

# Modify Appendix CC (2341)

IECC: SECTION 202, CC103.1, SECTION CC103, TABLE CC103.2, CC103.2.1, CC103.3.1, CC103.3.2, CC103.3.3, SECTION 202 (New)

**Proponents:** Gary Heikkinen, Gary W Heikkinen Energy Consulting, American Gas Association (gary.heikkinen@nwnatural.com)

## 2024 International Energy Conservation Code [CE Project]

**GREEN RETAIL PRICING.** A program by the retail ~~electricity~~ energy provider to provide 100 percent renewable energy to the building project *owner*.

**OFF-SITE RENEWABLE ENERGY SYSTEM.** A renewable energy system that serves the building project and is not an on-site renewable energy system, including contracted purchases of renewable energy and renewable energy certificates (RECs) or renewable thermal certificates (RTCs).

**RENEWABLE ENERGY INVESTMENT FUND (REIF).** A fund established by a jurisdiction to accept payment from building project owners to construct or acquire interests in qualifying renewable energy systems, together with their associated RECS or RTCs, on the building project owner's behalf.

**RENEWABLE ENERGY SYSTEM.** Photovoltaic, solar thermal, geothermal energy extracted from hot fluid or steam, wind, biomass waste or other *approved* systems used to generate renewable energy.

**New Subdefinition.**

**CC103.1 Renewable energy.** On-site renewable energy systems shall be installed, or adjusted off-site renewable energy shall be procured to meet the minimum renewable energy requirement in accordance with Equation CC-1.

$$RE_{on-site} + RE_{off-site} \geq RE_{min}$$

**Equation CC-1**

where:

$RE_{on-site}$  = Annual site energy production from on-site renewable energy systems, including installed on-site renewable energy systems used for compliance with Sections ~~C405.13.1~~ C405.15.1 and C406.

$RE_{off-site}$  = Adjusted annual site energy production from off-site renewable energy systems that is permitted to be credited against the minimum renewable energy requirement. This includes off-site renewable energy purchased for compliance with Section ~~C405.13.2~~ C405.15.2

$RE_{min}$  = Minimum renewable energy requirement.

When Section C401.2.1 is used for compliance with the *International Energy Conservation Code*, the minimum renewable energy requirement shall be determined by multiplying the gross conditioned floor area plus the gross semiheated floor area of the proposed building by the prescriptive renewable energy requirement from Table CC103.1. An area-weighted average shall be used for mixed-use buildings.

When Section C401.2.1, Item 2 or Section C401.2.2 is used for compliance with the *International Energy Conservation Code*, the minimum renewable energy requirement shall be equal to the building energy as determined from energy simulations.

## SECTION CC103 MINIMUM RENEWABLE ENERGY

**TABLE CC103.2 PROCUREMENT FACTORS FOR RENEWABLE ENERGY SYSTEM COMPLIANCE ALTERNATIVES**

| ON-SITE RENEWABLE ENERGY   | PROCUREMENT FACTOR          |                           |
|--|-----------------------------|---------------------------|
|  | Unbundled RECs              | Other Procurement Methods |
| 7.5 W/ft <sup>2</sup> of roof area or more or where one or more of Exceptions 1, 2 and 3 to Section C405.15.1 are satisfied. | <del>0.20</del> <u>0.33</u> | 1.0                       |
| Less than 7.5 W/ft <sup>2</sup> of roof area and none among Exceptions 1, 2 and 3 to Section C405.15.1 is satisfied.         | <del>0.20</del> <u>0.33</u> | 0.75                      |

For SI: 1 watt per square foot = W/0.0929 m<sup>2</sup>.

W = Watts.

**CC103.2.1 Renewable energy certificates.** Renewable energy certificates (RECs) associated with the on-site renewable energy system shall be assigned to the initial and subsequent building owner(s) for a cumulative period of not less than 15 years. The building owner(s) are permitted to transfer RECs to building tenants occupying the *building*.

**CC103.3.1 Off-site procurement methods.** One or more of the following off-site renewable energy procurement methods shall be used to comply with Section CC103.1:

1. Community renewables energy facility.
2. *Renewable energy investment fund.*
3. *Financial renewable energy ~~power~~ purchase agreement.*
4. *Direct ownership.*
5. *Direct access to wholesale market.*
6. Green retail pricing.
7. Unbundled Renewable Energy Certificates (RECs) or Renewable Thermal Certificates (RTCs).
8. *Physical renewable energy ~~power~~ purchase agreement.*

**CC103.3.2 Requirements for all procurement methods.** Off-site renewable energy systems and procurement methods used to comply with Section CC103.1 shall comply with all of the following:

1. The building *owner* shall sign a legally binding contract or other *approved* agreement to procure qualifying off-site renewable energy.
2. The procurement contract shall have duration of not less than ~~15~~ 5 years and shall be structured to survive a partial or full transfer of ownership of the property.
3. RECs or RTCs associated with the procured *off-site renewable energy* shall comply with the following requirements:
  - 3.1. The RECs or RTCs shall be retained or retired by or on behalf of the property *owner* or tenant for a period of not less than ~~15~~ 5 years.
  - 3.2. The RECs or RTCs shall be created within a 12-month period of use of the REC or RTC.
  - 3.3. The RECs or RTCs shall be from an ~~an~~ generating asset constructed not more than 5 years before the issuance of the certificate of occupancy.
4. The ~~generating~~ source shall be a renewable energy system.
5. The ~~generation~~ source shall be located where the energy can be delivered to the *building site* by any of the following:
  - 5.1. Direct connection to the off-site renewable energy facility.
  - 5.2. The local utility or distribution entity.
  - 5.3. An interconnected electrical or piping network where energy delivery capacity between the generator and the *building site* is available.
6. Records on ~~power~~ energy sent to or purchased by the building shall be retained by the building owner and made available for inspection by the code official upon request.

**CC103.3.3 Adjusted off-site renewable energy.** The process for calculating the adjusted *off-site renewable energy* is shown in Equation CC-2.

$$RE_{off-site} = PF_{NonRecs} \times RE_{NonRecs} + 0.20 \times RE_{Recs}$$

**Equation CC-2**

where:

$RE_{off-site}$  = Adjusted off-site renewable energy.

$PF_{NonRecs}$  = The renewable energy procurement factor for off-site renewable energy other than RECs or RTCs, in accordance with Section CC103.3.3.1.

$RE_{NonRecs}$  = Annual energy production for renewable energy procurement methods other than RECs or RTCs.

$RE_{Recs}$  = Annual energy production associated with unbundled RECs or RTCs..

**Add new definition as follows:**

**RENEWABLE THERMAL CERTIFICATE (RTC):** a market-based instrument that represents and conveys the environmental attributes of generating and using one dekatherm of renewable thermal energy for various fuel sources, including clean hydrogen, renewable natural gas (RNG/ Biomethane), Biogas and Combined Heat and Power.

**Reason:** This proposal expands and provides more options for customers to procure renewable energy by adding renewable fuels and Renewable Thermal Certificates. This also proposes to change the procurement factor for unbundled RECs and RTCs to be consistent with Addendum k to ASHRAE Std 90.1 regarding off-site renewable energy. More options will allow more buildings to comply with a net zero energy requirements.

**Cost Impact:** The code change proposal will neither increase nor decrease the cost of construction. Since the proposal deals primarily with off-site renewable energy procurement, there is no impact on the cost of construction.

**Cost Impact (Detailed):** The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

**Justification:**

Since this proposal deals primarily with off-site renewable energy procurement, there is no impact on the cost of construction.