

January 31, 2022

To: US Environmental Protection Agency
Clean School Bus Program
1200 Pennsylvania Avenue
Washington, DC 20450
cleanschoolbus@epa.gov

Re: Clean School Bus Program Funding

The undersigned organizations, which include a multitude of regional and national advocates, thank the US Environmental Protection Agency (EPA) for the opportunity to comment on the Clean School Bus Program.

Cleaning up school buses around the nation is imperative. Today, there are approximately 480,000 school buses in operation, transporting 25 million children *every day* and racking up 3.3 billion miles annually.¹ Despite the clear benefits of zero-emission school buses, which will be described later, the deployment of these vehicles has been shockingly small - 95% of school buses on the roads today run on diesel² and battery powered school buses make up just 1% of the nation's fleet.³ Those vehicles are often not located in socially vulnerable areas - the largest percentages of contracted electric buses are in suburban areas, and, as the World Resources Institute has discovered, the data show that there are "just a small fraction of school districts with electric buses in the most vulnerable areas."⁴ Despite increasing commitments from school districts - which, critically, are largely driven by state funding to mitigate the barriers presented by upfront cost - only 2% of the approximately 13,500 school districts across the country have made plans to purchase electric school buses. Federal funding that can mitigate the still significantly higher upfront cost of battery-powered electric buses relative to diesel, as well as charging infrastructure, can move the needle. As such, **all of the \$5 billion available for funding under the Clean School Bus Program should be used to support electric bus and charging station deployment**, rather than allowing half that money to be used for "clean" buses that are likely to run on fossil fuels. Additionally, this funding should come with guardrails to

¹ Reuben Scriven, *How the US plans to turn all its iconic school buses electric*, electric and hybrid vehicle technology international, <https://www.electrichybridvehicletechnology.com/opinion/how-the-us-plans-to-turn-all-its-iconic-school-buses-electric.html>; SchoolBus Fleet, *2021 Fact Book - Pupil Transportation by the Numbers* at 30 (Dec. 2020), <http://digital.schoolbusfleet.com/publication/?m=65919&i=696373&p=32&pp=1&ver=html5>.

² World Resources Institute, *The State of Electric School Bus Adoption in the US*, <https://www.wri.org/insights/where-electric-school-buses-us>.

³ Time, *U.S. School Buses May Never Be The Same Thanks to Biden's Infrastructure Plan* (Nov. 15, 2021), <https://time.com/6117544/electric-school-buses/>.

⁴ Leah Lazer, *et al.*, *The promise of electric school bus adoption in the US* (Aug. 24, 2021), <https://www.greenbiz.com/article/promise-electric-school-bus-adoption-us>.

ensure it is prioritized in underserved and disadvantaged communities that are disproportionately impacted by pollution from various sources, including from transportation.

Diesel School Buses Impact Vulnerable Populations

School buses transport millions of children every day, significantly more than any other transit system. As such, the diesel pollution emanating from these vehicles - which includes greenhouse gases, particulate matter, and nitrogen oxide emissions - presents a staggering problem. Since school buses travel through residential communities, the pollution emitted from these tailpipes has an especially big impact on contributing to respiratory and cardiovascular illnesses, among other diseases, for the people breathing that dirty air. Moreover, the primary users of these buses – children – are at greater risk than the general population. Given their still-developing lungs, children are more vulnerable to school bus emissions, which are 4-12 times higher in the cabin of the bus compared to ambient levels. In addition, wheelchair access is often closest to the tailpipe, putting children who may be even more vulnerable at an extra risk.

As with other forms of pollution, the distribution of emissions is not evenly felt. Per the World Resources Institute, “60% of students from low-income families ride the bus to school, compared to 45% of students from families with higher incomes”⁵ - meaning that children from low-income families are more likely to be breathing in diesel exhaust from school buses.

Furthermore, people of color are much more likely to be suffering the impacts of harmful transportation pollution relative to their white neighbors. A study by the Union of Concerned Scientists found that Asian Americans, African Americans, and Latinos have 34, 24, and 23 percent higher exposure to fine particulate matter relative to the national average - while whites have 14 percent lower than average exposure to the same pollutant.⁶ Similarly, an analysis of nitrogen dioxide data, a transportation-related pollutant, found that concentrations were 2.7 times higher in neighborhoods with the highest percentage of non-white residents; while that cannot be solely attributed to school buses, these vehicles are a likely contributor. Many of these families are already facing a higher pollution burden because they are more likely to live close to highways, ports, power plants, warehouses and distribution centers, and other significant emissions sources.

A Transition to Zero-Emission Buses Can Provide Significant Benefits

⁵ World Resources Institute, *The State of Electric School Bus Adoption in the US*, <https://www.wri.org/insights/where-electric-school-buses-us>.

⁶ Union of Concerned Scientists, *Air Pollution from Cars, Trucks, and Buses in the US: Everyone is Exposed, But the Burdens are not Equally Shared* (Oct. 16, 2019), <https://blog.ucsusa.org/dave-reichmuth/air-pollution-from-cars-trucks-and-buses-in-the-u-s-everyone-is-exposed-but-the-burdens-are-not-equally-shared/>.

First and foremost, zero-emission buses have deep emission reduction benefits. A transition of the entire school bus fleet to zero-emission buses would eliminate 5.3 million tons of greenhouse gas emissions each year, in addition to slashing nitrogen oxides and particulate matter. A recent analysis by Earthjustice demonstrates this stark disparity: 2.5 billion dollars spent on electric buses would result in zero tailpipe emissions over the lifetime of the vehicles. The same amount of money spent to buy diesel buses would emit nearly 13 *million* pounds of nitrogen oxides over the same lifetime, in addition to 5 times the amount of fine particulate matter.⁷ As discussed before, if investments are structured to prioritize equity - that is, in a way that ensures underserved and disadvantaged communities are benefiting from zero-emission vehicles, along the lines of Justice40 guidelines - underserved and disadvantaged communities stand to gain tremendous benefits as a result of improved air quality and mitigation of climate-change worsening emissions.

Second, operators of zero-emission school buses can see significant cost savings for fuel and other life cycle costs. For a diesel bus, 12-year lifetime fuel costs are about \$76,000, and operations and maintenance costs are approximately \$142,000, in contrast to \$21,000 and \$69,000 for electric school buses, respectively.⁸ Vehicle maintenance costs offer significant savings as well.⁹ This does not take into account the societal benefits of a transition to zero-emission vehicles: a transition to 100% electric truck and bus sales by 2040 could provide up to \$485 billion in health and environmental benefits as a result of pollution reductions.¹⁰ Currently, the total cost of ownership of an electric bus is marginally higher than its diesel equivalent; however, as battery prices continue to fall precipitously, this differential will continue to narrow and quickly become favorable. Repowering/retrofitting buses to run on electricity - as, for example, SEA Electric has proposed¹¹ - could also be an excellent way to lower upfront costs if proven effective. In the meantime, grant programs like EPA's Clean School Bus Program that bring down the upfront cost of electric school buses and continue to build economies of scale that will reduce costs throughout the market are paramount.

⁷ Earthjustice, *Building Back Better: Accelerating Electric School Bus Adoption*, https://earthjustice.org/sites/default/files/files/earthjustice_electric_school_bus_analysis_fact_sheet.pdf.

⁸ Environmental Defense Fund, *Electric school bus – Cleaner, reliable, ready*, <http://blogs.edf.org/energyexchange/files/2021/02/ElectricSchoolBusFactSheet.pdf>

⁹⁹ ICF, *Comparison of Medium- and Heavy-Duty Technologies in California – Executive Summary* (Dec. 2019), available at <https://www.atlasevhub.com/resource/comparison-of-medium-and-heavy-duty-technologies-in-california/>; California Air Resources Board, *Updates Costs and Benefits Analysis for the Proposed Advanced Clean Trucks Regulation* at 14, Table IV-8, <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2019/act2019/30dayattc.pdf>.

¹⁰ Environmental Defense Fund, *Clean Trucks, Clean Air, American Jobs* at 1 (Mar. 2021), https://www.edf.org/sites/default/files/2021-03/HD_ZEV_White_Paper.pdf.

¹¹ SEA Electric, *SEA Electric to Convert 10k US School Buses*, <https://www.sea-electric.com/convert-10000-school-buses/>.

The cost of powering an electric bus is typically lower and more predictable than for combustion buses. Unpredictable fuel spikes for diesel trucks stress school district budgets that are already stretched too thin. On the other hand, electric buses simplify budgeting for school districts.

Third, a transition to electric school buses can create good-paying jobs within our borders. A significant number of manufacturers are crafting buses across the United States including in Alabama, California, Georgia, Indiana, Minnesota, New York, North and South Carolina,¹² and more recently, West Virginia¹³ and Illinois.¹⁴ Spurring the manufacturing of more of these vehicles through efforts like the Clean School Bus program can create many good-paying jobs. In addition, the installation of charging stations necessary to support these vehicles can provide many more. It will of course be critical to ensure that these jobs are in underserved and disadvantaged communities that suffer disproportionate impacts of air pollution but are currently less likely to benefit from wealth creation associated with the deployment of zero-emission school buses and infrastructure.

Finally, school buses are a perfect use case for bidirectional charging capabilities, which can make the economic case for these vehicles even more attractive and enable key resiliency benefits. School buses remain idle for significant portions of the day and year, sitting still for approximately 75% of the time during the year, accounting for many hours of the day and summers.¹⁵ Importantly, they tend to be sitting still during times of peak electricity demand, and thus can be an important source of energy back to the grid at times when the system is strained. This creates a more resilient, reliable grid. As well, vehicles can provide emergency power, given that they are batteries on wheels, providing a crucial service to critically important buildings in the event of power outages. And, if these services are valued fairly, compensation can further enhance the already strong economic case for a transition. The EPA should coordinate with the DOE to facilitate expanding use of this critically important capability, given their technical expertise in this area. Further, guidance issued by EPA should detail the potential monetary benefits of bidirectional capabilities and should encourage applicants to plan for installation of these capabilities when seeking funding.

¹² Reuben Scriven, *How the US plans to turn all its iconic school buses electric*, electric and hybrid vehicle technology international, <https://www.electrichybridvehicletechnology.com/opinion/how-the-us-plans-to-turn-all-its-iconic-school-buses-electric.htm>

¹³ WVVA, *Gov. Justice welcomes GreenPower to West Virginia*, <https://www.wvva.com/2022/01/12/gov-justice-welcomes-greenpower-west-virginia/>.

¹⁴ PR Newswire, *Lion Electric Announces U.S. Manufacturing Facility in Illinois, the Largest All-Electric Medium and Heavy-Duty Vehicles Plant in the U.S.* (May 7 2021), <https://www.prnewswire.com/news-releases/lion-electric-announces-us-manufacturing-facility-in-illinois-the-largest-all-electric-medium-and-heavy-duty-vehicles-plant-in-the-us-301286604.html>.

¹⁵ Environmental Law & Policy Center, *Pekin and See: How to Turn a Coal Plant into Electric School Buses* (Apr. 1, 2021), <https://elpc.org/blog/pekin-and-see-how-to-turn-a-coal-plant-into-electric-school-buses/>.

Recommendations

The undersigned organizations urge the EPA to spend all of the \$5 billion available under the Clean School Bus Program on zero-emission school buses. Funding school buses fueled by natural gas, propane, and other dirtier fuels does students across the nation a disservice and impedes states and the country as a whole from meeting climate goals. To maximize the number of buses that can be funded through this program, the EPA should use the differential in cost between an electric bus and diesel bus as a guide for the size of the grant - along with an appropriate amount for the charging station and technical assistance; however, flexibility should be preserved in order to accommodate underserved and disadvantaged communities that need additional assistance to make the transition.

In addition, the program must be well-structured to achieve benefits where they are needed most: in the underserved and disadvantaged communities that will face the worst impacts of climate change and are already suffering the cumulative impacts of health-harming pollution from multiple sources. This is in line with the Biden Administration's Justice40 commitment - and the EPA should view that 40% investment commitment as a floor when deploying funding. Funding prioritized in school districts located in underserved and disadvantaged communities should ensure that the state and local governments applying for this competitive funding abide by clear metrics and report on how this funding is used. Critically, any funding that is disbursed as a rebate, rather than a grant, should be at the point of sale for the vehicle and charger to ensure school districts without sufficient funds to cover the cost at the point of purchase can still benefit from this program.

Additionally, applicants should demonstrate the use of robust screening tools as feasible to appropriately identify underserved and disadvantaged communities that are suffering the cumulative impacts of pollution from multiple sources and socioeconomic factors, and detail the following: projected and actual emissions reductions; ongoing relationship with the local utility; fair hiring practices that keep jobs in underserved and disadvantaged communities; marketing, education, and outreach; and any additional rebates and incentives that have been used. Of course, states should also be required to connect early and often with representatives of communities most impacted by harmful pollution to ensure that solutions are designed with their needs and recommendations in mind.

Finally, the EPA should ensure that grants combine funding for vehicles and charging stations as a package deal where desirable, alongside providing for technical assistance that can streamline the transition to an electric bus, potentially including interconnection, charging station installation, education about rate design, and other critical components. Given the expertise of the Department of Energy and the Department of Transportation, and their management of funds for charging infrastructure, the EPA should coordinate with its sister agencies to ensure that they can benefit from their technical knowledge and effectively support the operations of these buses.

Finally, this funding must prioritize low-income and frontline school districts in its distribution and ensure that states abide by this prioritization through the development and implementation of clear metrics and reports on how this funding is used.

Signed and submitted on January 31, 2022.

Acadia Center
Alliance of Nurses for Healthy Environments
Appalachian Mountain Club
Asthma and Allergy Foundation of America, Michigan Chapter
Center for Neighborhood Technology
Center for Sustainable Communities
Climate Reality: Chicago Metro Chapter
Community In-Power and Development Association
Ecology Center
Environmental Defense Fund
Environmental Law & Policy Center
Evergreen Action
Go Green Wilmette
GreenLatinos
Illinois Environmental Council
Maine Conservation Voters
Metro East Green Alliance
MI Air MI Health
Michigan Sustainable Business Forum
Natural Resources Council of Maine
Respiratory Health Association
Sierra Club
Southern Alliance for Clean Energy
Southern Environmental Law Center
Texas Physicians for Social Responsibility
The Climate Reality Project
Union of Concerned Scientists
United Methodist Women
Virginia Clinicians for Climate Action
Voices for Progress