



## ***IECC Proposals with a Significant Impact on Building Energy Efficiency<sup>1</sup>***

### **Proposals that Improve Energy Efficiency**

**RE179 (EECC)** “Flex Points” proposal 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.

**RE164 (EECC)** Clarifies that the residential ERI compliance option does not permit trade-offs between energy conservation and on-site power generation. This helps avoid a potential loophole that could result in a **36% to 73%** increase in energy consumption in the ERI compliance path (based on a 4 kW system).

**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.

**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.

**CE43 (EECC)** Improves the overall efficiency of the IECC commercial provisions by roughly **5%** when using the performance path for compliance

**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.

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<sup>1</sup> This document includes brief summaries of (1) its IECC proposals that will have the most significant positive impact on energy efficiency; and (2) IECC proposals by other stakeholders that were recommended for approval by the committee that rollback 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). We expect that there will also be a number of public comments by other stakeholders on proposals that either advance or impede energy efficiency, but we will not know what has been submitted by others until mid-September. As a result, this is *not a complete or final list, but it does illustrate the importance and magnitude of the energy efficiency issues to be decided by the ICC governmental representatives this Fall*. We expect this list will expand at some point before the October public hearings after ICC publishes a complete list of proposals and public comments.

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

## Proposals that **Weaken Energy Efficiency in the “Performance Path”**

**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 energy efficiency nationwide.

**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.

**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.

## Proposals that **Weaken Energy Efficiency in the Energy Rating Index (ERI)**

**RE166 (RESNET)** Replaces ERI calculation methodology with reference to RESNET 301 (which has been construed to allow on-site generation to be counted in ERI score). This approach would outsource the entire ERI compliance path and potentially permit on-site generation to be used as a trade-off with no limitations resulting in a **36%** to **73%** increase in energy use.

**RE173 (LBA)** Increases ERI target compliance scores from a range of 51-55 depending on the climate zone to a range of 57-62, weakening efficiency by permitting an increase in overall energy use under the ERI path of **9%** to **15%**.

**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. For example, in climate zone 5, the proposal permits insulation levels lower than the 2006 IECC requirements.

## Other Potential Energy Efficiency **Weakening Proposals**

**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 result in a rollback in energy efficiency from roughly **2%** up to as much as **23%**, depending on climate zone.

**ADM46 Part 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.

**ADM42 Part 2 (NAHB)** – Revises intent of IECC to cover the “net” energy use of building. This could lead to confusion for code enforcers and disputes over the relative value of energy generation versus conservation.

**ADM45 Part 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.