

# commercial renewable def

IECC: (New), C406.5

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## 2018 International Energy Conservation Code

**Add new text as follows:**

**RENEWABLE ENERGY RESOURCES.** Energy derived from solar radiation, wind, waves, tides, landfill gas, biogas, biomass or extracted from hot fluid or steam heated within the earth.

**ON-SITE RENEWABLE ENERGY.** Energy from *renewable energy resources* harvested at the *building site*.

**Revise as follows:**

**C406.5 On-site renewable energy.** The total minimum ratings of ~~on-site~~ onsite renewable energy systems shall be one of the following:

1. Not less than 1.71 Btu/h per square foot (5.4 W/m<sup>2</sup>) or 0.50 watts per square foot (5.4 W/m<sup>2</sup>) of conditioned floor area.
2. Not less than 3 percent of the energy used within the building for building mechanical and service water heating equipment and lighting regulated in Chapter 4.

**Reason Statement:** The existing definition in IECC dates to the 2012 IECC. It was proposed by the team of New Buildings Institute, US Department of Energy and American Institute of Architects. It was one clause in a comprehensive overhaul of the 2009 IECC. When it was written in 2010, it was the first time that renewable energy had been defined in an I-code, and it reflected a very early understanding of a much less mature industry. It has not been revised significantly since.

This proposal does indeed update the language. It reflects both the existing IECC language, and a modified version of the language that has been deliberated by a diverse working group for over 6 months at ASRAE, and is pending (as of the time of submittal) at ASHRAE 90.1. The definition language reflects a better understanding of the shape and character of renewable energy sources. It disconnects the actual energy sources from the definition of on-site so those can be modified independently if necessary in future editions. The proposal also describes "hot fluid or steam heated within the earth" to make the distinction between geothermal energy sources and geothermal heat pumps. Since 90.1 is referenced as a compliance path in IECC, this revision will establish consistency between the two documents, and simplify compliance and enforcement of onsite renewable energy going forward.

The proposal also corrects Section C406.5 by italicizing "on-site renewable energy".

**Bibliography:** Addendum *by* to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings; ASHRAE, January 2018. (pending at the time of submittal)

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction

This proposal is a definition of renewable energy that will not have an impact on construction costs. The modification of the definition only applies to the fuel used in the building after occupancy.