2024 IECC

NBI has submitted public comments into the ICC process to advance the 2024 IECC. The proposed public comments cover a wide range of measures and improve the code by adding additional efficiency, clarifying requirements, and creating greater flexibility for code users and local jurisdictions. Learn more at newbuildings.org/code_policy/2024-iecc-national-model-energy-code-base-codes.

SECTION R103

CONSTRUCTION DOCUMENTS

Revise as follows:

R103.2.2 Solar-ready system. The construction documents shall provide details for dedicated roof area, structural design for roof dead and live load, and routing of conduit or pre-wiring from ~~solar-ready zone~~ *solar-ready zone* to electrical service panel or plumbing from ~~solar-ready zone~~ *solar-ready zone* to ~~service water heating~~ *service water heating* system.

SECTION R401

GENERAL

Revise text as follows:

R401.3 Certificate. A permanent certificate shall be completed by the builder or other approved party and posted on a wall in the space where the furnace is located, a utility room or an approved location inside the building. Where located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certification shall indicate the following:

8. Where a ~~solar-ready zone~~ *solar-ready zone* is provided, the certificate shall indicate the location, dimensions, and capacity reserved on the electrical service panel.

SECTION R404

ELECTRICAL POWER AND LIGHTING SYSTEMS

Add new text as follows:

R404.6 Renewable energy infrastructure. The building shall comply with the requirements of R404.6.1 or R404.6.2

R404.6.1 One- and two- family dwellings and townhouses. One- and two-family dwellings and townhouses shall comply with Sections R404.6.1.1 through R404.6.1.4.

Exceptions:

1. A dwelling unit with a permanently installed on-site renewable energy system.

2. A dwelling unit with a solar-ready zone area that is less than 500 square feet (46 m2) of roof area oriented between 110 degrees and 270 degrees of true north.
3. A dwelling unit with less than 500 square feet (46m2) of roof area oriented between 110 degrees and 270 degrees of true north.
4. Dwelling units where 50 percent of the solar-ready area is shaded from direct-beam sunlight by natural objects or by structures that are not part of the building for more than 2500 annual hours between 8:00 a.m. and 4:00 p.m.
5. A dwelling unit that complies with Appendix RC.
6. A dwelling unit with ~~a~~ an energy contract r~~enewable energy power purchase agreement~~ with a duration of not less than 15 years from a renewable electricity generator ~~utility and a community renewable energy facility~~ and for not less than 80 percent of the estimated whole-building electric use on an annual basis. The energy contract shall be procured with a method listed in Section C405.15.2.1(1) through C405.15.2.1(4) and shall be structured to survive a partial or full transfer of ownership of the building property. Documentation for the renewable energy purchased shall comply with Section R404.4.
7. A dwelling unit less than or equal to 1,500 square feet (139 m2) of living space floor area located above grade plane.

R404.6.1.1 (N1104.4.1.1) Solar-ready zone area. The total area of the ~~solar-ready zone~~ *solar-ready zone* shall not be less than 250 square feet (23.2 m) and shall be composed of areas not less than 5.5 feet (1676 mm) in one direction and not less than 80 square feet (7.4 m) exclusive of access or set back areas as required by the *International Residential Code*.

Exception: Dwelling units in townhouses three stories or less in height above grade plane and with a total floor area less than or equal to 2,000 square feet (186 m) per dwelling shall be permitted to have a ~~solar-ready zone~~ *solar-ready zone* area of not less than 150 square feet (14 m).

Reason:

The proposed amendment clarifies exception number 6 which allows a building that supplies 80% of their whole building electric use with off-site renewable energy to be exempt from solar-ready requirements in the residential code in the following way:

- The proposal cites a section in the commercial energy code which lists the four appropriate procurement methods for off-site renewable energy which include a physical power purchase agreement, virtual power purchase agreement, community renewable energy facility, or self-owned off-site renewable energy system.
- The proposal requires the contract survive a partial or full transfer of ownership.
- The proposal changes terminology to clarify the exception and introduces a pointer to Section R404.4 which requires that renewable energy credits created by the renewable energy used to comply with this exception must be retained or retired.

Finally, the proposal also fixes an editorial mistake that failed to italicize the defined term “solar-ready zone.”

NBI strongly believes that the solar-ready requirements are a new critical addition to the 2024 IECC. In 2020, 21% of the electricity used in the United States was sourced from renewable energy, primarily wind, an intermittent source of energy. [1] The Inflation Reduction Act of 2022 (IRA), which provides reliable tax credits for renewable energy until at least 2032, is estimated to double the deployment of renewable energy technology by making it more cost effective than ever. [2] This proposal requires residential construction to be solar-ready, which will support more reliable distributed energy generation and aligns with the incentives being provided in the IRA.

Requiring residential buildings to be solar-ready will:

1) Economically benefit individuals and communities by reducing retrofit costs as the country transitions towards a low-carbon economy;
2) Increase the resilience of communities during disruptions to centrally supplied power;
3) Reduce the impact of utility-scale renewables on critical wildlife habitat; and
4) Reduce building carbon emissions and improve air quality by ensuring that building's can easily install rooftop solar in the future.

In addition, this proposal will expand good paying jobs in one of the nation's fastest growing employment sectors. According to the Bureau of Labor Statistics, the two fastest growing occupations in the U.S. in 2019 were solar PV installers and wind turbine service technicians. [3] Because of the IRA, renewable energy manufacturers will be incentivized to locate their business in the U.S., and both renewable energy manufacturers and installers will be incentivized to provide good wages. This provision to require new residential buildings to be solar-ready will broaden and extend the IRA's positive impacts on the U.S. economy and positively impact our communities.

Bibliography:

[1] Renewables Became the Second-Most Prevalent U.S. Electricity Source in 2020 , U.S. Energy Information Administration, https://www.eia.gov/todayinenergy/detail.php?id=48896.

[2] Esposito, Daniel. "Inflation reduction act benefits: Clean Energy Tax Credits could double deployment." Forbes Magazine. 23 Aug. 2022, https://www.forbes.com/sites/energyinnovation/2022/08/23/inflation-reduction-act-benefits-clean-energy-tax-credits-could-double-deployment/?sh=6e7381c76727

[3] The National Solar Job Census 2020, Interstate Renewable Energy Council, May 2021,

Richardson, Jake. Solar and Wind Tech Are the Fastest Growing Jobs in US, Red, Green, and Blue, 28 Jan. 2019, http://redgreenandblue.org/2019/01/27/solar-wind-tech-fastest-growing-jobs-us/.