Electric School Bus

Frequently Asked Questions

NEW YORK STATE | NYSERDA
New York State Energy Research and Development Authority

Cleaner, healthier rides for New York's students

What are the benefits of switching to Electric School Buses?

Electric School Buses produce zero tailpipe emissions—unlike diesel and gas-powered engines, which emit significant quantities of air pollutants that affect students, drivers, and communities. Transitioning to electric vehicles, including Electric School Buses, in New York will improve student health and reduce greenhouse gases resulting in significantly fewer asthma attacks annually, according to the American Lung Association. Also, a 2024 Harvard T.H. Chan School of Public Health study found that replacing diesel school buses with electric ones can generate up to $247,600 in climate and health benefits per bus.

Are Electric School Buses safe?

Electric vehicles overall have proven to be very safe. In fact, they are less likely to be involved in fires than vehicles powered by diesel or gasoline. A recent National Transportation Safety Board analysis found that in 2022, 1,530 gasoline- powered vehicles per 100,000 were involved in vehicle fires compared to just 25 electric vehicles per 100,000.

How do Electric School Buses fare in cold temperatures?

Electric School Buses function at all temperature ranges. While battery range can decrease in cold weather, they are still sufficient to complete operations on most local bus routes. For example, an ESB's range can be 70–80% of its rated range in cold weather and 50–60% in the most extreme circumstances. However, today's Electric School Bus models can travel 100–200+ miles on a charge, longer than the average New York State bus run of 80 miles/day, so most routes are still feasible even in cold weather. And batteries are getting better as the technology evolves.

Can Electric School Buses manage hilly terrains?

School buses work most efficiently on flat terrains, but electric buses are operating in at least 38 states including hilly areas in places like Colorado and Montana. Hills decrease a battery's range, but the average New York State bus route can still be completed using today's existing Electric School Buses.

Can Electric School Buses maintain their charge on long, rural routes?

The average New York State school bus travels 80 miles a day, even in rural districts, which is achievable with today's Electric School Buses and will only get better with technology improving rapidly. Lake Shore School District in Western New York is operating its first Electric School Bus on its longest route and GreenPower just announced a bus with 300-mile range.

Does the electric grid have the capacity to charge a statewide fleet of Electric School Buses?

Transitioning to Electric School Buses is a long-term process; while districts are gradually purchasing buses and chargers, the utilities are preparing the grid for additional capacity.

How will my school district pay for more expensive Electric School Buses?

NYSERDA's FlexTech Program covers 75% of the cost of fleet electrification planning, and disadvantaged Priority Districts are eligible for 100% coverage. While upfront costs of Electric School Buses are significantly higher than diesel/gasoline buses, current state and federal incentives like the New York School Bus Incentive Program, as well as maintenance costs that are much lower, bring the total cost of ownership more in line with diesel- and gasoline-fueled buses.

Learn More

For more information on Electric School Buses visit nyserda.ny.gov/ESB.

In 2022, New York State created a target for all school districts to transition to Electric School Buses. Specifically, all new school bus purchases as of 2027 must be electric, with the entire fleet transitioned to electric by 2035.

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