

commercial renewable definition 2

IECC: (New)

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2018 International Energy Conservation Code

Add new text as follows:

ON-SITE RENEWABLE ENERGY. Energy derived from solar radiation, wind, waves, tides, *biomass gas*, *biomass waste* or extracted from hot fluid or steam heated within the earth. The energy system providing on-site renewable energy shall be located on the *building site*.

BIOMASS WASTE. Organic non-fossil material of biological origin that is a byproduct or a discarded product. Biomass waste includes municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural crop byproducts, straw, and other biomass solids, liquids, and gases; but excludes wood and wood-derived fuels (including black liquor), biofuels feedstock, biodiesel, and fuel ethanol.

BIOMASS GAS. A medium Btu gas containing methane and carbon dioxide, resulting from the action of microorganisms on organic materials such as a landfill.

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 significantly revised since.

This proposal does indeed update the language by further refining biomass energy sources with terms that were not available at the time it was drafted in 2010. Revised language makes the proper distinction between geothermal energy sources and geothermal heat pumps. The revision also limits the biomass sources to those that meet specifications as waste products. There are many flavors of biomass energy, but this proposal ensures that virgin material of unknown origin is not used as a steady source of energy, which in the provisions of C406 is a trade-off for energy efficiency features of the building. The definitions of *biomass gas* and *biomass waste* are taken from the glossary of the Energy Information Administration.

This proposal does not restrict the geographic sourcing of the waste material, but it does ensure that the system converting the fuel is located on the building site.

Bibliography: U.S. Energy Information Administration Glossary; <https://www.eia.gov/tools/glossary/>

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 only to the fuel used after occupancy.