Electric School Buses & Utilities

A Unique Opportunity

School buses are the nation's largest form of mass transportation, carrying **25+million kids each day**. Electrifying this essential slice of the transportation sector will help protect our kids from the dangers of diesel pollution. Electric buses benefit all districts, including low-income communities that often experience disproportionate pollution.

Utilities can benefit from this technology too. Electric school buses (ESBs) are essentially mobile battery and storage units that can provide relief to the local distribution grids. By working ESBs into grid planning and quantifying the economic value of the batteries to the grid, utilities can help communities transition to electric school buses more quickly and affordably.

Cleaner Buses = Healthier Kids & Communities

- Currently, diesel buses make up over 90% of the U.S. fleet.
- Diesel exhaust is a mix of gases and particulate pollutants, including 40 known carcinogens, and is known to contribute to asthma attacks, respiratory disease, cancer, etc.
- Children breathe 50% more air per pound of body weight than adults and their lungs are still developing, making them especially susceptible to pollution.
- Asthma is a leading cause of school absenteeism. Transitioning to electric school buses nationwide could result in 14 million fewer school absences.

Ride a Bus at NARUC

Self-Parking lot outside the Seascape Foyer Tuesday July 19, 10:30am to 3:00pm

- Tours leave at 12:00, 12:30, 1:00, & 1:30.
- Thank you to World Resources Institute (WRI), Cajon Valley Union School District, and Lion Electric!

This service is not organized by NARUC and is not part of the Summer Policy Summit activities.

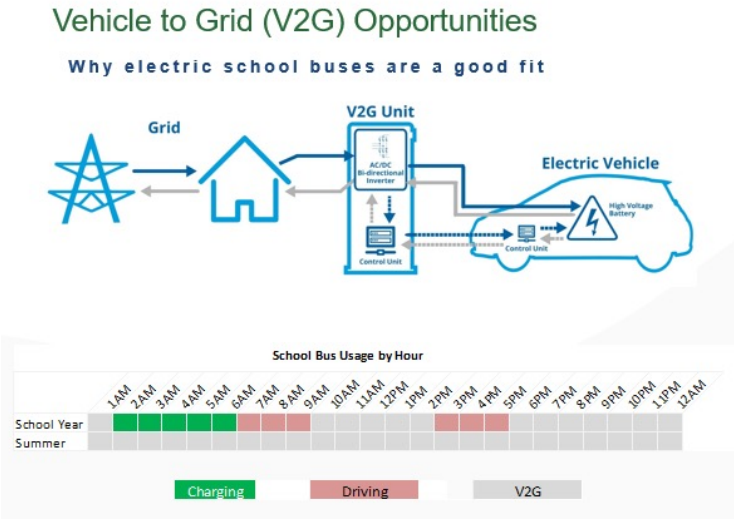
Electric School Buses Benefit Utilities

Electric school buses can serve as Vehicle-to-Grid (V2G) resources.

- Buses charge at night when costs are low and wind energy is abundant.
- Buses sit idle 75% of the year, including daytime hours during the school year and all summer when energy demand is high.
- If the electric grid goes down, electric buses can provide mobile energy storage to repower community centers, health services, other batteries, etc. (V2B & V2X)

Utilities are already seeing the benefits of V2G.

- Both National Grid in Massachusetts and Dominion Energy in Virginia have demonstrated proof of concept. Electric school buses delivered power back to the grid for over 50 hours during 30 transfer sessions in Massachusetts last summer, and Dominion is seeing results in Virginia this summer.
- All major school bus manufacturers offer electric models, proven in all climates Arizona to Alaska.



How Utilities Can Help School Districts

School districts need partners who have access to capital, who understand the long-term benefits of new technology, and who are leaders in the energy industry. **They need utilities.**

Overcoming Barriers to Entry

Electric school buses pay for themselves over time, but upfront cost is high.

- Electric school buses cost 3x more than diesel ($350k vs. $100k).
- Operations and maintenance savings can add up to $15-22,000 per year.
- Additionally, V2G could bring schools thousands in annual revenues.

Utilities can create financing programs for buses and related infrastructure. Utilities can also use their knowledge of existing grid capacity to integrate charging, thereby reducing overall grid costs. In return, they gain valuable and reliable customers for years to come.

Helping Electric School Bus Programs Succeed

Utilities are industry leaders who can help ease the transition to electrification. Here are some concrete steps and best practices to get started:

- Contact school districts where additional load is located. They would be good candidates for ESB pilots.
- Create equitable ESB programs. Utilities have a powerful role to play in making sure that all children have a healthier ride to school by working with and providing additional support to disadvantaged school districts.
- Break down walls between internal teams, such as customer service reps, EV teams, grid modernization, account managers, engineers, regulatory, etc.
- Utilize existing contacts at schools to bridge building management with transportation departments.
- Recognize the value of this resource and encourage its adoption with Time of Use (TOU) tariffs.

Utility Partnerships in Action

- Nevada's **NV Energy** ESB pilot program includes a $250,000 rebate per 100kWh bus and coverage of V2G charger cost for 40 buses with all buses participating in a V2G pilot program.
- **Southern California Edison** provides EV Readiness studies, fleet and site studies, grant writing assistance, and a depository of numerous resources.
- Virginia's **Dominion Energy** proposed to achieve 1,000 ESBs in its service territory by 2025 and 100% ESBs by 2030 facilitated by offsetting the incremental costs of an ESB and including charging infrastructure.

Contact Us

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