, 146, 201, or 26) would be reasonable choices. |
| CEPI-159 | Lighting and Electrical | Increases stringency of interior lighting power allowances in building area and space-by-space methods, based on manufacturer data. | AS |
| CEPI-162 | Lighting and Electrical | Expands applicability of daylight-responsive control requirements by lowering the threshold number of watts in toplit/sidelit spaces. (See CEPI-164) | AS |
| CEPI-164 | Lighting and Electrical | Expands applicability of daylight-responsive control requirements by lowering the threshold number of watts in toplit/sidelit spaces. (See CEPI-162) | AS |
| CEPI-170 | Lighting and Electrical | Requires one or more lighting control that turns off all exterior lighting when there is adequate daylight; increases stringency of lighting power allowances for exterior lighting. | AS |
| CEPI-176 | Lighting and Electrical | Adds requirements for demand responsive lighting controls; adds additional efficiency credit for demand responsive lighting controls where not otherwise required. | AS |
| CEPI-179 | Lighting and Electrical | Improves interior lighting power allowances in building area method and space by space method by about 4-5% consistent with manufacturer data. | AS |
| CEPI-185 | Lighting and Electrical | Increases stringency of horticultural lighting in greenhouses and other horticultural lighting; adds related definitions. | AS |
| CEPI-189 | Lighting and Electrical | Improves efficiency requirements for exterior lighting. | AS |

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| CEPI-193 | Additional Efficiency | Substantially revises Additional Efficiency Requirements for commercial buildings; proposes increasing savings from 2.5% to about 7%; applies requirements to changes of occupancy, changes in space conditioning, and additions larger than 500 sq. ft.; adds new requirements for renewable and load management credits based on occupancy type; adds new appendix with additional requirements for efficiency credits. | NM – While we support the proposal to increase the overall stringency for new and existing buildings, we would prefer the more straightforward improvement proposed in CEPI-194. We have some concerns about the level of complexity of CEPI-193, but we could support it as a fallback if necessary to the current Additional Efficiency Requirements. |
| CEPI-194 (EECC) | Additional Efficiency | Improves efficiency by requiring 25 Additional Efficiency Credits instead of 10. | AS – This proposal improves the efficiency of the commercial IECC by about 4% while maintaining considerable flexibility for code users. The Additional Efficiency Credits were added to the IECC in part to serve as a mechanism for improving code stringency over time. Although we could support an even larger improvement in efficiency (such as that proposed in CEPI-193), our preferred approach is to use the IECC’s existing Additional Efficiency Credits as a platform for improvements. |
| CEPI-195 | Fenestration | Establishes an additional efficiency credit for buildings with >30% window/wall ratio and automatically controlled interior or exterior shading devices. See CEPI-196 | D – We have concerns about the code relying on automatic shading to achieve energy efficiency when the shading can be manually overridden four hours at a time. We are also concerned about the useful life of the automatic shading as compared to a permanent overhang. It is not clear that energy savings from automatic shading is of the same scale as other credits in Section C406. |
| CEPI-196 | Fenestration | Adds Additional Efficiency Credit for automated shading attachments. See CEPI-195. | D – We have concerns about the code relying on automatic shading to achieve energy efficiency when the shading can be manually overridden four hours at a time. We are also concerned about the useful life of the automatic shading as compared to a permanent overhang. It is not clear that energy savings from automatic shading is of the same scale as other credits in Section C406. |
| CEPI-197 | Additional Efficiency | Adds new credit for grid integration controls and enhanced grid integration controls; adds new definitions for <i>grid-integrated control</i> and <i>building peak electric demand</i> . | AS |
| CEPI-201 | EV | Requires at least one EVSE-installed space where commercial building has ≥25 parking spaces; where 10 or more EV charging stations are installed at a parking facility, requires at least one to be Energy Star certified; adds related definitions. | AS – We generally support the inclusion of electric vehicle provisions in the IECC, and several proposals (REPI-15, CEPI-258, 146, 201, or 26) would be reasonable choices. |

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| CEPI-202 | Lighting and Electrical | Increases lamp efficacy requirement from 45 lm/W to 50 lm/W. | AS |
| CEPI-203 | Performance Path | Requires larger buildings complying with performance path to disclose Energy Use Intensity after 12 months of occupancy. | NM – Although the information that would be required as a result of this proposal could be useful to a building owner or occupants, we are concerned about the feasibility and enforceability of this language. |
| CEPI-204 (EECC) | Performance Path | Establishes performance path trade-off backstop for thermal envelope components, limiting envelope efficiency reductions to no more than 15% less than prescriptive levels of efficiency. | AS – This proposal adds a critical envelope trade-off backstop to the commercial performance path that is similar to one applied to the residential performance path in the 2021 IECC. Given the broad range of potential efficiency trade-offs in the commercial code, this backstop is necessary to help ensure that every new building has a reasonably efficient thermal envelope. |
| CEPI-205 | Performance Path | Increases cap on performance path credit for on-site renewable energy from 5% to 15%; allows efficiency credit for community solar and off-site renewable energy. | D (Rollback) – This proposal would allow increased trade-offs between on-site generation and energy conservation measures and unnecessarily expand such trade-offs to off-site generation. This is especially problematic because the commercial performance path already allows trade-offs for a wide range of measures and has no backstops to protect the critical building thermal envelope. |
| CEPI-210 | Fenestration | Adds performance path backstop limiting fenestration U-factors to no more than 110% of the prescriptive values. | NM – We support envelope backstops for the performance compliance path and particularly trade-off caps for windows given the window area in commercial buildings and the much higher fenestration U-factors and their impact on comfort and energy use. The residential code already contains such backstops and caps and EECC has proposed an envelope backstop for the performance path in the commercial code (see CEPI-204). We support both general envelope and specific fenestration backstops (as in the residential code), but the fenestration caps should also include SHGC maximums. |
| CEPI-214 | Insulation | Adds new requirement for building envelope commissioning; adds new referenced standard for commissioning. | AS |
| CEPI-215 | Mechanical | Expands commissioning requirements to more commercial buildings by narrowing an exemption based on size and equipment capacity. | AS |
| CEPI-216 | Existing Buildings | Creates an option for existing buildings undergoing additions, alterations, repairs, or change of occupancy to comply with ASHRAE Standard 100. | AS |

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| <u>CEPI-217</u> | Existing Buildings | Requires Additions to achieve 10 additional efficiency credits, with exceptions; requires alterations to achieve 5 additional efficiency credits, with exceptions. | AS |
| <u>CEPI-219</u> | Existing Buildings | Requires ducts extended into an addition to be leakage tested to code requirements if total duct volume increases by over 20%; requires ducts and plenums that serve new heating and cooling equipment in alterations to be tested. (See REPI-145) | AS |
| <u>CEPI-221</u> | Existing Buildings | Adds more specific requirements for insulating portions of the thermal envelope when existing buildings are altered. (See REPI-150) | AS |
| <u>CEPI-222</u> | Roofing | Adds new exception to requirements for roof replacements where meeting specified R-values is deemed infeasible. | D (Rollback) – Introduces a potentially large exception from roof replacement requirements. A similar proposal in the 2021 Code Development Process (CE256-19) was rejected by the Code Development Committee and disapproved by 96% of voters. |
| <u>CEPI-223</u> | Roofing | Adds new exception to requirements for roof replacements for “maximum practical compliance”. | D (Rollback) – Introduces a potentially large exception from roof replacement requirements. A similar proposal in the 2021 Code Development Process (CE256-19) was rejected by the Code Development Committee and disapproved by 96% of voters. |
| <u>CEPI-224</u> | Roofing | Adds new exception to code requirements for alterations for roof membrane peel and replacement. | D (Rollback) – Would exempt certain roof replacements from the current code requirements. |
| <u>CEPI-227</u> | Existing Buildings | Requires new heating or cooling equipment installed as part of alteration to be provided with controls required for new buildings. (See REPI-152) | AS |
| <u>CEPI-228</u> | Existing Buildings | Requires new equipment in alterations to be properly sized. (See REPI 151) | AS |
| <u>CEPI-229</u> | Existing Buildings | Requires mechanical, hot water, and lighting systems that are part of an alteration to comply with certain commissioning requirements, with exceptions. | AS |
| <u>CEPI-231</u> | Existing Buildings | Requires new luminaires that are part of alteration to comply with controls requirements, except where | AS |

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| | | alteration replaces <10% of luminaires or luminaires are controlled by luminaire level lighting controls. | |
| CEPI-241 (IECC) | Appendices | Requires buildings constructed to the net-zero appendix to meet or exceed thermal envelope efficiency of prescriptive tables. | AS – This proposal helps ensure long-term efficiency and resiliency benefits for building owners by requiring all “net-zero” buildings to meet certain basic minimum envelope efficiency requirements. |
| CEPI-255 P1 | Appendices | Creates new "Above Base Code" appendix that deems projects complying with ICC-700 or IgCC to comply with the IECC; establishes framework for appendix not yet completely filled in. | D (Rollback) – IECC sections R102.1.1 and C102.1.1 already permit above-code programs that meet the requirements of these sections to be approved by a code official. However, unlike these sections, this proposal avoids minimum mandatory requirements and specifically recognizes two programs that have not been shown to be at least as stringent as the IECC and which lack basic mandatory minimum requirements. Identifying specific programs as “above-code” is best left to the code official; designating various favored programs in the IECC would be bad policy. |
| CEPI-255 P2 | Appendices | Creates new "Above Base Code" appendix that deems projects complying with ICC-700 or IgCC to comply with the IECC; establishes framework for appendix not yet completely filled in. | D (Rollback) – IECC sections R102.1.1 and C102.1.1 already permit above-code programs that meet the requirements of these sections to be approved by a code official. However, unlike these sections, this proposal avoids minimum mandatory requirements and specifically recognizes two programs that have not been shown to be at least as stringent as the IECC and which lack basic mandatory minimum requirements. Identifying specific programs as “above-code” is best left to the code official; designating various favored programs in the IECC would be bad policy. |
| CEPI-258 P1 & P2 & P3 | EV | Establishes requirements for EV-installed, EV-ready, and EV-capable parking in residential and commercial buildings based on number of parking spaces; adds related definitions. | AS – We generally support the inclusion of electric vehicle provisions in the IECC, and several proposals (REPI-15, CEPI-258, 146, 201, or 26) would be reasonable choices. |