The Case for Electric School Buses

More than 20 million children in the U.S. take the bus to school every day. America's most precious cargo ride on the nearly 500,000 school buses that operate in the U.S., of which about 95% still run on diesel fuel. Tailpipe emissions from diesel vehicles contribute to air pollution and cause a variety of health problems in children such as asthma, respiratory illness, cognitive impairment, and premature death. Children from low-income communities of color are disproportionately impacted by higher exposure to diesel emissions and the resulting health effects, as they often rely more heavily on buses to get to school.

Photo via Concord-Carlisle Regional School District, NREL 60242

Enter electric school buses (ESBs), a market ready alternative with zero tailpipe emissions, improving the air that our children and community breathe. ESBs have lower operating and maintenance costs which can save money for school districts over the lifetime of the vehicle, according to a report by U.S. PIRG. And with their unique drive cycles and high-capacity batteries, they can even improve the reliability of our electrical grids. Today, manufacturers are offering an increasing variety of electric models.

Photo via Lion Electric

The DRVE Tool & ESB Deployment

Electrification of school bus fleets requires planning and collaboration with many stakeholders. To support this process in finding a best fit for EVs in fleet deployment, the EC has designed a fleet procurement tool, called the Dashboard for Rapid Vehicle Electrification (DRVE Tool), which quickly analyzes unique fleet data to identify total cost and emissions savings of various electric vehicle models. The tool is designed to analyze light-, medium-, and heavy-duty options, including ESBs.

The Infrastructure Investment & Jobs Act: ESB Transition on the Federal Level

Community awareness of reducing harmful vehicle emissions is growing, and the federal government is stepping up to enable the first wave of that transition to ESBs. The Infrastructure Investment and Jobs Act (IIJA), included a specific provision to help school districts procure clean school buses, totaling $5 billion for the purchase of alternative fuel school buses. Of that $5 billion, $2.5 billion will be specifically allocated for the procurement of zero-emission ESBs, while the other $2.5 billion will work as a broader source of funding to procure electric, natural gas, propane, and biofuel school buses.

Purchasing ESBs with IIJA funds presents several opportunities for school districts such as: significantly improved air quality for all American students due to the zero tailpipe emissions from ESBs, reduced total cost of ownership for schools that take advantage of vehicle-to-grid (V2G) technology, and potentially increased grid resilience when communities are in crisis as ESBs can provide back-up power supply.

About the DRVE Tool

The DRVE Tool brings powerful, turnkey fleet analytics to organizations and fleets in need of quickly assessing where electrification is best matched in their fleet operation. By design, the tool is built to work with a wide variety of fleet data, allowing users to run the analysis tool locally on their computer, producing a detailed report and recommendations, often under an hour.

Screenshot of the DRVE Tool Website

The tool is built to also offer a variety of customization, allowing users to develop various financing, charging, and usage scenarios to identify various options. In this way, the DRVE Tool can reduce the time and resources often required for conducting fleet assessment, providing powerful analytics to all users, with analysis resources across all light-, medium-, and heavy-duty vehicle options.
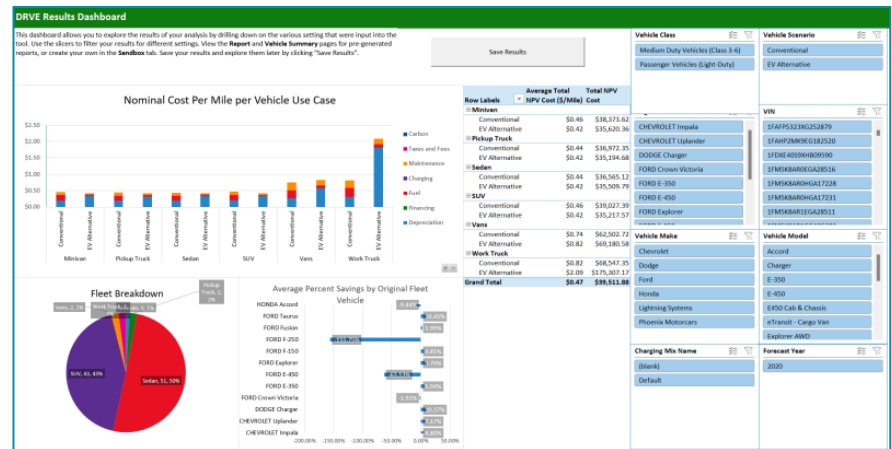

Photo via Lion Electric

Download the Tool for Free

For further information or help using the DRVE tool for electrifying your school bus fleet, tool download, user guide, and sample data please visit:
www.electrificationcoalition.org/press-release-drve/

Using the DRVE Tool at a Glance

1. **Import Fleet Data:** Select the file containing your data by pressing the "Open File" button. Then, select the sheet where your inventory data resides and select the following: VIN, Annual VMT, and Vehicle Service Life. Please ensure field names appear in the first row of your worksheet.

2. **Map Vehicles:** This tool maps your fleet vehicles to a database of vehicles that are already registered in the system. If a match is not found, a default vehicle will be used based on vehicle class. You also have the ability to provide a custom mapping for each vehicle by selecting a different vehicle or adjusting the vehicle settings. This mapping can be used in later analysis as well.

3. **Set Options:** You can change or add different settings to your fleet analysis. These include 'Analysis Settings', 'Market Conditions', 'Charging Strategy', and 'Procurement Strategy'.

4. **Run Analysis:** This may take several minutes.

5. **View Results:** Once you finish running the analysis, you can view and download the results into a customized print-ready report.

About the Electrification Coalition

The Electrification Coalition is a nonpartisan, not-for-profit group of business leaders committed to promoting policies and actions that facilitate the deployment of electric vehicles on a mass scale in order to combat the economic, public health, and national security dangers caused by America's dependence on oil. For more information, visit www.electrificationcoalition.org.

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