



Environmental  
Defense  
Fund

# CLEANER AIR AND SAFE CHILDREN



SARAH SILBIGER/MOMS CLEAN AIR FORCE

## ELECTRIC SCHOOL BUSES MAKE THE GRADE

Nearly 100% of the first round of the U.S. EPA's Clean School Bus program funding went to electric buses. And for good reason: they reduce local air pollution, lower transportation costs and improve grid resilience.

**“When it comes to improving the air quality our children experience on their way to and from school, nothing compares to the advantages of going electric.”**

Electric buses are the only zero-tailpipe pollution option on the market, and they are ready to roll in all types of weather and geographies.

Today, nearly all 480,000 school buses in the country burn diesel, which emits greenhouse gases and air pollution that harms human health. Though cleaner than diesel engines, natural gas and propane buses produce contain significant amounts of toxic pollutants such as carbon monoxide, formaldehyde, nitrogen oxides, particulate matter and benzene, which have been linked to health problems including asthma and even cancer.

Electric buses eliminate 100% of tailpipe emissions associated with fossil fuel engines – and protect vulnerable lungs.

### Reliable and Rugged

Electric school buses have an average range of at least 100 miles, well over the distance of a typical route. And their long dwell times and predictable routes allow for convenient overnight charging.

EVs are well equipped to handle all kinds of geographies, including mountainous areas and colder climates. In fact, the regenerative braking systems of electric buses use hilly terrain to safely recharge the battery. School districts in [Colorado](#), [North Carolina](#) and [Alaska](#) have successfully deployed electric buses, and technology continues to evolve to meet the moment: a [manufacturer in Canada](#) has designed and is testing a model specifically for cold weather.

### Powerful and Economical

Just as passenger electric vehicles provide drivers quick and powerful rides, electric motors deliver school bus drivers the power and responsiveness they need to carry our children reliably from Point A to Point B. Moreover, electric buses offer school districts a brand new advantage. Their large batteries and predictable schedules make them perfect candidates for bidirectional charging, which allows bus batteries to power homes, schools, and critical facilities during grid emergencies.

By sending energy back to the grid and directly to buildings, school buses can power heaters, air conditioners, refrigerators, and medical devices – as well as even keeping the lights on at critical facilities during emergencies. And because most areas offer lower electric rates in the evening, the typical driving patterns of buses means that buses can charge overnight, keeping energy costs for school districts low.

## Clean and Safe

When it comes to improving the air quality our children experience on their way to and from school, nothing compares to the advantages of going electric. Electric buses eliminate 100% of the tailpipe emissions associated with their fossil fuel-powered counterparts.

Fossil fuel bus proponents have claimed electric buses pose new fire risks. But evidence demonstrates that internal combustion engines are more likely to catch fire. Per 100,000 vehicles, [1,530 gasoline vehicles](#) experienced fires, compared to 25 electric vehicles. Additionally, electric vehicles had five fires per billion miles traveled compared to 55 fires per billion miles for ICE vehicles. Indeed, electric school buses have safety features that make

the risk of fire even more remote, including sophisticated battery temperature controls, weather-durable casing, and vehicle design that makes battery damage less likely.

And, the National Fire Protection Association has a number of useful resources for first responders in the rare event of a battery fire, including [courses](#) that meet the recommendations of the National Transportation Safety Board.



SWANH SILBERG/MOVS CLEAN AIR FORCE

## FUNDING THE FUTURE

Investing in new bus fleets is a big decision for school districts and local leaders. But federal and state programs now offer historic funding that can nearly eliminate up-front costs of going electric.

More than \$5 billion in grants and rebates are available for vehicle purchases, charging infrastructure and workforce development. Another [\\$7.5 billion](#) will fund 500,000 new public charging stations across the country, which will supplement private and depot charging stations. Many states are also funding the transition to electric school buses. For example, Illinois is allocating a portion of their Volkswagen Mitigation Trust money to electric school buses, and Maryland has set target dates for their transition to electric school buses.

States like New York, New Jersey, Maine, Massachusetts and Colorado are setting ambitious targets to transition commercial fleets, including school buses, to electric. Various campaigns and programs are supporting this transition, such as the all-inclusive fleet leasing model started by [Highland Electric](#) and other federal grant programs contained within the Inflation Reduction Act, such as the Clean Heavy-Duty Vehicle Program and commercial vehicle tax credits. In short, electric school buses aren't just a part of our future – they are a viable option today and a solution for school districts seeking to improve the health of their children and communities.

For more information, please contact Larissa Koehler, [lkoehler@edf.org](mailto:lkoehler@edf.org) and Ali DySard, [adysard@edf.org](mailto:adysard@edf.org)

257 Park Avenue South  
New York, NY 10010

**EDF.org**  
T 212 505 2100

**Environmental Defense Fund** works around the world from offices in  
New York / Washington / San Francisco / London / Beijing / La Paz, Mexico / and other cities