
**SENATE COMMITTEE ON ENERGY, UTILITIES AND
COMMUNICATIONS**

**Senator Ben Hueso, Chair
2019 - 2020 Regular**

Bill No:	AB 178	Hearing Date:	6/18/2019
Author:	Dahle		
Version:	4/2/2019 As Amended		
Urgency:	No	Fiscal:	Yes
Consultant:	Nidia Bautista		

SUBJECT: Energy: building standards: photovoltaic requirements

DIGEST: This bill would exempt, until January 1, 2023, residential construction from complying with the solar requirements in the recently adopted building standards when the construction is in response to a disaster in an area in which a state of emergency has been proclaimed by the governor.

ANALYSIS:

Existing law:

- 1) Authorizes the State Energy Resources Conservation and Development Commission (CEC) to prescribe, by regulation, energy efficiency standards, including efficiency standards for new residential and new nonresidential buildings. Under this authority, the CEC has established regulations for the installation of photovoltaic systems meeting certain requirements for low-rise residential buildings built on or after January 1, 2020. (Public Resources Code §25402)
- 2) Requires the CEC to establish building design and construction standards that increase the efficiency in the use of energy and water for new residential and new nonresidential buildings. The CEC must periodically update the standards. Six months after the CEC certifies an energy conservation manual, cities, counties, and state agencies are prohibited from issuing a building permit for a building that does not comply with the current standards created by the CEC. (Public Resources Code §25402(a)(1))
- 3) Requires the CEC and the Department of Housing and Community Development to issue a joint finding that a building water efficiency standard is equivalent or superior in performance, safety, and for the protection of life, health, and general welfare to existing standards. The finding must also ensure that the standard does not unreasonably or unnecessarily impact Californians'

ability to purchase or rent affordable house by taking into account the overall benefit derived from the standard. (Public Resources Code §25402(a)(2))

- 4) Requires the CEC's building efficiency standards to be cost-effective when taken in their entirety and amortized over the economic life of the structure compared with historic practice. When determining cost-effectiveness, the CEC must consider the value of the water or energy saved, impact on product efficacy for the consumer, and the life-cycle cost of complying with the standard. The CEC must consider other relevant factors, including, but not limited to the standards' cost on house costs, the total statewide costs and benefits of the standard over its lifetime, economic impacts on California businesses, and alternative approaches and their associated costs. (Public Resources Code §25402(b)(3))
- 5) Requires electric utilities to procure 60 percent of their retail sales of electricity from renewable energy by 2030. This is known as the Renewable Portfolio Standard (RPS). (Public Utilities Code §399.11 et seq.)
- 6) Requires every electric utility (other than a local public owned utilities (POU) that serves more than 750,000 customers and that also conveys water to its customers) to offer net-energy metering (NEM) to eligible customer-generators, upon request, on a first-come-first-served basis until the total rated generating capacity used by eligible customer-generators exceeds five percent of the electric utility's aggregate customer peak demand. (Public Utilities Code §2827)
- 7) Directs the California Public Utilities Commission (CPUC) to develop a standard tariff or contract, known as the "successor tariff," for eligible customer-generators with a renewable electrical generation facility no later than December 31, 2015. Requires, for each large electrical corporation, using the successor tariff, to continue to offer NEM to its customers on July 1, 2017, or upon reaching the five-percent NEM program limit, whichever is earlier. (Public Utilities Code §2827.1)

This bill:

- 1) Authorizes, until January 1, 2023, specified residential construction intended to repair, restore, or replace a residential building damaged or destroyed as a result of a disaster in an area in which a state of emergency has been proclaimed by the governor, before January 1, 2020, from photovoltaic requirements, if any, that were in effect at the time the damaged or destroyed residential building was originally constructed and is not required to comply with any additional or

conflicting photovoltaic requirements in effect at the time of repair, restoration, or replacement.

- 2) Provides that the above provision applies if certain requirements are met with respect to the owner's income and insurance coverage and the location and square footage of the construction. Because a local agency would be required to determine whether those requirements are met, this bill would impose a state-mandated local program.

Background

California's building energy efficiency standards. California's building energy efficiency standards are updated on an approximate every three years cycle. In May of last year, the CEC adopted the 2019 Building Energy Efficiency Standards, which go into effect on January 1, 2020. The new standards are the first in the nation to require solar photovoltaic systems for new construction. The standards also include improved thermal building envelope standards (i.e., insulating the interior), residential and nonresidential ventilation requirements, and nonresidential lighting requirements. For residential buildings, according to the CEC, the standards will result in about 53 percent less energy use than under the 2016 standards. The CEC further estimates that the new standards will reduce greenhouse gas emissions by 700,000 metric tons over three years. CEC's energy efficiency standards are adopted by Building Standards Commission as part of the *California Building Standards Code*, which serves as the basis for building and construction in California. The CEC first adopted building energy efficiency standards in 1977. The CEC reports that the energy efficiency building standards have saved Californians billions of dollars since their first adoption, avoided the need for powerplants and transmission lines, and helped keep California's per-capita energy consumption flat.

Statute requires that CEC's standards must be "cost-effective." CEC estimates that based on a 30-year mortgage, the new standards will add about \$40 per month in costs and result in about \$80 per month in reduced energy costs. According to the CEC, on average, a solar system adds about \$9,500 to the cost of a new home and will result in a savings of \$19,000 in energy costs over 30 years. The up-front costs for solar have decreased over the past several years and many in the industry anticipate continued declines. CEC established a few exemptions to the new solar requirement. Primarily, homes that are shaded by trees, hills, other structures, etc. are not required to install solar. This may exclude a number of homes impacted by fires in wooded areas. Homeowners in areas with community solar programs are also exempt from the requirement. Additionally, reduced system size is permitted for low-rise residential with two stories and for low-rise multifamily or single-family homes with three or more stories.

Emergency declarations. Unfortunately, California has been no stranger to disasters in recent years. Within the past two years or so, the governor has made over 30 of declarations of emergency largely due to severe storms or fires which have affected all 58 of the state's counties, except Imperial County. This bill would apply to any home damaged or destroyed in a disaster in an area in which the governor has declared a state of emergency as of January 1, 2020.

The last two years of declarations include:

- a) February 21, 2019, issued for the counties of Calaveras, El Dorado, Humboldt, Los Angeles, Marin, Mendocino, Modoc, Mono, Monterey, Orange, Riverside, San Bernardino, San Diego, San Mateo, Santa Barbara, Santa Clara, Shasta, Tehama, Trinity, Ventura, and Yolo for “severe winter storms that may have caused flooding, mudslides, erosion, power outages, and damage to critical infrastructure.”
- b) November 30, 2018, issued for San Diego County due to the effects of the Pascual Fire.
- c) November 30, 2018, issued for Colusa County due to the effects of the Mendocino Complex Fire.
- d) November 30, 2018, issued for Shasta County due to the effects of the Delta Fire.
- e) November 9, 2018, issued for the counties of Los Angeles and Ventura due to the effects of the Hill and Woolsey Fires.
- f) August 9, 2018, issued for the counties of Orange and Riverside due to the effects of the Holy Fire.
- g) July 28, 2018, issued for the counties of Lake, Mendocino, and Napa due to the effects of the River, Ranch, and Steele Fires.
- h) July 26, 2018, issued for Mariposa County due to the effects of the Ferguson Fire.
- i) July 26, 2018, issued for the counties of Riverside and Shasta due to the effects of the Cranston and Carr Fires.
- j) July 24, 2018, issued for San Bernardino County due to the effects of a monsoonal rainstorm.
- k) July 7, 2018, issued for Santa Barbara County due to the effects of the Holiday Fire.

- l) July 6, 2018, issued for San Diego County due to the effects of the West Fire.
- m) July 5, 2018, issued for Siskiyou County due to the effects of the Klamathon Fire.
- n) June 25, 2018, issued for Lake County due to the Pawnee Fire.
- o) April 19, 2018, issued for the counties of Amador, Fresno, Kern, Mariposa, Merced, Stanislaus, Tulare, and Tuolumne due to “an atmospheric river event swept across California.”
- p) December 7, 2017, issued for Santa Barbara County due to the effects of the Thomas Fire.
- q) December 5, 2017, issued for Los Angeles County due to the effects of the Creek and Rye Fires.
- r) October 27, 2017, issued for the counties of Inyo and Mono due to severe winter storms.
- s) October 10, 2017, issued for Solano County due to the Atlas Fire.
- t) October 9, 2017, issued for the counties of Napa, Sonoma, and Yuba due to the effects of “multiple fires, including the Cherokee, LaPorte, Sulphur, Potter, Cascade, Lobo and Canyon Fires.”
- u) September 7, 2017, issued for the counties of Madera, Mariposa, and Tulare due to the effects of the Railroad, Pier, Mission, and Peak Fires.
- v) September 3, 2017, issued for Los Angeles County due to the effects of the La Tuna Fire.
- w) September 1, 2017, issued for Butte County due to the Ponderosa Fire.
- x) August 31, 2017, issued for Trinity County due to the effects of the Helena Fire.
- y) August 29, 2017, issued for Siskiyou County due to the effects of a series of rainstorms.
- z) August 2, 2017, issued for Modoc County due to the effects of several fires caused by lightning strikes.
- aa) August 1, 2017, issued for San Bernardino County due to a monsoonal rainstorm.

- bb) July 18, 2017, issued for Mariposa County due to the effects of the Detwiler Fire.
- cc) July 16, 2017, issued for Santa Barbara County due to the effects of the Alamo and Whittier Fires.
- dd) May 15 2017, issued for Mono County due to the effects of February winter storms.
- ee) April 28, 2017, issued for the counties of Inyo, Modoc, and Mono due to the effects of late January storms.
- ff) March 7, 2017, issued for the counties of Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kern, Kings, Lake, Lassen, Los Angeles, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tuolumne, Ventura, Yolo, Yuba, Contra Costa, Orange, Riverside, San Francisco, and Solano due to the effects of storms in January and February.
- gg) January 23, 2017, issued for the counties of Alameda, Alpine, Butte, Calaveras, Contra Costa, El Dorado, Fresno, Humboldt, Inyo, Kern, Kings, Lake, Lassen, Los Angeles, Madera, Marin, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Orange, Placer, Plumas, Sacramento, San Benito, San Bernardino, San Diego, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Ventura, Yolo, Yuba, and Del Norte due to the effects of severe winter storms.

Comments

Exemptions application. This bill would provide that homes that are being rebuilt due to a disaster will not be required to install the rooftop solar if one or more additional requirement is met, including: that the homeowner's income is below the county's average median income (AMI), the homeowner lacked code upgrade insurance coverage, the home is being built on the same plot as the home that was destroyed, or the size of the new home is the same as the destroyed home. With regards to the AMI, the California Department of Housing and Community Development establishes the annual state income limits. The AMI for each county varies, as an example the AMI for Butte County is \$62,200 for a four-person household and \$118,400 in Marin County. This bill would require the local building permit agency to account for these requirements. In the case of the size of

the home and whether the new home is on the same land as the destroyed home, the building permit agency could easily verify this information. However, in the case of the income and lack of insurance coverage for code upgrades, the building permit agency would likely need to provide a self-certification document for the resident to attest to the information.

Cost-effectiveness depends on many variables. As noted above, the costs of solar have been declining rather dramatically over the past ten years or so. Although in recent years the costs of rooftop solar installations have continued to decline, but much less precipitously than in years past. Their continued decline will depend on variables including national trade tariffs policy, marketing and permitting costs, and the costs of the labor and hardware. Most of the current decline in prices has been attributed to a decline in hardware costs. However, it is unclear whether the costs can continue to drop. It is widely assumed that solar installations on new residential construction can be less expensive as compared to on an existing home. However, these savings may be more limited if installed on individual new residential construction, not afforded the economies of scales of a housing development with multiple new homes. Additionally, savings from solar installations may also depend on the NEM tariffs afforded by the local utility which allow solar customers to sell excess energy to the grid, as well as any fees or charges on the systems. The NEM tariff rates have been declining in compensation from the original tariffs which were more generous as they were intended to help spur the solar market. Also, at least one utility is exploring solar specific charge to account for costs of the distribution and transmission system that the utility suggests are not equitably borne by solar customers. The original proposal included a \$40 per month grid charge, although the local POU has not officially adopted a charge, as many in the solar industry are publicly opposed to such a charge. Nonetheless, such a charge would greatly reduce the anticipated savings a solar system would provide per the CEC's calculations. Customers buying new homes would be straddled with these costs, even though they did not choose to have the solar system. Additionally, rooftop solar is still more expensive per kilowatt hour than grid-scaled solar, with rooftop solar more than two times the levelized cost of grid-scale solar.

Protecting victims. This bill attempts to reduce the burden on victims of disasters when they rebuild their homes. As the author notes, there have been numerous news reports concerning the increased costs to rebuild in a disaster area which can be affected by lack of adequate insurance coverage for the replacement value of the home and a tightened labor and construction supply market due to the increased demand in these areas. While the solar mandate may provide savings to the resident in the long term, the initial costs would increase the costs to rebuild by

about \$10,000 or more. As such, it seems reasonable to provide these victims with the option to forgo these costs as they attempt to rebuild their lives.

Prior/Related Legislation

AB 693 (Eggman, Chapter 582, Statutes of 2016) created the Multifamily Affordable Housing Solar Roofs Program, to provide financial incentives—up to \$100 million annually, for qualified solar installations at multifamily affordable housing properties funded from IOU greenhouse gas allowances.

AB 217 (Bradford and De León, Chapter 609, Statutes of 2013) extended the low-income programs of the California Solar Initiative from 2016 until 2021, authorizes the collection of an additional \$108 million for these programs, and adds additional standards to the program, as specified.

AB 327 (Perea, Chapter 611, Statutes of 2013) restructured the rate design for residential electric customers and revised the NEM program.

SB 1 (Murray, Chapter 132, Statutes of 2006) established the electric portion of the CSI with a 10-year budget of \$2.2 billion collected from ratepayers.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: Yes

SUPPORT:

California Association of Realtors
California Chamber of Commerce
Rural County Representatives of California
Southwest California Legislative Council

OPPOSITION:

Beyond Efficiency Inc.
Build It Green
Building Doctors
Carbon Free Palo Alto
Chico 350/New 350 Butte County
Design AVEnues LLC
EHDD
Environmental Entrepreneurs
Fossil Free California
Greenbank Associates

Guttman & Blaevoet Consulting Engineers
Interfaith Climate Action Network of Contra Costa County
Natural Resources Defense Council
Passive House California
ProjectGreenHome.org
Redwood Energy
Sierra Club California
Stone Energy Association
Sunnyvale COOL
Sunrun
Sustainable Silicon Valley
Vote Solar

ARGUMENTS IN SUPPORT: The author of the bill states:

California has seen some of the biggest fires in history the last few years where thousands of homes have been lost. With the high costs of rebuilding and many people being under insured or even uninsured, the new CEC mandate for mandatory solar which begins in 2020 will add upwards of \$15,000 to the cost of the home. Many people simply can't afford those extra expenses especially when they don't have anything to do with the structural integrity of the home. AB 178 will simply give a narrow exemption to people who lost their home due to a catastrophic event in an area declared a state of emergency by the Governor and if certain criteria are met. This exemption could mean the difference for people to be able to rebuild.

ARGUMENTS IN OPPOSITION: While expressing sympathy for victims who lost their homes in recent disasters, the opponents of this bill suggest that the exemption afforded by this bill is unnecessary as the CEC has ensured the solar mandate is cost effective in the long term and will provide savings to these homeowners.

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