



IN BRIEF

Increasing the use of renewable electricity for transportation and in buildings is an important pathway to achieve the state’s climate goals and to reduce local air pollution. The technology to do this exists today, but there are major barriers to its adoption. In particular, when building owners want to upgrade their electric service to enable heating, vehicle charging, solar or energy storage, they often face unnecessarily 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) for their storage systems. SB 68 will reduce these barriers in three ways:

1. By directing the CEC to provide guidance and resources for cost effectively and efficiently adding new electric technologies.
2. By supporting the development of technology to reduce the *need* for upgrades and, when needed, reduce the *cost* of upgrades and rewiring.
3. By reducing wait time and other barriers for customers who choose to upgrade their electrical service.

BACKGROUND & PROBLEM

Many residential and commercial buildings were built with electrical service capacity that did not anticipate a conversion to electric space and water heating, the addition of charging electric vehicles, or the need for energy storage systems. For example, older homes usually have 100A electrical service, and it is sometimes difficult or impossible to accommodate new electrical equipment for car charging, heating, solar or storage within the existing electrical service capacity.

If more electrical capacity is needed, building owners must request an upgrade from their utility. As a first step, the utility does an inspection of the existing meter location to verify that running wires to that location still meets safety requirements. If so, they schedule workers to perform the upgrade, which may require running new wires and upgrading the transformer on the power line pole, for example. The work to disconnect, upgrade, and reconnect service takes a few hours in routine cases. However, in many areas building owners routinely wait *months* for meter inspections and to get the upgrade work completed.¹ In more complex cases, such as when trenching is required for underground connections, waiting on the utility to provide upgraded electrical capacity often causes expensive, months-long delays to remodeling projects.

¹ For example, see meter inspection response time statistics on slide 4: <https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442465440>

New solar and storage systems also need interconnection approval (“permission to operate”) before they can be turned on. While existing rules require PTO to be approved within 30 business days for small generation systems, many building owners are frustrated by months of delays based on minor “errors” in the documentation provided, which utilities cite to restart the clock for another 30 days.

Building owners also face considerable cost and delay getting permits from local building departments who are less familiar with electrical replacements for traditionally gas-powered equipment. For example, owners are sometimes required to get separate permits for the electrical and plumbing work needed for installing an electric water heater, adding to the time and expense for what should be a routine project.

The costs and delays associated with upgrading electrical service capacity, waiting for PTO, and getting permits are a significant barrier to achieving California’s climate goals. Combined, the emissions from the transportation and residential and commercial building sectors represent more than 50% of greenhouse gas (GHG) emissions in California.² They are also the primary sources of local air pollution, outside of major industrial areas. Electrification of light duty vehicles and energy use in buildings is an important pathway for reducing both GHG and criteria air pollutant emissions. Therefore, state policy should encourage the voluntary actions of building owners who want to replace fossil fuel-powered equipment and vehicles. However, that is unlikely to happen if they face months of delays in getting their electrical service upgraded to accommodate the new equipment. Therefore, avoiding the need for an upgrade or making the upgrade happen as quickly and inexpensively as possible, when needed, is crucial for achieving the state’s climate and air quality goals.

THE SOLUTION

SB 68 does not require any building owner to electrify their building, but for those who want to do so, the bill addresses these barriers through a multi-pronged approach:

First, information... There are approaches and technologies that allow building owners to support more electric equipment and avoid the cost and delay of upgrading their electrical service capacity,³ but these approaches are not widely known, even by contractors, and the technologies

² https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf

³ <https://www.sanjoseca.gov/Home/ShowDocument?id=69602>

that can help are new and not widely deployed. And whether or not an electrical service upgrade will be required, it is cost-effective to plan ahead for the capacity and wiring needed for all future electrical equipment rather than making changes piecemeal when adding a car charger or switching to an electric water heater. For both of these reasons, building owners would benefit from a more holistic and strategic approach to electrifying their buildings rather than treating each step as an isolated project. Local building departments could also substantially streamline their permitting processes if they were more familiar with the new equipment being installed and could adopt from model processes. The bill directs the CEC to gather and publish guidance and best practices for building owners, the construction industry, and local governments to spread knowledge and drive standardization so that we can reduce costs and increase deployment.

Second, technology... The bill expands the targets for the EPIC program⁴ to include technologies that reduce the costs of building electrification, including by reducing or avoiding the costs of expanding electrical service capacity and electrical panel upgrades for existing buildings. For example, devices that allow a car charger and a dryer to share the same circuit (pausing one when the other is in use) can provide a cost-effective alternative to upgrading electrical service capacity. Start-ups are already offering products to address these challenges, but more innovation is needed.

Third, faster service... The bill directs the CPUC to establish service level standards for utilities to respond to electrical service upgrade requests and complete work within the deadlines, including penalties for missed deadlines to give the requirements teeth. For both these new deadlines and for the existing timeline for approving PTO requests, the bill clarifies that if the utility is waiting on a building owner to take action or provide additional information, then that *pauses* the clock on these deadlines – it does not restart the clock – so that minor errors cannot be used as an excuse for long delays.

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⁴ <https://www.cpuc.ca.gov/energyrdd/>