CEE Residential New Construction Initiative
Effective January 16, 2018

The following specification is designed to promote increasingly stringent Energy Rating Index scores as the founding principle, with minimum quality assurance prerequisites to bolster the incremental energy gains. This underlying concept may be modified or adapted in several ways, described below, to address the specific needs and goals of an individual program.

**CEE New Construction Specification**

<table>
<thead>
<tr>
<th>Energy Rating Index Score</th>
<th>Base</th>
<th>Tier 1</th>
<th>Tier 2</th>
<th>Tier 3</th>
<th>Tier 4</th>
<th>Tier 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≤ 75</td>
<td>≤ 65*</td>
<td>≤ 55*</td>
<td>≤ 45*</td>
<td>≤ 30</td>
<td>≤ 10</td>
</tr>
<tr>
<td>Quality Assurance:</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓^</td>
<td>✓^</td>
<td>✓^</td>
</tr>
<tr>
<td>ENERGY STAR Certified Homes or similar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* For Tiers 1, 2, and 3, CEE provides recommended ERI target scores broken down by individual climate zone.
* For Tiers 3, 4, and 5, CEE recommends, but does not require, the inclusion of additional quality assurance measures, such as the DOE Zero Energy Ready Home, to address the increasingly complex building science considerations associated with highly efficient homes.

**Recommended Energy Rating Index Target Scores**

<table>
<thead>
<tr>
<th>Climate Zone</th>
<th>Tier 1</th>
<th>Tier 2</th>
<th>Tier 3</th>
<th>ASHRAE SSPC 90.2 Proposed Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018 IECC (ERI Path)</td>
<td>2015 IECC (ERI Path): eqCusp+10%</td>
<td>2015 IECC (ERI Path) Stretch: eqCusp+15%</td>
<td></td>
</tr>
<tr>
<td>Zone 1</td>
<td>≤ 57</td>
<td>≤ 52</td>
<td>≤ 49</td>
<td>≤ 43</td>
</tr>
<tr>
<td>Zone 2</td>
<td>≤ 57</td>
<td>≤ 52</td>
<td>≤ 49</td>
<td>≤ 43</td>
</tr>
<tr>
<td>Zone 3</td>
<td>≤ 57</td>
<td>≤ 51</td>
<td>≤ 48</td>
<td>≤ 45</td>
</tr>
<tr>
<td>Zone 4</td>
<td>≤ 62</td>
<td>≤ 54</td>
<td>≤ 51</td>
<td>≤ 47</td>
</tr>
<tr>
<td>Zone 5</td>
<td>≤ 61</td>
<td>≤ 55</td>
<td>≤ 52</td>
<td>≤ 47</td>
</tr>
<tr>
<td>Zone 6</td>
<td>≤ 61</td>
<td>≤ 54</td>
<td>≤ 51</td>
<td>≤ 46</td>
</tr>
<tr>
<td>Zone 7</td>
<td>≤ 58</td>
<td>≤ 53</td>
<td>≤ 50</td>
<td>≤ 46</td>
</tr>
<tr>
<td>Zone 8</td>
<td>≤ 58</td>
<td>≤ 53</td>
<td>≤ 50</td>
<td>≤ 45</td>
</tr>
</tbody>
</table>

*eqCusp* denotes incorporation of higher efficiency equipment on the cusp of significant market adoption as of 2013.

**Quality Assurance Requirements**

CEE recommends ENERGY STAR Certified Homes as the specific platform to achieve quality assurance measures, as this program is explicitly designed with such provisions in mind and
demonstrates a cost-effective approach to achieve these goals. Where adoption of this minimum prerequisite is not possible, or if a program determines that an alternative mechanism is more appropriate for their respective goals, CEE allows program administrators to implement an alternative requirement that addresses quality assurance. For those opting to employ a measure other than ENERGY STAR Certified Homes, CEE requests that detailed information about the requirement components and its associated costs be provided to CEE.

As houses become increasingly efficient, it becomes even more important to address performance and ensure that building science principles are properly employed. For this reason, CEE also recommends that programs adopt additional requirements beyond the ERI score for higher tiers. The DOE Zero Energy Ready Home is one such vetted program, with criteria specifically designed to address the considerations relevant to high performing homes.

Additional Optional Components

1. Ancillary Benefits and Enhanced Building Science

Programs may find value in promoting features that do not fall strictly within energy performance metrics. While not comprehensive in scope, the following list offers programs or specifications that address facets outside of efficiency.

- EPA Indoor airPLUS construction specification
- DOE Zero Energy Ready Home PV-Ready Checklist
- Green Builder® Coalition’s Water Efficiency Rating Score (WERS)®
- RESNET Water Efficiency Rating (WER) Index Standard (in development)
- Florida Water Star™
- WaterSense Labeled New Homes Partnership Program
- Institute for Business and Home Safety (IBHS) FORTIFIED Home
- DOE Zero Energy Ready Home Solar Hot Water-Ready Checklist

Additional analysis and comparison of impacts relative to code is necessary for all of the above ancillary services and non-energy benefits.

2. Renewables

The ERI score is generated by a method that credits on-site renewable generation such as solar PV or hot water against fuel use for both gas and electricity. If a program administrator wishes to distinguish efficiency from renewables, it can specify that the ERI score be calculated ignoring the contribution of renewables. Alternatively, an administrator might want to credit renewable energy only after a minimum threshold has been met using efficiency alone; this methodology is
employed in the ERI path of the 2018 IECC, which includes prescriptive backstops for those opting to use PV.

3. Connectivity

Members may determine that there is merit to promoting connected requirements for a variety of potential grid, program, and customer benefits. Connected capabilities have the potential to achieve increased efficiency gains, optimize equipment and building performance, add market value to the home, enable greater consumer engagement and amenity, and enable load management opportunities such as demand response, energy storage, and peak load shifting. For programs interested and able to include connected requirements in their offerings, CEE offers the following two strategies for consideration:

- Any products or equipment installed in the house meet the connected requirements outlined in the respective ENERGY STAR or CEE specifications, where available.
- CEE connected criteria advocate for multiple pathways to connect, including a direct, on-premise open standards connection option to ensure consumers realize benefits.

4. Minimum Prescriptive Requirements

CEE recognizes that adoption of a pure performance path leaves it entirely up to contractors to choose how they meet these levels and what measures they use to reach the respective targets. In some circumstances, programs may wish to require certain building techniques, design strategies, or technologies as fundamental components that must be included in all projects. This may be especially applicable relative to varying climate factors, unique construction types, local code structures, or cost-effectiveness considerations based on the fuels for which the program claims savings. CEE leaves it up to programs to determine whether the inclusion of minimum prescriptive requirements is appropriate.

Terms of Use

The above specifications may not be reproduced, disseminated, published or transferred in any form or by any means, except with the prior written permission of CEE or as specifically provided below.

CEE grants its Members and Participants permission to use the material for their own use in implementing or administering the specific CEE Initiative to which the material relates on the understanding that: (a) CEE copyright notice appears on all copies; (b) no modifications to the material are made; (c) you will not claim ownership or rights in the material; (d) the material will not be published, reproduced, transmitted, stored, sold, or distributed for profit, including in any advertisement or commercial publication; (e) the materials will not be copied or posted on any
Internet site, server or computer network without CEE express consent; and (f) the foregoing limitations have been communicated to all persons who obtain access to or use of the materials as the result of your access and use thereof.

CEE does not make, sell or distribute any products or services, other than CEE membership services, and CEE does not play any implementation role in the programs offered and operated by or on behalf of its members. The accuracy of member program information and of manufacturer product information discussed or compiled in this site is the sole responsibility of the organization furnishing such information to CEE, and CEE is not responsible for any inaccuracies or misrepresentations which may appear therein.

CEE does not itself test or cause to be tested any equipment or technology for merchantability, fitness for purpose, product safety, or energy efficiency and makes no claim with respect thereto. The references and descriptions of products or services within the site are provided “As Is” without any warranty of any kind, express or implied. CEE is not liable for any damages, including consequential damages, of any kind which may result to the user from the use of the site, or any of the product or services described therein.