

## EECC GUIDING PRINCIPLES

**In drafting EECC proposals and developing our positions on proposals authored by others for the 2021 code cycle, EECC operates under twelve guiding principles:**

**1. THE 2018 IECC IS THE APPROPRIATE FOUNDATION FOR FUTURE IMPROVEMENTS TO AMERICA'S MODEL ENERGY CODE (THE IECC).** With a historic boost of greater than 30% in residential and commercial efficiency over the 2006 IECC, the 2012 IECC exceeded the original goal set by EECC, US DOE and other stakeholders. US DOE called the 2012 IECC “the largest, one-step efficiency increase in the history of the national model energy code.” The 2015 IECC, taken as a whole, retained the 2012’s efficiency gains and made important improvements, particularly its new residential Energy Rating Index (ERI) path, with the potential to produce additional new home efficiency. The 2018 IECC upheld the 2015 residential compliance path requirements and added modest residential efficiency improvements. In addition, while the 2018 IECC increased ERI scores, it also settled a question about on-site generation through a “trade-up,” which only recognizes on-site generation after the 2015 IECC’s prescriptive requirements are met. As for the 2018 IECC commercial provisions, there were limited improvements over the 2015 version and the ASHRAE 90.1 compliance path was upgraded to the most recent version. As a result, the 2018 IECC should be the starting point and the baseline for any analysis of future proposed improvements.

**2. FOR THE 2021 IECC AND ITS SUCCESSORS, A GLIDE PATH OF REASONABLE, BUT STEADY IMPROVEMENTS IN ENERGY EFFICIENCY EACH CODE CYCLE SHOULD BE ESTABLISHED.** In the past, the level of improvement to the IECC in a given code cycle has fluctuated enormously, with most of the gains coming during the 2009 and 2012 cycles. The changes made during those cycles have now been “digested” and now is the time to chart a course for future significant improvements. A more steady and deliberate path of future improvements should, in addition to energy efficiency gains, advance code simplicity, ease of enforcement, cost-effectiveness and savings, improved occupant comfort and other energy and environmental policy benefits.

**3. NO BACKSLIDING OR ROLLEBACKS.** We oppose residential and commercial code modifications or proposals that weaken the energy efficiency of a building or system or overturn gains and improvements included in the 2018 IECC and IRC. We also support recapturing any efficiency losses that resulted from previous code development processes.

**4. SIMPLICITY, EASE OF ENFORCEMENT, COST-EFFECTIVENESS, LONGEVITY, COMFORT & ENERGY/ENVIRONMENTAL BENEFITS ARE ALSO PARAMOUNT CONSIDERATIONS IN EVALUATING EACH POTENTIAL IECC CODE CHANGE.** While we support the adoption of all reasonable energy code improvements, we are especially supportive of measures that improve durability, long-term performance and longevity. Because buildings can last 100 years, retrofits are far more costly than the same improvements at initial construction, and opportunities to correct mistakes may not come around again for a long time, it is particularly important that the IECC “build them right” up front. Consistent with the tenet that the longer a specific improvement lasts, the more energy savings value it brings, the IECC’s “Statement of Intent” (in sections R101.3 and C101.3) specifically focuses on “the effective use and conservation of energy over the useful life of each building.” Similarly, an efficiency measure’s cost-

effectiveness must compare incremental outlays with the value of energy and other cost savings over the life of the building. In practical terms, this means that either Life-Cycle Cost or Mortgage Cash Flow analyses should be the basis for cost-effectiveness, applying a minimum building life of at least 30 years and calculating “time to positive cash flow.” (The Department of Energy’s cost effectiveness methodologies are good examples of how these analyses may be conducted.) Simple payback or other analytical methods that are inconsistent with the IECC’s Intent should not be considered valid tools for evaluating the cost-effectiveness of IECC proposals. In addition, other important factors should also be carefully considered in developing and evaluating potential code changes, such as code simplicity, ease of enforcement, and other positive effects like reduced peak energy demand, improved occupant comfort, and energy and environmental policy benefits. An important goal of an improved energy code should be to promote the health, safety and/or welfare of building occupants and the public.

**5. THE IECC SHOULD INCLUDE A REASONABLE SET OF COMPLIANCE OPTIONS, BUT THEY MUST BE AT LEAST AS EFFICIENT AS THE PRESCRIPTIVE PATH. A SINGLE SIMPLIFIED PRESCRIPTIVE COMPLIANCE PATH LEADS TO GREATER COMPLIANCE, ENFORCEMENT AND MARKET TRANSFORMATION FOR RESIDENTIAL AND COMMERCIAL CONSTRUCTION.**

A single, simplified prescriptive compliance path with reasonable measures and individual building assembly performance requirements establishes a clear baseline target for all stakeholders, improves efficiency, enhances quality, and reduces construction cost, and eases both compliance and enforcement. While we generally support multiple non-prescriptive reasonable compliance options (such as a UA trade-off, performance path and ERI compliance path) to comply with the IECC, minimum mandatory measures are essential in order to ensure that critical measures with long lives (such as envelope efficiency, air leakage, etc.) are not traded off for short-term measures and that the building has minimum “whole house” efficiency. In addition, ensuring that complementary compliance options, such as a performance path, are at least as efficient as the prescriptive path, provides code users with flexibility without sacrificing owner/occupant benefits. IECC also supports offering an array of options to achieve additional energy efficiency above a fixed prescriptive path baseline. We see properly and carefully designed “outcome-based” code provisions only as a possible supplement to, but not a replacement for, code requirements for design and construction that are enforceable prior to a certificate of occupancy.

**6. ADOPT “TRADE-UPS,” NOT “TRADE-OFFS.”** We strongly oppose the adoption of prescriptive “trade-offs” against current prescriptive path requirements (by definition, trade-offs result in no energy efficiency gains, yet serve to complicate code enforcement and compliance). We can support reasonable “trade-ups” which boost energy efficiency by offering a choice among reasonably equivalent options (reflecting energy cost savings and other energy efficiency benefits over the useful life of each option) that may be difficult to adopt at this point as stand-alone prescriptive requirements.

**7. REJECT RESIDENTIAL EQUIPMENT AND RELATED TRADE-OFF LOOPHOLES.** We oppose proposals that would permit builders to use more efficient mechanical equipment (HVAC and Hot Water) as a trade-off against other base code efficiency requirements under the residential performance compliance path. Federal law prohibits the IECC and adopting jurisdictions from determining and setting prescriptive or baseline requirements for certain residential mechanical equipment. The minimum standards instead are often set by the federal government well below standard practice. As a result, these trade-offs, if allowed, would constitute a major code compliance loophole – the ICC eliminated such trade-offs from the IECC in 2009 and has rejected their reintroduction in every code cycle since then. Moreover, such trade-offs do not consider essential factors such as the importance of minimum building envelope performance and the typically much shorter useful life of equipment. For similar reasons, we oppose performance path trade-offs for lighting and on-site generation (renewable or otherwise). Those who wish to take advantage of improved equipment and other such measures not

otherwise covered by the code may use the ERI approach, where the efficiency of equipment and appliances, for example, are considered, since the ERI target value is set at an efficiency level that is intended to account for free ridership and other issues. Moreover, the ERI method contains crucial minimum back-stop envelope requirements (including meeting the 2015 prescriptive envelope requirements when on-site generation is used in the calculation).

**8. MAINTAIN AND IMPROVE THE 2018 IECC COMMERCIAL PROVISIONS.** We support the IECC as a stand-alone comprehensive energy code for all buildings, including all commercial buildings. However, some of the current IECC commercial building requirements are less stringent than ASHRAE 90.1-2016 (or, in the case of mechanical equipment, federal minimum requirements). Future IECC commercial building requirements should exceed where possible or, at a minimum, be at least as energy efficient overall as the latest version of ASHRAE 90.1 (plus any approved addenda). In the cases where the existing or proposed IECC requirements are more efficient or otherwise better than provisions in ASHRAE 90.1, or are likely to result in increased compliance, ease of enforcement and market transformation, we support these requirements in the IECC and encourage their adoption by ASHRAE. In our view, the symbiotic relationship between the two codes makes both codes better and more efficient.

**9. NO PRODUCT-SPECIFIC PROVISIONS.** We oppose product-specific special exemptions or provisions. We believe that all types of buildings and all material types should generally be required to achieve the same level of energy efficiency.

**10. INDEPENDENT TESTING, CERTIFICATION & LABELING HELPS TO ENSURE EFFECTIVE CODE COMPLIANCE AND ENFORCEMENT.** We support reasonable independent product, system and building testing, certification and labelling requirements to ensure fair competition in the marketplace, consumer protection, and improved code compliance and enforcement.

**11. ENERGY EFFICIENCY PROVISIONS FOR EXISTING BUILDINGS SHOULD BE AS ROBUST AS THE PROVISIONS FOR NEW CONSTRUCTION, TO THE MAXIMUM EXTENT FEASIBLE.** We support improvements to the IECC and other International Codes to ensure that additions, renovations, replacements and repairs achieve reasonable energy efficiency.

**12. NO PRIDE OF AUTHORSHIP.** We support the adoption of all reasonable energy code proposals that boost the energy efficiency of residential and commercial building construction and renovation and are consistent with our other principles, regardless of author. If proposals by other proponents are better than IECC proposals, we will support the best proposal.