CE7-19 Part I

IECC: Part I: Section C101.3

IECC: Part II: Section R101.3(IRC N1101.2)

Proposed Change as Submitted

Proponents: Steven Rosenstock, Edison Electric Institute, representing Edison Electric Institute (srosenstock@eei.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IECC- COMMERCIAL COMMITTEE. PART II WILL BE HEARD BY THE IECC-RESIDENTIAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2018 International Energy Conservation Code

Revise as follows:

C101.3 Intent. This code shall regulate the design and construction of buildings for the effective use, conservation, production, and ~~conservation~~ storage of energy over the useful life of each building. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

Reason: Part I:
This proposal updates the intent to account for what is happening at commercial buildings in many parts of the US.

In Section C406.1, one of the options to comply with the "additional efficiency package options" is to add an on-site renewable energy **production** system in accordance with Section C406.5. Renewable energy production systems such as PV panels are a form of energy production, not energy conservation. As a result, the code is now starting to regulate energy production,
since there is a minimum requirement in C406.5, and this change should be reflected in the intent of the code.

Also, the growth of energy storage systems, both on the grid side as well as the customer side of the meter, is increasing rapidly. Energy storage systems can be used to help with on-site renewable energy production systems, grid-based renewable energy production systems, or both.

Utilities are now offering commercial customers incentives for installing energy storage systems. Here are links to 2 examples:

https://www.coned.com/en/save-money/rebates-incentives-tax-credits/rebates-incentives-tax-credits-for-commercial-industrial-buildings-customers/demand-management-incentives (for Con Edison in New York)

https://energycenter.org/sgip/incentives (for SDG&E in California)

As more buildings install renewable energy production systems and energy storage systems, code officials will need to be familiar with the requirements and enforce code requirements.

Part II:

This proposal updates the intent to show that the IECC is now starting to regulate energy production and energy stoage systems that are installed in new homes. This update is needed to account for trends in certain areas of the US.

For example, Appendix RB contains requirements for solar-ready provisions installed on single-family homes and townhouses. In Section 406, the Energy Rating Index Compliance Alternative, renewable energy production can be used to obtain a better score. Therefore, the code is now starting to regulate renewable energy production systems that are installed in residential facilities.

Renewable energy systems are a form of energy production, not building energy use. The production of renewable energy does not conserve the amount of energy a building or end-use system or appliance will use. The intent of the code should be updated to account for the recent code changes.

In addition, in California's Title 24, PV energy production systems are now required on new homes (with some exceptions). One of the options with this mandate is to include an on-site energy storage system in the home, as shown below:

From CA Title 24-2019:

"PV sizes from Equation 150.1-C may be reduced by 25 percent if installed in conjunction with a battery storage system. The battery storage system shall meet the qualification requirements specified in Joint Appendix JA12 and have a minimum capacity of 7.5 kWh."

Therefore, code officials will be enforcing the installation of on-site renewable energy production systems, along with the installation of on-site energy storage systems in some cases. This will in addition to enforcing the energy conservation requirements of the energy code.

Bibliography: Part I:
US DOE Better Buildings Program, *On-Site Energy Storage Decision Guide*, April 2017

https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/BB%20Energy%20Storage%20Guide.pdf

Part II:

California Energy Commission, "*2019 BUILDING ENERGY EFFICIENCY STANDARDS FOR RESIDENTIAL AND NONRESIDENTIAL BUILDINGS*", December 2018

https://www.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf

Cost Impact: The code change proposal will not increase or decrease the cost of construction
In this proposal, the requirements in the code are not being changed. This proposal only clarifies the intent of the energy code to account for what is already occurring in certain building energy codes.

CE7-19 Part I

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: **As Modified**

Committee Modification:

C101.3 Intent. This code shall regulate the design and construction of buildings for the effective use of energy, conservation of energy, production of energy, and storage of energy over the useful life of each building. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

Committee Reason: The original proposal text was found to be confusing. The modification clarifies that the focus of the intent is only energy; its effective use, conservation, production and storage. The proposal as modified simply speaks to existing provisions of the code which address all these aspects of energy conservation. This allows the use of renewable energy to be a clear intent of the code. (Vote: 8-7)

Assembly Action: **None**

CE7-19 Part I

Individual Consideration Agenda

Public Comment 1:

Proponents:
William Fay, representing Energy-Efficient Codes Coalition (bfay@ase.org); William Prindle, representing EECC (wprindle@icfi.com); Daniel Bresette, representing Alliance to Save Energy (dbresette@ase.org); Maureen Guttman, representing Building Codes Assistance Project (mguttman@bcapcodes.org); Harry Misuriello, American Council for an Energy-Efficient Economy, representing American Council for an Energy-Efficient Economy (misuriello@verizon.net)

requests Disapprove

Commenter's Reason: This proposal should be disapproved because it adds unnecessary and potentially confusing language to the Intent section of the IECC, which will also distract from the primary purpose of the code -- specifically “the use and conservation of energy.”
The IECC-Residential Committee recommended that CE7 Part 2 be disapproved because it was concerned that “production” of energy was not

defined and could be read in a way that expands the scope of the IECC well beyond the building site. The current language, which focuses on the effective use and conservation of energy over the useful life of the building, maintains the proper focus on the building itself and on use and conservation, not production and storage of energy. Just as the code does not list other measures affecting the use and conservation of energy, it should not specifically call out energy production and storage, which would overemphasize what are, at best, secondary considerations.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction
No change to code.

Public Comment# 1432

CE7-19 Part II

IECC: R101.3 (IRC N1101.2)

Proposed Change as Submitted

Proponents: Steven Rosenstock, representing Edison Electric Institute (srosenstock@eei.org)

2018 International Energy Conservation Code

Revise as follows:

R101.3 (IRC N1101.2) Intent. This code shall regulate the design and construction of *buildings* for the effective use , conservation, production, and ~~conservation~~ storage of energy over the useful life of each building. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

Reason: Part I:
This proposal updates the intent to account for what is happening at commercial buildings in many parts of the US.

In Section C406.1, one of the options to comply with the "additional efficiency package options" is to add an on-site renewable energy **production** system in accordance with Section C406.5. Renewable energy production systems such as PV panels are a form of energy production, not energy conservation. As a result, the code is now starting to regulate energy production,
since there is a minimum requirement in C406.5, and this change should be reflected in the intent of the code.

Also, the growth of energy storage systems, both on the grid side as well as the customer side of the meter, is increasing rapidly. Energy storage systems can be used to help with on-site renewable energy production systems, grid-based renewable energy production systems, or both.

Utilities are now offering commercial customers incentives for installing energy storage systems. Here are links to 2 examples:

https://www.coned.com/en/save-money/rebates-incentives-tax-credits/rebates-incentives-tax-credits-for-commercial-industrial-buildings-customers/demand-management-incentives (for Con Edison in New York)

https://energycenter.org/sgip/incentives (for SDG&E in California)

As more buildings install renewable energy production systems and energy storage systems, code officials will need to be familiar with the requirements and enforce code requirements.

Part II:

This proposal updates the intent to show that the IECC is now starting to regulate energy production and energy stoage systems that are installed in new homes. This update is needed to account for trends in certain areas of the US.

For example, Appendix RB contains requirements for solar-ready provisions installed on single-family homes and townhouses. In Section 406, the Energy Rating Index Compliance Alternative, renewable energy production can be used to obtain a better score. Therefore, the code is now starting to regulate renewable energy production systems that are installed in residential facilities.

Renewable energy systems are a form of energy production, not building energy use. The production of renewable energy does not conserve the amount of energy a building or end-use system or appliance will use. The intent of the code should be updated to account for the recent code changes.

In addition, in California's Title 24, PV energy production systems are now required on new homes (with some exceptions). One of the options with this mandate is to include an on-site energy storage system in the home, as shown below:

From CA Title 24-2019:

"PV sizes from Equation 150.1-C may be reduced by 25 percent if installed in conjunction with a battery storage system. The battery storage system shall meet the qualification requirements specified in Joint Appendix JA12 and have a minimum capacity of 7.5 kWh."

Therefore, code officials will be enforcing the installation of on-site renewable energy production systems, along with the installation of on-site energy storage systems in some cases. This will in addition to enforcing the energy conservation requirements of the energy code.

Bibliography: Part I:
US DOE Better Buildings Program, *On-Site Energy Storage Decision Guide*, April 2017

https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/BB%20Energy%20Storage%20Guide.pdf

Part II:

California Energy Commission, "*2019 BUILDING ENERGY EFFICIENCY STANDARDS FOR RESIDENTIAL AND NONRESIDENTIAL BUILDINGS*", December 2018

https://www.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf

Cost Impact: The code change proposal will not increase or decrease the cost of construction
In this proposal, the requirements in the code are not being changed. This proposal only clarifies the intent of the energy code to account for what is already occurring in certain building energy codes.

CE7-19 Part II

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 committee concluded that this proposal did not improve the intent statement. They were concerned about the term 'production' which is not defined. The code does not regulate production of power by power utilities. The committee speculated on other terms than production but did not suggest a solution. (Vote: 7-4)

Assembly Action: **None**

CE7-19 Part II

Individual Consideration Agenda

Public Comment 1:

IECC®: R101.3 (IRC N1101.2)

Proponents:
Steven Rosenstock, representing Edison Electric Institute (srosenstock@eei.org)

requests As Modified by Public Comment

Modify as follows:

2018 International Energy Conservation Code

R101.3 (IRC N1101.2) Intent. This code shall regulate the design and construction of *buildings* for the effective use of energy, conservation of energy, production of energy, and storage of energy over the useful life of each building. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

Commenter's Reason: This modification will improve the language by making the intent consistent with the language that was approved for the commercial energy code in CE7-19, Part I. The modified language means the effective use, conservation, production, and storage of energy at the building or building site, not upstream or off-site.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction
This change to the intent has no new code requirements, and will not have any impact on the cost of construction.

Public Comment# 1288