

CE21-19

IECC: C202(New), C202

Proposed Change as Submitted

Proponents: jim edelson, representing New Buildings Institute (jim@newbuildings.org)

2018 International Energy Conservation Code

SECTION C202 GENERAL DEFINITIONS

Add new definition as follows:

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

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.

Revise as follows:

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

Reason: 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.

This proposal impacts and clarifies only the "landfill gas, biogas and biomass" terms in the on-site renewable definition. It is independent of another proposal to restructure and revise other terms in the same definition.

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.

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Public Hearing Results

Errata: This proposal includes published errata

Go to <https://www.iccsafe.org/wp-content/uploads/Group-B-Consolidated-Monograph-Updates.pdf>.

Committee Action:

Disapproved

Committee Reason: The definition may conflict with state and federal rules on these topics. CE31-19 adequate addresses the topic. (Vote 15-0)

Assembly Action:

None

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Individual Consideration Agenda

Public Comment 1:

IECC@: 202, (New)

Proponents:

jim edelson, representing New Buildings Institute (jim@newbuildings.org)

requests As Modified by Public Comment

Modify as follows:

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ON-SITE RENEWABLE ENERGY. Energy derived from solar radiation, wind, waves, tides, ~~biomass gas, biogas,~~ 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~~ project site.

BIOMASS GAS. ~~A medium Btu gas containing methane and carbon dioxide, resulting from the action of microorganisms on organic materials such as a landfill mixture of hydrocarbons that is a gas at 60 degrees Fahrenheit and 1 atmosphere of pressure that is produced through the anaerobic digestion of organic matter.~~

BIOMASS WASTE. Non-fossilized and biodegradable organic material originating from plants, animals and/or micro-organisms, including products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material. ~~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.~~

Commenter's Reason: The existing definition of onsite renewable energy in IECC dates back to the 2012 IECC. It does not provide any qualifications for two generic terms in the definition – biomass and biogas. The proposed definitions are taken from U.S. Government sources. Adding these definitions will provide projects and code officials clear guidance for determining what qualifies as biomass and biogas for the purposes of IECC compliance.

Bibliography: U.S. Code of Federal Regulations; 40 CFR § 80.1401 - Definitions

U.S. Environmental Protection Agency; <https://www3.epa.gov/carbon-footprint-calculator/tool/definitions/biomass.html>

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction

“As this public comment only clarifies the proposed definitions and clarifications do not affect material or labor costs, thus the net effect of both the public comment and the proposal will not impact the cost of construction.”

Public Comment# 2085