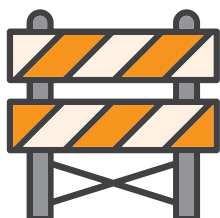


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Electric Utilities Can Help Address Key School Bus Electrification Barriers and Enhance Equity

Electric utilities can play a crucial role in overcoming barriers that impede the acceleration of equitable electric school bus (ESB) adoption. The ESB market is growing rapidly as school districts and bus fleet operators around the country are planning for and undertaking the adoption of ESBs. However, high costs, complications with the energy grid and consumer hesitations remain.



BARRIERS

- **Higher upfront costs** – The price of a new electric school bus is approximately three times that of a diesel bus.
- **Infrastructure deployment challenges** – Electrical infrastructure upgrades and deployment can be one of the most costly and lengthy aspects of fleet electrification processes.
- **Unfamiliar new technology** – Fleet owners and operators must learn and adapt to new fleets. This includes undertaking workforce training and shifting maintenance, cost and energy management practices.
- **Technology myths** – Misperceptions about EV affordability and performance persist, despite the fact that current ESB models can cover most school bus routes and operate in extreme heat and cold environments.
- **Scaling quickly** – Fleets and utilities recognize that plans to scale must take into account the disruptiveness of infrastructure deployment, the efficiencies of futureproofing and the reality of a changing technological landscape.

These challenges most significantly impact underserved communities that lack technical and administrative capacity, financial resources, and up-to-date electrical infrastructure. Electric utilities and regulators should center these communities when devising policies and programs and must dedicate additional resources to ensure fleet electrification is equitable.

Fortunately, electric utilities have a suite of solutions at their disposal to facilitate the equitable adoption of ESBs and resolve lingering challenges. These solutions are described in the following table.

Table 1 | **Landscape of Electric Utility ESB Solutions**

UTILITY ESB SOLUTION	DEFINITION	RESOURCES/TOOLS	SOLUTION EXAMPLE
<p>Vehicle & EVSE Rebates and Incentives</p> <p>Challenges addressed:</p> <ul style="list-style-type: none"> Higher upfront costs Infrastructure deployment (EVSE Rebates only) 	<p>Utilities can offer upfront or rebate funds that cover some or all the costs of an ESB, charger or other electric vehicle supply equipment (EVSE). Some vehicle incentive programs focus on covering the incremental cost of an ESB over a diesel bus. EVSE incentives could be separate or part of a larger Make-Ready program. These incentives can be tailored to prioritize certain communities (e.g. Title 1 or underserved communities) through dedicated portions of funding, higher award amounts, early program access, and fleet advisory services and technical assistance (see below).</p>	<p>All About Funding and Financing Options for Electric School Buses Electric School Bus Initiative</p> <p>Clearinghouse of Electric School Bus Funding and Financing Opportunities Electric School Bus Initiative</p>	<p>PGE Electric School Bus Fund (OR)</p> <p>SDG&E Power Your Drive for Schools Medium- and Heavy-Duty Vehicle Program (CA)</p>
<p>Make-Ready Programs</p> <p>Challenges addressed:</p> <ul style="list-style-type: none"> Higher upfront costs Infrastructure deployment 	<p>These utility programs reduce the cost of infrastructure upgrades for customers and developers by covering all or some of the costs for which they would otherwise be responsible. Funding can be reserved for certain communities and can be paired with fleet advisory services and technical assistance (see below).</p>	<p>Electric Vehicle (EV) Make Ready Programs Electric School Bus Initiative</p>	<p>Medium-Duty/Heavy-Duty Make-Ready Pilot (NY)</p>
<p>Utility Financing and Alternative Business Models</p> <p>Challenges addressed:</p> <ul style="list-style-type: none"> Higher upfront costs Infrastructure deployment Scaling quickly 	<p>Utility programs that support purchase of ESBs and needed charging infrastructure by providing favorable loans or other forms of finance or that introduce new roles and relationships for utilities beyond electric service. Programs like Utility Inclusive Investments (on-bill financing) create opportunities for districts with insufficient bonding capacity or poor credit-worthiness to participate in fleet electrification.</p>	<p>All About Electric School Bus Business Models Electric School Bus Initiative</p> <p>Pay As You Save for Clean Transport Clean Energy Works</p>	<p>DTE Transit Battery/eBus Batteries pilot (MI)</p>
<p>Favorable & EV-Specific Rates</p> <p>Challenges addressed:</p> <ul style="list-style-type: none"> Unfamiliar new technology 	<p>Electricity rates that can save customers money either by offering different prices during certain hours or by restructuring tariffs to better serve electric vehicles, such as through subscription demand charges or demand charge holidays. Utilities can provide additional training and resources on bill management to fleets in underserved communities and can offer a robust grace period with a cost-guarantee for fleets that need extra time to get the hang of running ESBs and managing associated costs.</p>	<p>EV Retail Rate Design 101 Electricity Markets and Policy Group Berkeley Lab</p> <p>Best Practices for Sustainable Commercial EV Rates & PURPA 111(d) Implementation National Association of Regulatory Utility Commissioners</p>	<p>Hawaiian Electric E-Bus Rate (HI)</p>
<p>Fleet Advisory Services</p> <p>Challenges addressed:</p> <ul style="list-style-type: none"> Unfamiliar new technology Technology myths Infrastructure deployment Scaling quickly 	<p>Utilities can offer technical assistance for fleet owners looking to electrify their vehicles. This can include conducting total cost of ownership analyses, creating fleet transition plans, preparing site inspections, covering project planning and management, advising on equipment procurement, and more. Programs can be tailored to focus assistance on small businesses and/or fleets within underserved communities.</p>	<p>Utilities Want to Provide EV Fleet "Advisory Services." Should Regulators Approve? Regulatory Assistance Project</p>	<p>National Grid Massachusetts Fleet Advisory Services (MA)</p>

Table 1 | **Landscape of Electric Utility ESB Solutions (Cont.)**

UTILITY ESB SOLUTION	DEFINITION	RESOURCES/TOOLS	SOLUTION EXAMPLE
<p>Distribution System Planning Process</p> <p>Challenges addressed:</p> <ul style="list-style-type: none"> ▪ Infrastructure deployment ▪ Scaling quickly 	<p>Utilities can provide publicly accessible and transparent policies, tools, resources, and stakeholder engagement regarding distribution system planning to support planning for future customer needs and aid customers and developers in understanding system capacity. Within their distribution system planning processes and offered resources, utilities can identify underserved communities to promote investments where most needed.</p>	<p>Integrated Distribution System Planning Electricity Markets and Policy Group Berkeley Lab</p> <p>Sustainable Communities Resource Priorities Map Sacramento Municipal Utility District</p>	<p>Pepco Hosting Capacity Map (DC)</p>
<p>Education & Outreach</p> <p>Challenges addressed:</p> <ul style="list-style-type: none"> ▪ Unfamiliar new technology ▪ Technology myths 	<p>Because the ratepayers of utilities are the general public, utilities are well positioned to provide information and education about ESBs. Activities can include holding community ride-and-drive events or preparing websites with total cost of ownership analysis tools. Utilities can ensure benefits of these activities reach all communities by partnering with community organizations on events and developing materials in multiple languages.</p>	<p>Benchmarking Equitable Transportation Electrification Smart Electric Power Alliance</p>	<p>Evergy Business Electric Vehicles webpage (KS/MO)</p> <p>PECO Your Roadmap to Drive Vehicle Electrification (PA)</p>

The Electric School Bus Initiative can help. The WRI Electric School Bus Initiative team engages stakeholders on multiple fronts, promoting solutions that fit electric utilities of all types, including investor-owned, rural electric cooperatives and municipal utilities.

- Through our [Utility Working Group](#), we convene electric utilities and other stakeholders to support and influence the development and implementation of successful electric school bus programs, rates, models and other mechanisms.
- Our policy arm collaborates with advocates and community groups to push for programs and policies that are equitable and meet customer needs while supporting a robust electrical grid.
- We identify the most effective approaches utilities can take to support ESBs and disseminate findings through our research and educational work.
- We provide technical assistance to school districts, helping them navigate complex utility-related topics and bridge gaps between electric utilities and this important customer segment.

To learn more, please visit www.electricschoolbusinitiative.org

Online access to this document and the linked resources can be found here:

