Electric School Bus INITIATIVE

WORLD RESOURCES INSTITUTE

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AN EQUITABLE TRANSITION TO ELECTRIC SCHOOL BUSES

Delivering the health, air quality and climate benefits of electric school buses to students nationwide

THE CHALLENGE.

Some 20 million students ride the bus to school in the U.S., and more than 90% of those buses are diesel. That's a problem: diesel exhaust, a known carcinogen, is too dangerous for children to breathe.

Diesel fumes have proven links to serious physical health issues, leading to asthma, cancer and other respiratory illnesses—and research has even linked these diesel bus emissions to cognitive development impacts. More troubling still, younger students are particularly vulnerable to the negative impacts of diesel exhaust pollution and the dangers of diesel exhaust are even greater for older, higher emitting buses.

While diesel exhaust pollution is undeniably dangerous for all students, not everyone feels its impacts equally. Low-income students and Black students are both more likely to ride the bus to school than other peer groups, and communities of color face on-road fine particulate matter pollution 61% to 75% higher than white residents.

On top of their dangerous local pollutants, diesel school buses also generate significant greenhouse gas emissions, fueling climate change and putting even more people in harm's way.

Bottom line: diesel school buses aren't safe for our children, our communities or our planet.

THE OPPORTUNITY.

But there is good news: electric school buses are safe and reliable, produce no tailpipe emissions and are already on the road serving kids in districts nationwide today.

Because electric school bus motors create no tailpipe emissions, they reduce students' exposure to dangerous air pollutants. That keeps students safe from the serious physical dangers of diesel exhaust pollution. Reducing students' exposure to air pollution from school buses has been shown to have positive and significant effects on student test scores too.

An equitable transition to electric school buses also offers an opportunity to right historical wrongs by ensuring those most impacted by the dangers of diesel exhaust pollution experience the benefits of electric school buses first – and by guaranteeing that communities are empowered across the electric school bus ecosystem.

Electric school buses generate significantly lower greenhouse gas emissions than all other fuel types. In fact, electrifying the full U.S. school bus fleet by 2030 would reduce greenhouse gas emissions by 9 million metric tons per year[1] – the equivalent of taking 2 million cars off the roads – all while helping to bring about a crucial tipping point for electric vehicles within the transport sector.

That means electric school buses aren't only part of the solution to air pollution, they can play a key role in mitigating climate change too.

THE ELECTRIC SCHOOL BUS MOMENT.

Maybe the best news of all is that the electric school bus moment is here.

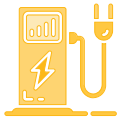
Electric school buses are successfully operating in every type of community and all types of climates, with commitments to more than 5,900 electric school buses in 49 states. Through the improved battery and charging technology now available, the nameplate range of current electric school bus models is from 75 to 210 miles, enough to reliably cover most routes in operation. And with all major bus manufacturers now offering electric school buses — and historic investments in electric school buses at the federal, state and local level — more students than ever before are positioned to experience the benefits of electric school buses.

OUR APPROACH.

Together with partners, WRI's Electric School Bus Initiative is working in five areas of focus:

Support school districts in accelerating the equitable transition to electric school buses. WRI is working with communities and partner organizations to support school districts – particularly those in low-income areas, communities of color and those disproportionately impacted by diesel exhaust pollution – with technical assistance and localized transition plans.

Collaborate with manufacturers across the electric school bus supply chain in preparing for an equitable and sustainable transition. WRI is working with manufacturing supply chain stakeholders to identify industry bottlenecks, increase electric school bus capacity and availability, and lower purchase costs – all while engaging partners to foster an equitable transition with a focus on workforce preparation.



Work with electric utilities to improve interconnection and investments for electric school bus charging infrastructure, including supportive rates and tariffs. WRI is bringing together electric utilities, policymakers, school districts and private fleet operators to identify and advance equity-oriented electric system solutions, including innovative opportunities in vehicle-to-grid (V2G) and vehicle-to-anything (V2X) technologies and infrastructure deployment

Engage policymakers to drive policies that grow demand, reduce barriers and increase electric school bus public funding. WRI is supporting community voices and engaging policymakers in the federal government, state governments and municipalities to usher in the policy solutions and funding and financing needed to reduce barriers to equitable school bus electrification.

Partner with communities pursuing school bus electrification and support with tools and resources. WRI is working collaboratively with partners and community organizations – many of whom have been leading in the electric school bus space for years – to bring about an equitable transition to electric school buses and center the voices of community members in every school district.

ABOUT WRI'S ELECTRIC SCHOOL BUS INITIATIVE

Established in partnership with the Bezos Earth Fund, WRI's Electric School Bus Initiative aims to collaborate with partners and communities to build unstoppable momentum toward an equitable transition of the U.S. school bus fleet to electric, bringing health, climate, and economic benefits to children and families across the country and normalizing electric mobility for an entire generation.

1. Calculation using AFLEET (2020) and includes fuel lifecycle and vehicle operations. Uses the NREL Electrification Futures Study low cost renewables 2030 national average values, and assumes annual bus mileage of 14,084 miles, the same distribution of bus sizes found in the 2022 fleet orders, and no changes from current fuel efficiencies of either fuel type.