



Background

According to the California Air Resources Board (CARB), in 2018 the transportation sector accounted for the largest portion of greenhouse gas (GHG) emissions (39 percent), and the medium- and heavy-duty bus and truck sector accounted for nearly 30 percent of those emissions.¹

Contributing to this problem are buses that transport the state's children to and from school every day, which have historically been fueled by diesel. Studies have shown that the toxic gases and small particles that make up diesel exhaust can cause respiratory diseases and worsen existing conditions like asthma. The negative effects are especially pronounced in children.²

School districts across the state have begun to embrace electrification, which can reduce major top-line expenses such as maintenance and fueling costs. By going electric, school districts can take a significant step toward legislative compliance while delivering environmental benefits.

California school district goes electric, reducing costs and eliminating tailpipe emissions.

Unique considerations when transitioning to EVs

When considering the transition to battery electric vehicles, California's Pittsburg Unified School District (PUSD) ran into several important infrastructure-related questions that are unique to using electricity as a "fuel" for school buses. For example, how do I choose the right EV charging infrastructure, what is the right type of electric vehicle supply equipment (i.e. charger), how do I manage the costs of electricity, and more. Thankfully, PG&E's team of EV specialists worked closely with PUSD to find solutions that worked for their operations.

One year from start to finish

From start to finish, it took approximately one year for the entire infrastructure electrification process for PUSD. This included site design, permitting, construction, and final activation. PUSD implemented a solution that works today with two electric buses and can easily scale up as additional electric vehicles are planned for deployment in the coming months and years.

Incentives and rebates to reduce the cost of electrification

Outside of the hands-on construction support, PG&E's EV Fleet program also offers infrastructure incentives up to \$9,000 per vehicle, and charger rebates that cover up to 50% of the cost of EV chargers. PUSD was able to choose the charger hardware, software and the location for installation of the equipment.

¹California Greenhouse Gas Emission Inventory—2018 edition, California Air Resources Board: <https://ww3.arb.ca.gov/cc/inventory/data/data.htm>

²Electric Buses—Clean Transportation for Healthier Neighborhoods and Cleaner Air, US PRIG Education Fund and Frontier Group: <https://uspig.org/sites/pirg/files/reports/Electric%20Buses%20-%20National%20-%20May%202018%20web.pdf>

³Charging equipment rebates only for schools, transit agencies and disadvantaged communities. Other exceptions may apply.

Integrating solar and wind energy

In addition to electrifying their school buses, PUSD developed an innovative bioswale solar and wind generation project to create zero net energy buildings, combining energy efficiency with renewable energy resources. PG&E worked with the school district to integrate their renewable energy supply, allowing the school district to seamlessly switch between grid power and onsite renewable power to charge their electric buses. This has reduced electricity costs and improved energy resiliency, while creating an even smaller environmental footprint for PUSD's school bus fleet.

From two EVs to a fully electric fleet

PUSD initially deployed two electric school buses with PG&E's support, and now is looking to deploy another two in the near future and continue deploying more until they have an all-electric fleet by the end of 2020. Working with PG&E on infrastructure planning from the outset will allow PUSD to scale their EV operations in a cost-effective and efficient manner.

"PG&E helped us be more efficient, more sustainable, and without a lot of expense. My experience has been nothing short of awesome."

— Alan Glass, School District Energy Supervisor,
Pittsburgh Unified School District



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