Date: Tue, Nov 19, 2024 at 3:44 PM
To: <rebeccar@bps.k12.mt.us>
Subject: Propane and electric school bus comparison

Hi Rebecca,

This document is an excellent comparison of propane and electric school buses, from a reputable source.

https://electricschoolbusinitiative.org/clearing-air-emissions-propane-burning-school-buses#:~:text=Propane%2Dburning%20school%20buses%20release,fossil%20fuel%20onboard%20the%20vehicle.

Could you please share this with your board?

I look forward to hearing from you.

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Clearing the Air on Emissions from Propane-Burning School Buses

With polluting tailpipe emissions, propane-burning school buses can’t deliver the cleanest ride our kids deserve.

Our children deserve clean air on the ride to school every day. That means zero tailpipe emissions from their school buses, so they aren't breathing in harmful pollutants from their own bus.

Electric school buses are the only school bus type with zero tailpipe emissions. That means electric school buses don't expose students to the types of harmful tailpipe emissions that can lead to asthma, cancer and other respiratory illnesses.

However, propane-burning buses are not free of tailpipe emissions. And while propane tailpipe emissions may contain lower amounts of certain harmful pollutants than diesel exhaust pollution, we want the cleanest option for our kids.

Let's dig in deeper.

Propane-burning school buses release harmful tailpipe emissions. Electric school buses don't.

Propane is a fossil fuel and, when it burns, produces harmful pollutants. Electric school buses are the only type of school bus that does not require burning a fossil fuel onboard the vehicle.

Propane-burning school buses emit dangerous pollution at levels generally comparable to or higher than current diesel models, according to data from the U.S. Department of Energy's Argonne National Laboratory AFLEET tool. In fact, propane-burning school buses emit more carbon monoxide than diesel-burning school buses and just as many greenhouse gases — the only benefit of propane-burning buses over diesel are for nitrogen oxide emissions, AFLEET data demonstrates.

The data is clear: electric school buses are the best at lowering the emissions that affect student health and the environment.

Propane-burning school buses emit dangerous pollution at levels generally comparable to or higher than current diesel models.

Source: AFLEET data

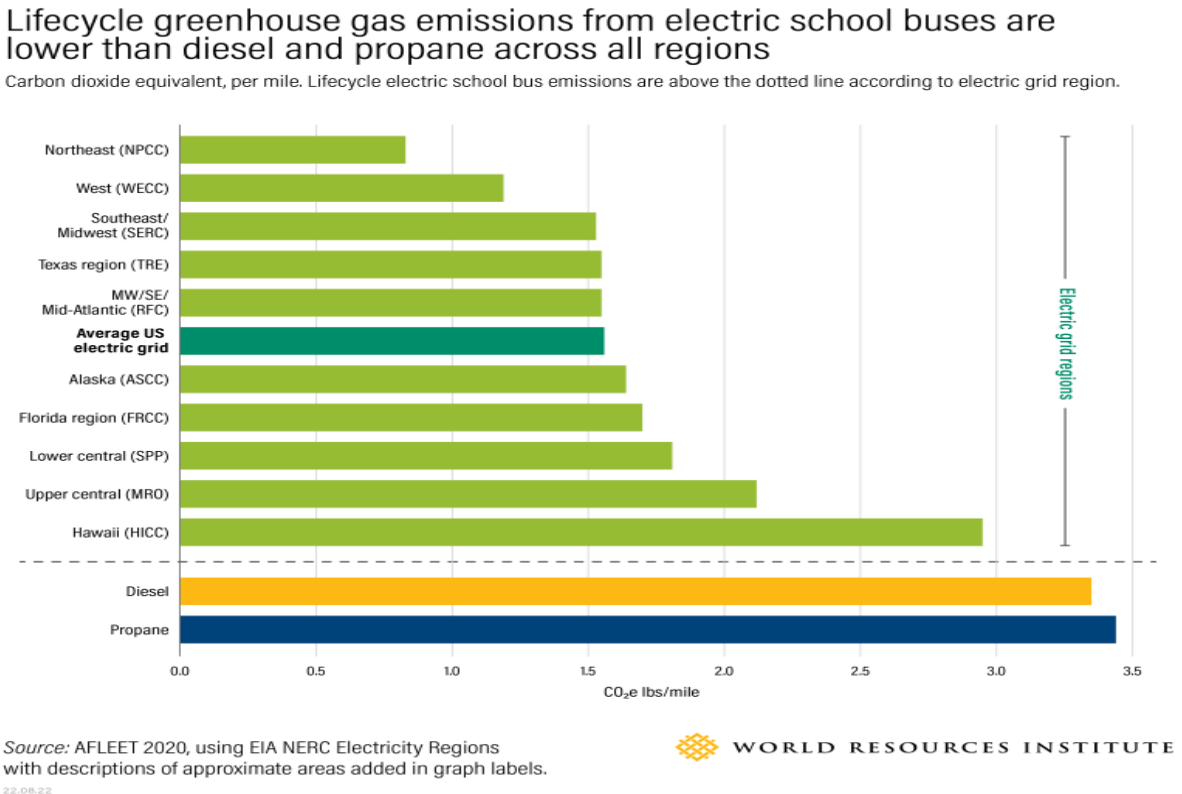
Thomas Built Buses, a manufacturer of school buses using various fuel types, presents emissions using EPA testing procedures and notes that only electric buses are truly free of tailpipe emissions. And, a propane school bus case study published by the U.S. Department of Energy found that when it comes to air quality, propane-burning school buses are not much better than recent models of diesel-

burning school buses. The report said in part: “Relative to model year 2010 and newer diesel buses, new propane buses do not offer significant air quality benefits.”

In other words: with tailpipe emissions of harmful pollutants, propane-burning buses don’t offer the clean ride our kids deserve.

Propane-burning school buses also emit high levels of the greenhouse gases driving climate change. In fact, propane pollution is just as damaging as diesel exhaust pollution in terms of greenhouse gas emissions. By comparison, even when accounting for emissions from electricity production, on average, electric school buses generate just half the greenhouse gas emissions of propane-burning and diesel-burning school buses. And as electricity grids shift to lower-emissions energy sources more and more, this difference will be even greater over time.

According to data compiled using AFLEET, across every electric grid in the nation, the per-mile carbon dioxide emissions associated with electric school buses are lower than those of propane-burning school buses. More details on the emissions across the electricity grid and the comparison to fossil fuels for school buses can be found here.



This is important to consider for the health and wellbeing of our kids and our planet. Today's children are most likely to be impacted by the harms of climate change – that's why we should make sure that their rides to school are truly clean.

The harmful tailpipe emissions from propane-burning school buses cannot be separated from the inequitable distribution of air pollution in the U.S. According to new research from the American Lung Association, 72% of the residents in counties with the worst air quality are people of color. And communities of color face on-road fine particulate matter pollution 61% to 75% higher than for white residents, according to a study focused on the northeast and mid-Atlantic regions. When we consider that both Black students and low-income students are more likely to ride the bus to school than other students, it's clear that reducing tailpipe emissions is vital to a more equitable future.

As we work to transition away from harmful diesel exhaust pollution, we know that propane pollution isn't the best answer.

According to a propane school bus case study, "…[compared to] diesel buses 2010 or newer, propane is not significantly cleaner."

Source

As a fossil fuel, propane is becoming increasingly out of step with zero emissions targets for school bus fleets.

Electric school buses are the only option that helps meet a growing number of commitments for a zero-emissions school bus future. Nationwide, states are rapidly moving to require zero-tailpipe-emissions in order to protect the health of students and communities:

- New York requires all new school bus purchases to be zero-emissions by 2027 and all school buses on the road to be zero-emissions by 2035.
- Maryland's 2022 Climate Solutions Now Act requires all new school bus purchases be electric by 2025, when able to use state or federal funds to cover incremental costs.
- Connecticut also passed the Connecticut Clean Air Act in 2022 that requires all school buses be zero emission by 2040.
- Maine passed a school bus fleet electrification bill requiring 75% of new school buses be zero emission by 2035.
- California, Colorado, Maryland, Massachusetts, New Jersey, New York, Oregon, Washington, and Vermont have fully adopted the Advanced Clean Trucks rule, which sets comprehensive zero emissions standards.

- Connecticut, Maine, North Carolina, the District of Colombia, Hawaii, Pennsylvania, Rhode Island, and Virginia have signed a 100% zero-emission truck MOU and are working on fully adopting the Advanced Clean Trucks rule soon.

Based on our most recent school bus fleet tracking, approximately 20% of the U.S. school bus fleet is covered by zero-emission targets and the Advanced Clean Trucks rule. Many cities are also adopting school bus electrification goals, including New York City, Boston, and Washington, D.C. And with increasingly strict federal emissions standards for trucks and buses, electric buses are the best option for future-proofing a school bus fleet to be free of tailpipe emissions. And in November 2022, the U.S. signed an international memorandum of understanding which set a target for the sale of 100% electric commercial delivery vehicles, buses, and trucks by 2040.

Propane buses are a risky investment in fossil fuel dependency with the growing momentum towards electrification. Daniel Sperling, founding director of the Institute of Transportation Studies at University of California Davis, described propane school bus purchases in Boston made just prior to their fleet electrification goal as "a detour at best, a dead end at worst."

The record funding available for electric school buses – both through the Clean School Bus Program and other federal, state and local funding sources – gives school districts a unique opportunity to use historic incentive programs to future-proof their fleets with electric school buses. You can find more about the funding and financing programs available here!