

Summary

Board Bill Number 146

Sponsored by Alderwoman Heather Navarro

Date: November 8, 2019

This bill will require that new residential, multifamily and commercial construction be Solar-Ready. The definition of Solar-Ready for this bill is solely defined as designing and constructing a building in a way that facilitates and optimizes the installation of a rooftop solar photovoltaic (PV) system during construction. Ordinance 70799 will be amended by adopting and incorporating into the International Energy Conservation Code of the City of St. Louis Appendix RA (residential) and Appendix CA (commercial) from the 2018 International Energy Conservation Code. All the sections from Appendix CA and Appendix RA will be adopted in entirety. Physical requirements imposed by this bill for a Solar-Ready building in the City of St. Louis, MO shall include a minimum solar-ready zone area free from obstructions sized per requirements in Appendix RA and Appendix CA. The bill will require the new construction permit applicant to submit roof load design calculations, conduit sizing and routing, Solar-Ready reserved electrical service panel space and construction document certification must be provided to the building division, as required in the Appendices.

This bill will empower the community at-large to reduce the cost of adding solar power to their building if they decide to do so in the future. Additionally, this will also make buildings subject to this law highly desirable in the future, as solar power installation costs continue to fall year over year.

ORDINANCE 71063

BOARD BILL NUMBER 146 INTRODUCED BY ALDERWOMAN HEATHER NAVARRO/PRES. LEWIS REED/ALDERWOMAN MEGAN GREEN/ALDERMAN DAN GUENTHER/ALDERWOMAN CARA SPENCER/ALDERWOMAN ANNIE RICE/ALDERMAN BRET NARAYAN/ALDERWOMAN BETH MURPHY/ALDERMAN JESSE TODD/ALDERWOMAN SHARON TYUS/ALDERMAN SHANE COHN/ALDERWOMAN PAM BOYD/ALDERMAN JOE VACCARO/ALDERWOMAN MARLENE DAVIS

1 An Ordinance to amend the 2018 International Energy Conservation Code; and containing a
2 severability clause, savings clause, and an effective date.

3 **BE IT ORDAINED BY THE CITY OF ST. LOUIS AS FOLLOWS:**

4 **SECTION ONE. AMENDMENT.** Ordinance 70799, approved July 6, 2018, which adopted
5 the 2018 International Energy Conservation Code, is hereby amended by the addition of Appendix CA
6 (Solar Ready Zone – Commercial) and Appendix RA (Solar Ready Zone –Residential). These
7 Appendices are attached as Exhibit A, and are incorporated by reference into the International Energy
8 Conservation Code of the City of St. Louis.

9 **SECTION TWO. SEVERABILITY.** If a section, subsection, sentence, clause, or
10 phrase of this code is for any reason held to be unconstitutional, such decision shall not affect the
11 validity of the remaining portions of this code.

12 **SECTION THREE. SAVINGS CLAUSE.** That nothing in this Ordinance or in the
13 Energy Conservation Code hereby adopted shall be construed to affect any suit or proceeding
14 impending in any court, or any rights acquired, or liability incurred, or any cause or causes of

1 action acquired or existing under any act or ordinance hereby repealed as cited in Section Two of
2 this Ordinance; nor shall any just or legal right or remedy of any character be lost, impaired, or
3 affected by this ordinance.

4 **SECTION FOUR. EFFECTIVE DATE.** Thirty calendar days after signage by the
5 Mayor, this amendment to Ordinance 70799 becomes effective immediately.

6 **SECTION FIVE. CODIFIED.** It is the intent of the Board of Aldermen that Section
7 One of this ordinance be codified in the Revised Code of the City of Saint Louis, in Chapter 25.13
8 – ENERGY CONSERVATION CODE.

BOARD BILL NUMBER 146

FISCAL NOTE

Preparer's Name: **Maurice K. Muia**

Phone Number or Email Address (will be available publicly) **_muiam@stlouis-mo.gov_**

Bill Sponsor **Alderwoman Heather Navarro**

Bill Synopsis:	Adoption of the 2018 IECC Appendix RA and Appendix CA to the existing City of St. Louis International Energy Conservation Code to make new construction in the City of St. Louis Solar-Ready as required in the appendices
Type of Impact:	Basic training for building inspectors and is part of the existing plan review process
Agencies Affected:	Building Division

SECTION A

Does this bill authorize:

- An expansion of services which entails additional costs beyond that approved in the current adopted city budget? Yes No.
- An undertaking of a new service for which no funding is provided in the current adopted city budget? Yes No.
- A commitment of city funding in the future under certain specified conditions? Yes No.
- An issuance of bonds, notes and lease-purchase agreements which may require additional funding beyond that approved in the current adopted city budget? Yes No.
- An execution or initiation of an activity as a result of federal or state mandates or requirements? Yes No.
- A capital improvement project that increases operating costs over the current adopted city budget? Yes No.

- A capital improvement project that requires funding not approved in the current adopted city budget or that will require funding in future years? Yes No.

If the answer is yes to any of the above questions, then a fiscal note must be attached to the board bill. Complete Section B of the form below.

SECTION B

- Does the bill require the construction of any new physical facilities? Yes No.

- If yes, describe the facilities and provide the estimated cost:

- Is the bill estimated to have a direct fiscal impact on any city department or office? Yes No.

- If yes, explain the impact and the estimated cost:

- Does the bill create a program or administrative subdivision? Yes No.

- If yes, then is there a similar existing program or administrative subdivision? Yes No.

- If yes, explain the how the proposed programs or administrative subdivisions may overlap:

- Describe the annual operating, equipment, and maintenance costs that would result from the proposed bill, as well as any funding sources:

Complete the chart below to list the total estimated expenditures required of the City resulting from the proposed board bill and any estimated savings or additional revenue.

Financial Estimate of Impact on General Fund			
Fiscal Impact	<u>Year 1 (current)</u>	<u>Year 2</u>	<u>Year 3</u>
Additional Expenditures	0	0	0
Additional Revenue	0	0	0
Net	0	0	0
Financial Estimate of Impact on Special Funds			
Fiscal Impact	<u>Year 1 (current)</u>	<u>Year 2</u>	<u>Year 3</u>
Additional Expenditures	0	0	0
Additional Revenue	0	0	0
Net	0	0	0

- Describe any assumptions used in preparing this fiscal note:

- List any sources of information (including any City officials, agencies, or departments) used in preparing this fiscal note:
 Frank Oswald, City of St. Louis Building Commissioner, has informed the Office of the Mayor through this communication that a fiscal note is not necessary since there is no additional cost to the City of St. Louis, MO upon the passage of this legislation.

- Have the financial estimates of this bill been verified by the City Budget Division?
 ____Yes __X__No.
 - If yes, by whom? _____ .

APPENDIX CA

SOLAR-READY ZONE—COMMERCIAL

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

User note:

About this appendix: Appendix CA is intended to encourage the installation of renewable energy systems by preparing buildings for the future installation of solar energy equipment, piping and wiring.

SECTION CA101 SCOPE

CA101.1 General. These provisions shall be applicable for new construction where solar-ready provisions are required.

SECTION CA102 GENERAL DEFINITION

SOLAR-READY ZONE. A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system.

SECTION CA103 SOLAR-READY ZONE

CA103.1 General. A solar-ready zone shall be located on the roof of buildings that are five stories or less in height above grade plane, and are oriented between 110 degrees and 270 degrees of true north or have low-slope roofs. Solar-ready zones shall comply with Sections CA103.2 through CA103.8.

Exceptions:

1. A building with a permanently installed, on-site renewable energy system.
2. A building with a solar-ready zone that is shaded for more than 70 percent of daylight hours annually.
3. A building where the licensed design professional certifies that the incident solar radiation available to the building is not suitable for a solar-ready zone.
4. A building where the licensed design professional certifies that the solar zone area required by Section CA103.3 cannot be met because of extensive rooftop equipment, skylights, vegetative roof areas or other obstructions.

CA103.2 Construction document requirements for a solar-ready zone. Construction documents shall indicate the solar-ready zone.

CA103.3 Solar-ready zone area. The total solar-ready zone area shall be not less than 40 percent of the roof area calculated as the horizontally projected gross roof area less the area covered by skylights, occupied roof decks, vegetative roof areas and mandatory access or set back areas as required by the *International Fire Code*. The solar-ready zone shall be a single area or smaller, separated sub-zone areas. Each sub-

zone shall be not less than 5 feet (1524 mm) in width in the narrowest dimension.

CA103.4 Obstructions. Solar ready zones shall be free from obstructions, including pipes, vents, ducts, HVAC equipment, skylights and roof-mounted equipment.

CA103.5 Roof loads and documentation. A collateral dead load of not less than 5 pounds per square foot (5 psf) (24.41 kg/m²) shall be included in the gravity and lateral design calculations for the solar-ready zone. The structural design loads for roof dead load and roof live load shall be indicated on the construction documents.

CA103.6 Interconnection pathway. Construction documents shall indicate pathways for routing of conduit or piping from the solar-ready zone to the electrical service panel or service hot water system.

CA103.7 Electrical service reserved space. The main electrical service panel shall have a reserved space to allow installation of a dual-pole circuit breaker for future solar electric installation and shall be labeled "For Future Solar Electric." The reserved space shall be positioned at the end of the panel that is opposite from the panel supply conductor connection.

CA103.8 Construction documentation certificate. A permanent certificate, indicating the solar-ready zone and other requirements of this section, shall be posted near the electrical distribution panel, water heater or other conspicuous location by the builder or registered design professional.

APPENDIX RA

SOLAR-READY PROVISIONS—DETACHED ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

User note:

About this appendix: *Harnessing the heat or radiation from the sun's rays is a method to reduce the energy consumption of a building. Although Appendix RA does not require solar systems to be installed for a building, it does require the space(s) for installing such systems, providing pathways for connections and requiring adequate structural capacity of roof systems to support the systems.*

SECTION RA101 SCOPE

RA101.1 General. These provisions shall be applicable for new construction where solar-ready provisions are required.

SECTION RA102 GENERAL DEFINITION

SOLAR-READY ZONE. A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system.

SECTION RA103 SOLAR-READY ZONE

RA103.1 General. New detached one- and two-family dwellings, and townhouses with not less than 600 square feet (55.74 m²) of roof area oriented between 110 degrees and 270 degrees of true north shall comply with Sections RA103.2 through RA103.8.

Exceptions:

1. New residential buildings with a permanently installed on-site renewable energy system.
2. A building with a solar-ready zone that is shaded for more than 70 percent of daylight hours annually.

RA103.2 Construction document requirements for solar-ready zone. Construction documents shall indicate the solar-ready zone.

RA103.3 Solar-ready zone area. The total solar-ready zone area shall be not less than 300 square feet (27.87 m²) exclusive of mandatory access or set back areas as required by the *International Fire Code*. New 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 (185.8 m²) per dwelling shall have a solar-ready zone area of not less than 150 square feet (13.94 m²). The solar-ready zone shall be composed of areas not less than 5 feet (1524 mm) in width and not less than 80 square feet (7.44 m²) exclusive of access or set back areas as required by the *International Fire Code*.

RA103.4 Obstructions. Solar-ready zones shall be free from obstructions, including but not limited to vents, chimneys, and roof-mounted equipment.

RA103.5 Roof load documentation. The structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.

RA103.6 Interconnection pathway. Construction documents shall indicate pathways for routing of conduit or plumbing from the solar-ready zone to the electrical service panel or service hot water system.

RA103.7 Electrical service reserved space. The main electrical service panel shall have a reserved space to allow installation of a dual pole circuit breaker for future solar electric installation and shall be labeled "For Future Solar Electric." The reserved space shall be positioned at the opposite (load) end from the input feeder location or main circuit location.

RA103.8 Construction documentation certificate. A permanent certificate, indicating the solar-ready zone and other requirements of this section, shall be posted near the electrical distribution panel, water heater or other conspicuous location by the builder or registered design professional.

1 **ORDINANCE NO. 70799**

2 **BOARD BILL NO. 58 INTRODUCED BY ALDERMAN TERRY KENNEDY**

3 **ALDERWOMAN CHRISTIAN INGRASSIA**

4 An Ordinance adopting the 2018 International Energy Conservation Code with
5 amendments; repealing Ordinance 68792; and containing a penalty clause, severability
6 clause, savings clause, and emergency clause.

7 **BE IT ORDAINED BY THE CITY OF SAINT LOUIS AS FOLLOWS:**

8 **SECTION ONE. REPEAL.** Ordinance 68792, approved November 8, 2010,
9 which adopted the 2009 International Energy Conservation Code, is hereby repealed.

10 **SECTION TWO. ADOPTION.** The 2018 International Energy Conservation
11 Code as published by the International Code Council, Inc., one copy of which is on file in the
12 Office of the Register of the City of Saint Louis, being marked and designated as the
13 International Energy Conservation Code, is hereby adopted as the Energy Conservation Code
14 of the City of Saint Louis, in the State of Missouri, pursuant to this Ordinance and in
15 conformity with Section 71.943 RSMo; and that each and all of the regulations, provisions,
16 penalties, conditions, and terms of said Energy Conservation Code are hereby referred to,
17 adopted, and made a part hereto as if fully set out in this Ordinance with the amendments
18 prescribed in Section Three of this Ordinance. If differences occur between a provision
19 modified by this Ordinance and a provision adopted without modification, then the modified
20 provision shall control.

21

1 **SECTION THREE. AMENDMENTS.** The 2018 International Energy
2 Conservation Code is amended and changed in the following respects:

3 **CHAPTER 1 IS AMENDED AS FOLLOWS:**

4 Change Section C101.1 to read as follows:

5 **C101.1 Title.** These regulations shall be known as the Energy Conservation Code of the
6 City of Saint Louis, hereafter referred to as “this code.”

7 **CHAPTER 2 IS AMENDED AS FOLLOWS:**

8 Change Section C201.3 to read as follows:

9 **C201.3 Terms defined in other codes.** Terms that are not defined in this code but are
10 defined in the Building Code, the Fire Code, the Fuel Gas Code, the Mechanical Code, the
11 Residential Code, or the Plumbing Code shall have the meanings ascribed to them in those
12 codes.

13 **CHAPTER 5 IS AMENDED AS FOLLOWS:**

14 Change Section C501.4 to read as follows:

15 **C501.4 Compliance.** Alterations, repairs, additions and changes of occupancy to, or
16 relocation of, existing buildings and structures shall comply with the provisions for

1 alterations, repairs, additions and changes of occupancy or relocation, respectively, in this
2 code and in the Building Code, the Existing Building Code, the Fire Code, the Fuel Gas
3 Code, the Mechanical Code, the Property Maintenance Code, the Residential Code, the
4 Plumbing Code and NFPA 70.

5

6 **CHAPTER 6 IS AMENDED AS FOLLOWS:**

7 Modify Chapter 6 by adding the following:

8 **IAPMO** International Association of Plumbing and Mechanical Officials
9 5001 E. Philadelphia Street
10 Ontario, CA 91761-2816

11 **UPC-14- Uniform Plumbing Code**
12 C201.3, C501.4

13 **CHAPTERS R1-R6 ARE AMENDED AS FOLLOWS:**

14 Delete Residential Provisions, Chapters R1-R6. Refer to the Residential Code for One-
15 and Two-Family Dwellings.

16 **SECTION FOUR. PENALTY CLAUSE.** Any person who shall violate a
17 provision of this code or shall fail to comply with any of the requirements thereof, or who
18 shall erect, construct, alter, extend, repair, remove, demolish, use, or occupy any building,
19 structure, premises, or equipment regulated by this code in violation of an approved
20 construction document or directive of the building official or the Board of Building Appeals,
21 or of a permit or certificate issued under the provisions of this code, and shall, upon
22 conviction thereof, be punished by a fine of not more than \$500, or by imprisonment not

1 exceeding 90 days, or both such fine and imprisonment. Each day that a violation continues
2 shall constitute a separate and distinct offense.

3 **SECTION FIVE. SEVERABILITY.** If a section, subsection, sentence, clause,
4 or phrase of this code is for any reason held to be unconstitutional, such decision shall not
5 affect the validity of the remaining portions of this code.

6 **SECTION SIX. SAVINGS CLAUSE.** That nothing in this Ordinance or in the
7 Energy Conservation Code hereby adopted shall be construed to affect any suit or proceeding
8 impending in any court, or any rights acquired, or liability incurred, or any cause or causes of
9 action acquired or existing under any act or ordinance hereby repealed as cited in Section
10 Two of this Ordinance; nor shall any just or legal right or remedy of any character be lost,
11 impaired, or affected by this ordinance.

12 **SECTION SEVEN. EMERGENCY CLAUSE.** This being an ordinance
13 necessary for the immediate preservation of the public safety, it is hereby declared to be an
14 emergency measure and shall become effective immediately upon its approval by the Mayor.

15 **SECTION EIGHT. CODIFIED.** It is the intent of the Board of Aldermen that
16 Sections Two, Three, and Four of this ordinance be codified in the Revised Code of the City
17 of Saint Louis.