



Electric Service Optimization for Multifamily and Commercial Existing Building Decarbonization September 28, 2022

Resources Cited:

Developing a Plan for Electrification

[Accelerating Electrification of California's Multifamily Buildings](#) - This 2-part document provides policy context (Part 1) and a technical guide (Part 2) to all-electric retrofits to multifamily buildings. The technical guide draws on data and experience from more than 30,000 multifamily units that participated in various building upgrade programs in California, including BayREN Multifamily, California Department of Community Services' Low-Income Weatherization Program (CSD LIWP), and others.

[Service Upgrades for Electrification Retrofits Study for PG&E](#)

Codes and Rules

[California Electrical Code](#)

[San Francisco Electrical Code](#)

[PG&E Electric and Gas Service Requirements \(PG&E Greenbook\)](#)

Incentives and Technical Support

[BayREN Multifamily](#)

The Bay Area Regional Energy Network (BayREN) provides rebates and no-cost financing for improving efficiency of multifamily. Switching from gas to efficient electrification systems via the Clean Heating Pathway can earn substantially greater incentives. BayREN provides free consultation, including project design, financing, and referral to other programs when a given building may qualify for.

The team implementing BayREN can also help you connect with other resources, such as programs specific to affordable housing.

[TECH Clean California](#)

The TECH Multifamily program offers free technical assistance with planning both projects and electrification over time.

Tax Credits from US Inflation Reduction Act

Efficiency: The Inflation Reduction Act substantially increased tax credits, rebates, and incentives to upstream suppliers in support of efficient electrification of existing buildings.

Solar and Electric Vehicles: The IRA restored the Solar Investment Tax Credit to 30% for photovoltaic systems installed before 2034, and added new tax credits for purchase of light-duty and medium-duty fleet vehicles, as well as personal electric vehicles.

- [The IRA: What's in it for Commercial?](#)
- [IRA and market-rate multifamily](#)
- [IRA and affordable multifamily](#)

[TECH Clean California Classes on Multifamily Electrification](#)

The TECH initiative provides workforce training to support successful heat pump installations, as well as training for all multifamily retrofit industry stakeholders, such as property owners, developers, mechanical, electrical, and plumbing contractors/engineers, architects, and general contractors. Training options include introductory courses on building science and electrification and advanced courses on electrification retrofits and heat pumps delivered via on-demand, live webinar, and in-person sessions. Learn more at [AEA's TECH Clean California Electrification Hub](#).

[PG&E Energy Classes](#) on Multifamily and Commercial Electrification

<u>Live</u>	12 - Oct	Multifamily Electrification - Water Heating Deep Dive and Emerging Technologies
	19 - Oct	Multifamily Electrification Retrofit Case Studies
	25 - Oct	Central Heat Pump Water Heating Systems for Multifamily Buildings
	8 - Nov	Decarbonization Technology for Commercial Buildings
	16 - Nov	Building Electrification: Lessons from the Field
	16 - Nov	Multifamily Electrification: Considerations and Strategies for Electrifying Kitchens
<u>On-Demand</u>	<ul style="list-style-type: none"> • Building Electrification: Lessons from the Field • Commercial Building Retrofit Series: Electrification • Commercial Heat Pump Water Heating: Engineering Deep Dive • Decarbonizing the Built Environment • Heat Pump Deep Dive: Space Conditioning and Water Heating in Commercial Applications • Induction Cooking and Holding: Energy Efficiency and Performance for Commercial Kitchens 	

All classes are accessible online. Classes for multifamily, commercial, and municipal/institutional contexts are available via the same [PG&E Energy Classes](#) site.

Outstanding Questions from the Q&A

- Is there a minimum number of housing units (or residential meters) for Rule 29 to apply to a building? (For example, is Rule 29 applicable to buildings with 2 units? 5 units? More?) Or does PG&E plan to select which projects are most appropriate for Rule 29 on a discretionary basis? Or will all valid applications simply be accepted?
 - From SFE: Electric Rule 9 Section A. *Applicability:*
This rule is applicable to the design and deployment of Electrical Distribution Infrastructure (“EV Service Extensions”) that extends from PG&E's Distribution Line facilities to the Service Delivery Point on the utility side of the Customer’s meter for all customers installing separately metered infrastructure to support Charging Stations, **other than ... single-family residences.**
- How do we engage with PG&E to develop strategies to enable UL-listed smart panels for safely managing maximum load within the limits of existing service infrastructure? (For example, if power supply to an EV charger and an electric clothes dryer is moderated by a listed control, in a project that is approved by a local electrical inspector, will that approval also be accepted by PG&E?)
 - From PG&E: At this time, services are sized for the termination section and main switch size. I don't know of any changes or whom to engage with to have this standard changed.
 - From SFE: PG&E is a big organization. It may be helpful to engage other arms of the organization.
- If a project requires upgrade at the substation level, would PG&E perform the necessary upgrade to the grid within months? Years? Roughly how long is the lead time to upgrade distribution grid components upstream from individual service infrastructure?
 - From PG&E: Capacity work at the substation level takes approximately 2-3 years to complete. It is best to submit applications for New Business/WRO (Work Requested by Others) as soon as possible to allow as much time as possible to perform all necessary work.