
**SENATE COMMITTEE ON ENERGY, UTILITIES AND
COMMUNICATIONS**
Senator Ben Hueso, Chair
2021 - 2022 Regular

Bill No: SB 68 **Hearing Date:** 4/19/2021
Author: Becker
Version: 4/8/2021 Amended
Urgency: No **Fiscal:** Yes
Consultant: Nidia Bautista

SUBJECT: Building decarbonization

DIGEST: This bill proposes several changes to support customers' (and building owners') transition to electric vehicles (EV) and electric equipment for space and water heating, cooking, and others applications where electrical upgrades of the building and/or electric distribution system are needed. Most notably, this bill specifies timeframes by when electric investor-owned utilities (IOUs) must respond to applications from building owners for service upgrades and interconnections to the electrical system.

ANALYSIS:

Existing law:

- 1) Requires the State Energy Resources Conservation and Development Commission (CEC) to assess the potential for the state to reduce the emissions of greenhouse gases (GHG) from the state's residential and commercial building stock by at least 40 percent below 1990 levels by January 1, 2030. (Public Resources Code §25403)
- 2) Requires the CEC to develop and implement the Electric Program Investment Charge (EPIC) program to award moneys for projects that will benefit electricity ratepayers, lead to technological advancement and breakthroughs, and result in a portfolio of projects that is strategically focused and sufficiently narrow to make advancement on the most significant technological challenges, as specified. (Public Resources Code §25711)
- 3) Requires the California Public Utilities Commission (CPUC) to enforce rules governing the extension of service by electrical corporations. (Public Utilities Code §§399.2 and 783)
- 4) Authorizes the CPUC to establish an expedited distribution grid interconnection dispute resolution process to resolve disputes within 60 days, unless it

determines more time is needed. Specifies the elements to be included in the dispute resolution process and requires the CPUC to establish a technical panel, a review panel, and a public process for each dispute. (Public Utilities Code §769.5)

This bill:

- 1) Includes several findings and declarations regarding the intent to reduce barriers that impede building owners from electrifying their buildings or adding EV charging equipment as a means of accelerating the reduction of GHG emissions.
- 2) Requires the CEC to gather or develop, and publish on its internet guidance and best practices to help building owners, the construction industry, and local governments overcome barriers to electrification of buildings and installation of electrical vehicle charging equipment.
- 3) Authorizes the award of moneys under the EPIC program for projects that will benefit electricity ratepayers and lead to technologies that reduce the costs of building electrification.
- 4) Requires the CPUC to establish a timeframe within which an electrical corporation would be required to respond to requests from building owners for routine electrical service upgrades and a timeframe to respond to requests for extensions of electrical service or nonroutine electrical service upgrades.
- 5) Specifies that the timeframe established for requests to operate distributed energy generation or energy storage systems subject to a certain tariff is measured from the time when substantially completed copies of all required information has been provided to the electrical corporation until approval has been issued.
- 6) Requires each electrical corporation to publish certain information regarding the timeframes established by this bill and other information regarding electrical service upgrades on its internet website.
- 7) Requires, beginning January 1, 2023, each electrical corporation to report annually to the CPUC on the performance of the electrical corporation in meeting the timeframes described in the bill to include certain information.
- 8) Requires the electrical corporation to notify the building owner and the CPUC of the reasons for the failure and the expected completion date for requests for

which the electrical corporation failed to meet the timeframes, not including the timeframe established for requests to operate distributed energy generation or energy storage systems subject to a certain tariff.

- 9) Requires the CPUC to enforce the above-described provisions in the same manner as the Public Utilities Act, thereby, making violations of this statute a crime.

Background

SB 32 GHG goals. California must reduce statewide GHG emissions to a level 40 percent below 1990 levels by 2030, as adopted in SB 32 (Pavley, Chapter 249, Statutes of 2016). The state's Climate Change Scoping Plan outlines the path for California reaching the 2030 climate target, as well as, reducing GHG emissions 80 percent below 1990 levels by 2050.

Reducing emissions from the building sector. According to the California Air Resources Board (CARB), residential and commercial buildings are responsible for roughly 25 percent of California's GHG emissions when accounting for electricity demand, fossil fuels consumed onsite, and refrigerants. Of the 25 percent, roughly 10 percent of emissions are attributable to fossil fuel combustion, including natural gas, with residential buildings accounting for slightly more of those emissions than commercial buildings. However, CARB has noted that these emissions numbers can vary from year-to-year. There are several strategies that can be employed to reduce GHG emissions from the building sector, these include: improved energy efficiency of buildings and appliances, reducing carbon emissions from fossil fuel sources, ensuring cleaner sources of energy to operate buildings and associated appliances, addressing methane leaks, and others. CARB has noted that refrigerants used for space-cooling and refrigeration systems also contribute directly to building-related GHG emissions and these are a growing source of GHGs from buildings which must also be reduced. The Climate Change Scoping Plan identifies actions to reduce GHG emissions from the building sector, including progressively improving building codes and standards, pursuing voluntary efforts to exceed code requirements, and completing existing building retrofits.

CEC tasked to assess the potential for reducing GHGs from buildings. AB 3232 (Friedman, Chapter 373, Statutes of 2018) required the CEC by January 1, 2021, to develop an assessment of the feasibility of reducing the GHG emissions of California's buildings 40 percent below 1990 levels by 2030, working in consultation with the CPUC and other state agencies. The CEC has developed a draft of the report, primarily focused on the emissions sources and challenges with

quantifying these sources. The CEC has stated they anticipate finalizing the report by June or July 2021. AB 3232 appropriately, does not require specific actions to implement the plan. Rather, the results of the assessments required of the CEC are intended to help inform whether future policies have merit and are cost-effective to achieve the stated goal. It is important to note that AB 3232 only required a cost-effectiveness assessment addressing emissions from space and water heating, but not other applications, such as cooking.

New v. Existing Buildings. California energy efficiency policy related to buildings is based on savings of electricity measured in kilowatt hours and gas savings measured in therms. The policies have also distinguished between new construction and existing/older building stock (although building renovations do sometimes fall under new construction regulations).

SB 350 (De León, 2015). In 2015, the Legislature adopted SB 350 (De León, Chapter 547, Statutes of 2015). Primarily, SB 350 increased California's renewable energy procurement goal from 33 percent by 2020 to 50 percent by 2030. SB 350 also required the CEC to take specified actions to double the statewide energy efficiency savings in electricity and natural gas by January 1, 2030. In October 2017, the CEC adopted energy efficiency targets and subtargets to achieve the SB 350 goal in its report, SB 350: Doubling the Energy Efficiency Savings by 2030.

Energy Efficiency Building Action Plan. In 2019, the SB 350 energy efficiency goal was incorporated into the CEC's Energy Efficiency Building Action Plan, which provides a 10-year roadmap to activate market forces and transform California's existing residential, commercial, and public building stock into high-performing and energy-efficient buildings. The 2019 California Energy Efficiency Action Plan covers issues, opportunities, and savings estimates pertaining to energy efficiency in California's buildings, industrial, and agricultural sectors. The Action Plan is separated into three goals that drive energy efficiency: doubling energy efficiency savings by 2030, removing and reducing barriers to energy efficiency in low-income and disadvantaged communities, and reducing GHG emissions from the buildings sector.

Title 24. The CEC is required by statute to adopt energy efficiency building standards every three years that are cost-effective for occupants over the 30-year lifespan of a building. The standards ensure that builders use the most energy efficient technologies and construction, save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants and help preserve the environment. These measures (Title 24, Part 6) are listed in the California Code of Regulations. Since 1978, the standards have made

buildings more comfortable with lower energy costs. Cost-effectiveness is calculated by determining the energy savings associated with a more efficient building standard. Savings are calculated by multiplying cumulative savings in each year by the average residential or commercial electricity rates to determine savings over the life of the measure.

Energy efficiency. California's commitment to energy efficiency has resulted in many different efficiency programs across the state. The programs span a variety of sectors encompassing residential homes and commercial buildings, large and small appliances, lighting and HVAC, industrial manufacturers, and agriculture. Within those sectors, efficiency programs may use any number of different tools: financial incentives and rebates, research and development for energy efficiency technologies, financing mechanisms, codes and standards development, education and public outreach, marketing, and others. Each of these programs helps California be more energy efficient, and collectively, these programs result in significant reductions in California's GHG emissions. The IOU programs are funded by a small portion of electricity and gas rates included in customer bills, which provides over one billion dollars per year to fund energy efficiency programs. These ratepayer-funded energy efficiency programs are usually administered by the state's four IOUs: Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), San Diego Gas & Electric (SDG&E), and Southern California Gas Company (SoCal Gas). Some programs are administered by Marin Clean Electric (MCE) or through two "Regional Energy Networks" in the Bay Area and Southern California. All of the programs administered by these different entities are regulated by the CPUC to ensure they are meeting the goals and cost-effectiveness metrics the CPUC is statutorily required to set for the IOU efficiency portfolios. Publicly owned utilities (POU) are also required to report to the CEC a description of each energy efficiency and demand reduction program they administer, including: program expenditures, the cost-effectiveness of each program, and expected and actual energy efficiency savings and demand reduction results from providing service to existing residential and nonresidential buildings, while taking into consideration the effect of the program on rates, reliability, and financial resources.

BUILD and TECH. SB 1477 (Stern, Chapter 378, Statutes of 2018) directed the CPUC to develop, in consultation with the CEC, two programs (BUILD and TECH) aimed at reducing GHG emissions associated with buildings. SB 1477 makes available \$50 million annually for four years, for a total of \$200 million, derived from the revenue generated from the GHG emission allowances directly allocated to gas corporations and consigned to auction as part of CARB's Cap-and-Trade program. CPUC is responsible for a Building Decarbonization proceeding to implement SB 1477, develop pilot programs to address new construction in

areas damaged by wildfires, coordinate policies with CEC's Energy Code and Appliance Efficiency Standards, and establish a policy framework. The CPUC allocate 40 percent of the \$200 million budget for the BUILD Program and 60 percent for the TECH Initiative.

EPIC. The Electric Program Investment Charge Program (EPIC) was first authorized by the CPUC (in Decision 11-12-035) which instituted a new surcharge, but essentially maintained that surcharge at the same levels as had been previously authorized for public interest energy innovation. Decision 11-12-035 went on to identify and discuss the expectations for EPIC's potential to advance, for public benefit, research, development, and demonstration (RD&D) programs. The CPUC ordered PG&E, SCE, and SDG&E (collectively, the investor-owned electric utilities) to institute ratepayer surcharges for the year 2012 to pay for EPIC. The EPIC supports the development of new, emerging, and pre-commercialized clean energy technologies in California. These projects must be designed to produce electricity ratepayer benefits in the form of increased reliability, improved safety, and/or reduced electricity costs. EPIC consists of three program areas: Applied Research and Development (Applied R&D), Technology Demonstration and Deployment (TD&D), and Market Facilitation. To date, more than \$1 billion has been allocated to fund EPIC projects. In a recent decision, the CPUC authorized the collection of \$148 million for the EPIC surcharge through December 31, 2030. The decision requires the CEC to file investment plan applications for the five-year investment cycle periods 2021-2025 and 2026-2030 on October 1, 2021 (EPIC 4) and October 1, 2025 (EPIC 5) respectively. In its EPIC 5 application, the CEC is allowed to request an adjustment for inflation for years 2026-2030. The collection for the funding of EPIC is required to continue to be allocated to the utilities in the following percentages: PG&E 50.1 percent, SCE 41.1 percent, and SDG&E 8.8 percent.

Service connections to the electrical system. Rules governing the ability of entities to connect to the electrical system are generally determined by statute, CPUC rules, and tariffs of each of the electrical corporations. Electric Tariff Rule 15 and 16 establish the guidelines for design, cost allocation, and responsibilities of a project applicant and a utility for electric distribution line extensions and service connections. These tariffs also apply when a customer seeks upgrades to the electrical system, including for remodeling projects that require upgrades to the service connection from the electric utility's distribution system to the building. The process to interconnect to the larger system can take anywhere from a month to months as the process can entail the need for designs, assessments on costs allocations associated with improvements on the system to allow for the interconnection, and other issues. More complex connections can take months to a year(s), depending on the designs, permit requirements, etc.

Interconnections to electrical system. Electric Tariff Rule 21 describes the interconnection, operating and metering requirements for generation facilities to be connected to an electric IOU's distribution system. The tariff provides customers seeking to install generating or storage facilities on their premises with access to the electric grid while protecting the safety and reliability of the distribution and transmission systems at the local and system levels. AB 2861 (Ting, Chapter 672, Statutes of 2016) authorized the CPUC to establish an expedited distribution grid interconnection dispute resolution process with the goal of resolving disputes over interconnection applications that are within the jurisdiction of the CPUC in no more than 60 days from the time the dispute is formally brought to the CPUC. Rule 21 also establishes that approval for interconnection of a generating facility with capacity of one megawatt or smaller must normally be processed within 30 business days following the receipt of a completed interconnection request with all supporting documents and required payments, a completed signed interconnection agreement, and evidence of a final electric inspection from the local permitting agency. In the event the 30-day period can not be met, the utility will notify the applicant and the CPUC of the reason(s) why the application can not be processed and the expected completion date.

SB 68. This bill proposes several changes to support customers' (and building owners') transition to EV and switch to electric equipment for space and water heating, cooking, and others applications where electrical upgrades of the building and/or electric distribution system are needed. This bill would require the CEC, working with other agencies, to publish guidance and best practices for building owners, contractors, and local government building departments to overcome barriers to electrification of buildings and installation of electric vehicle charging equipment, with specified approaches, tools, and technologies. SB 68 also would explicitly authorize EPIC program to fund technologies that reduce the costs of building electrification. Lastly, this bill directs the CPUC to establish service level standards for utilities to respond to electrical service upgrade requests and interconnection requests for generating and storage facilities, and complete work within specified deadlines. This bill also requires specified annual reporting and data by the electric utilities to the CPUC on the performance of meeting the specified timeframes.

Need for deadlines for service upgrades. As proposed by this bill, the CPUC would be required to establish a "short but commercially reasonable timeframe" for an electric IOU to complete its portion of the work associated with a request for electrical service upgrades defined as "routine." The author notes his desire to speed up the electric utilities' response times from when a customer submits an application for a service upgrade that is needed to support installation of solar and

energy storage. The proponents of this bill suggest that waiting on the utility to provide upgraded electrical capacity often causes expensive, months-long delays to remodeling projects of existing buildings. Electric IOUs suggest they conduct tens of thousands of service upgrades each year and have not heard of many complaints that would warrant the proposed timeframes in this bill. They state the service upgrades can be complex requests involving permits from local governments, designs, and time delays created by others actors. SDG&E states that when an electric panel is updated everything must be brought to code on both sides of the meter, which involves CPUC requirements and local government codes. The author has noted that their office has heard from customers complaining about these delays. However, it is unclear how widespread the problem is and to what extent the electric IOU has control over the timeliness of resolving these applications. The electric IOUs also take issue with the proposed terms of routine and nonroutine as proposed in this bill, stating that such terms are not utilized with the existing tariffs. As such, the author's proposal to have the CPUC determine the timelines seems appropriate, as the CPUC is well-suited to examine the extent of the problem. Such deference to the CPUC should also be extended in characterizing what, if any, service upgrades might be classified as routine and would merit a more expedited review. *Therefore, the author and committee may wish to amend this bill to recast the language and direct the CPUC to determine what subset of service upgrades can be considered routine, or can be standardized and completed more expediently, with additional direction that the CPUC include consideration for some of the specifics included in this bill.*

Costs to ratepayers. As proposed by this bill, Section 4, Section 8401(c) proposes to require the CPUC to authorize electric IOUs to recover from all ratepayers costs incurred as a result of the electrical service upgrades to residential buildings that exceed the cost allowance provided in Tariff Rule 15 and 16. The proponents of this change suggest that a residential customer's desire to upgrade their electrical system to accommodate more electrical loads can be stymied when costs exceed the allowance provided in the existing tariffs. They provide the example where a homeowner wishes to upgrade to 200A system capacity but the additional load necessitates the local distribution line into requiring a transformer upgrade and the utility says this one customer needs to pay the whole cost of that distribution upgrade. To address concerns about stranding all ratepayers with additional costs, the author has include language that would limit the instances where the utility can recover these additional costs from all ratepayers to only those instances where the upgrades would be to the benefit of ratepayers.

Additional clarifying amendments needed.

- In findings and declarations (8)... to support building owners who choose to switch from fossil fuel-powered equipment...

- In Section 3: “~~Technologies~~ **Technological advancements** that reduce the costs of building electrification
- Section 4 – 8404 – delete ”substantially” completed copies

Prior/Related Legislation

SB 31 (Cortese, 2021) explicitly incorporates building decarbonization within several aspects of electric utility ratepayer funded programs and within future, yet to be provided, federal moneys to address economic recovery, and incorporates requirements for prevailing wage, as specified. The bill is pending in this committee.

SB 1477 (Stern, Chapter 378, Statutes of 2018) required the CEC to develop a statewide market transformation initiative to transform the state’s market for low-emission space and water heating equipment for new and existing residential and nonresidential buildings and to develop an incentive program to fund near-zero emission technology for new residential and commercial buildings.

AB 3232 (Friedman, Chapter 373, Statutes of 2018) required the CEC to assess the potential for the state to achieve the goal of reducing the emissions of GHGs by the state’s residential and commercial building stock by at least 40 percent below the 1990 levels by January 1, 2030.

AB 1026 (Wood, Chapter 446, Statutes of 2019) requires an electrical or gas corporation to apply only those construction and design specifications, standards, terms, and conditions that are applicable to a new extension of service project for the 18 months following the date the application for a new extension of service project is approved.

AB 2861 (Ting, Chapter 672, Statutes of 2016) authorized the CPUC to establish an expedited distribution grid interconnection dispute resolution process to resolve disputes within 60 days, unless it determines more time is needed. Specifies the elements to be included in the dispute resolution process and requires the CPUC to establish a technical panel, a review panel, and a public process for each dispute.

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

SUPPORT:

350 Silicon Valley
Acterra
Bay Area for Clean Environment
Bay Area Youth Lobbying Initiative

California Building Industry Association
California Efficiency + Demand Management Council
California Solar & Storage Association
Carbon Free Palo Alto
Climate Youth Ambassador Program
Diablo Valley Democratic Club
Elders Climate Action, NorCal Chapters
Elders Climate Action, SoCal Chapters
Harker Green Team
Homestead High School Green Ops
Marin/Sonoma Building Electrification Squad
Mothers Out Front Silicon Valley
Napa Climate Now
Natural Resources Defense Council, if amended
Pacifica Climate Committee
Peninsula Clean Energy
Peninsula Interfaith Climate Action
San Jose Community Energy Advocates
Sierra Club California
Silicon Valley Youth Climate Action
Sunnyvale Democratic Club
Together We Will - San Jose
52 Individuals

OPPOSITION:

Southern California Edison

ARGUMENTS IN SUPPORT: According to the author:

In order to achieve the state's climate goals, we need to see widespread switching away from fossil fuel use in buildings and vehicles. The technology to do this exists today, but there are major barriers to its adoption. In particular, when building owners want to switch to electric equipment for heating or to install vehicle chargers or energy storage equipment, they often face high costs and long delays to upgrade their electrical service capacity, rewire their electrical panels to handle the extra load, and get permission to operate (PTO) their storage systems. ...This bill directs the CEC to gather and publish best practices to help get better information out there to help building owners, the construction industry, and local governments do this more efficiently. We also need to drive down costs, and here technology can help. ...This is an area where R&D funding could help, so the bill adds reducing the

costs of building electrification to the list of challenges targeted by the EPIC program. The last problem is delays...This bill directs the CPUC to set response time standards where they are lacking and to hold the utilities accountable to meeting those standards by requiring them to report on results and justify any missed deadlines and by establishing potential fines for failed performance.

ARGUMENTS IN OPPOSITION: In opposition to this bill, Southern California Edison (SCE) states:

SB 68 attempts to speed up service upgrades, but it's not clear there is a problem and the CPUC already has authority to address any systemic delays. If service delays were a systemic problem, which is not the case for SCE, the CPUC already has the authority to intervene and compel electrical corporations to remedy the issue. SB 68 imposes unreasonable service timelines. By oversimplifying service requests, SB 68 could pose significant safety concerns for both the customer, community, and the grid. Moreover, service upgrades are mostly impacted by external factors, including customer and local permitting delays. SB 68 would create confusion with CPUC's Electric Tariff Rules 15 and 16. The novel terms and definitions for "routine" and "nonroutine" services in Section 3 do not comport with how an electrical corporation conducts a service upgrade. Electric service upgrades are subject to Electric Tariff Rule 15 and Rule 16, and these terms do not exist therein, nor do they align with the current regulatory language.

-- END --