What’s Driving the Electric School Bus Momentum

- Commitments
- Manufacturing
- Federal Funding
- State Policy
- State Incentives
About the World Resources Institute

WRI is a global research organization that turns big ideas into action at the nexus of environment, economic opportunity and human well-being.
WRI’s Aim: Electrify the Entire U.S. School Bus Fleet by 2030

• Partner with communities, school districts, industry experts, manufacturers, utilities, and policy makers to **transform and electrify** the school bus market

• Together, build unstoppable momentum to **electrify** 480,000 school buses in the U.S. by 2030

• Ensure an **equitable transition** by focusing on underserved communities
The Status of School Bus Electrification

- 480,000+ school buses in U.S.
- Less than 3% are electric
- School districts in 38 states deployed or committed to ESBs

Source: WRI analysis (2021), WRI analysis (2022)
ESB Adoption Growing Over Time

**CUMULATIVE NUMBER OF ELECTRIC SCHOOL BUSES COMMITTED BY QUARTER IN THE UNITED STATES (2014-2022)**

- **First U.S. Electric School Buses Begin Operation**
  - California’s Kings Canyon School District and Escondido Union High School began operating first electric school buses with one each.

- **First Large-Scale Utility Program**
  - Dominion Energy announces it will offset the additional costs of an electric school bus, including charging infrastructure, for 50 buses across its Virginia service territory.

- **Largest Procurement of Electric School Buses**
  - Montgomery County Public Schools, MD, announces it will replace 306 diesel school buses with electric school buses over four years through a contract with Highland Electric.

- **Largest Partnership for Repowered Buses**
  - SEA Electric and Midwest Transit Equipment announce they will partner to convert 10,000 school buses to electric over five years.

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**Legend:**
- Blue bars represent cumulative electric school bus (ESB) commitments.
- Green bars represent cumulative electric school buses delivered or committed in each quarter.
- The graph depicts electric school bus (ESB) commitments at the earliest confirmed phase in the commitment process: awarded, ordered, delivered, or first operating. 286 ESBs were excluded due to unknown dates of their commitment stages.

**Source:** Based on Lazor and Frechhauer 2022.

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ESB Manufacturing & Assembly Focused in North America

Notes: This map includes companies with announced Type A, C, D ESBs in the U.S. and other relevant companies tracked by WRI as of February 2022. This map focuses on existing & planned facilities that perform manufacturing & assembly.
ESB Model Availability Expanding

22 ESB models available from 12 manufacturers across Type A, C, D
Includes newly manufactured and repowered electric school buses

### AVAILABLE NEWLY MANUFACTURED ELECTRIC SCHOOL BUSES (TYPE C)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Blue Bird</th>
<th>Lion</th>
<th>Thomas</th>
<th>IC Bus/Navistar</th>
<th>BYD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price range</strong></td>
<td>$326,810–$365,000&lt;sup&gt;a&lt;/sup&gt;</td>
<td>$338,253–$422,302&lt;sup&gt;b&lt;/sup&gt;</td>
<td>$335,287–$437,000&lt;sup&gt;c&lt;/sup&gt;</td>
<td>$347,870–$364,123&lt;sup&gt;d&lt;/sup&gt;</td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Length (L)/width (W)/height (H)</strong></td>
<td>L: Max 477&quot;</td>
<td>L: 473&quot;</td>
<td>L: 396&quot;</td>
<td>L: 303.9&quot;/474.9&quot;</td>
<td>L: 435&quot;/462&quot;</td>
</tr>
<tr>
<td></td>
<td>H: 123&quot;</td>
<td>H: 122&quot;</td>
<td>H: 144&quot;</td>
<td>H: 123&quot;</td>
<td>H: 132.9&quot;</td>
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<tr>
<td><strong>Passenger capacity</strong></td>
<td>77</td>
<td>77</td>
<td>81</td>
<td>29–72</td>
<td>78</td>
</tr>
</tbody>
</table>
ESB Costs Lower Over Time

- Battery cost declining, manufacturing scaling up
- Price parity projected by 2033
- TCO parity projected by 2029
- With subsidies, many ESB purchases already achieve TCO parity with diesels.
Over 12,700 ESBs Committed in 38 States + 2 Tribal Nations

Range of settings:
- suburban areas (56%)
- cities (29%)
- towns+rural areas (15%)

Equity focus:
- 25% ESBs are in school districts in the top quartile for % of low-income households

Leading state commitments:
- California: 1376 ESBs
- Maryland: 336 ESBs
- Florida: 218 ESBs

Source: WRI analysis, June 2022; Committed includes committed, procured, delivered or in operation
New Federal $5B Clean School Bus Program

In November 2021, Congress passed the bipartisan Infrastructure Investment & Jobs Act, including a record $5 billion to replace older, polluting school buses with cleaner and electric school buses.

That includes $2.5 billion in dedicated, standalone funding for electric school buses and another $2.5 billion for electric and low-emissions school buses.

EPA has launched the Clean School Bus Program to disburse the funding through annual rebate and grant applications, providing multiple opportunities for schools to apply over 5 years.
BREAKING NEWS: EPA Sees Overwhelming Interest in ESBs

✔ 2,000 applications
✔ $4 billion requested
✔ 12,000 buses applied for
✔ 90% of applications for zero-emission electric buses

EPA Doubling First Round of CSBP Funding to NEARLY ONE BILLION

Biden–Harris Administration Will Double Clean School Bus Rebate Awards to Nearly $1 Billion

School districts from all 50 states apply for rebates to provide students and communities cleaner air.

September 29, 2022

Contact Information
EPA Press Office epa.pressroom@epa.gov

WASHINGTON — Today, the U.S. Environmental Protection Agency (EPA) announced it would nearly double the funding awarded for clean school buses this year following increased demand, with school districts from all 50 states applying for the 2022 Clean School Bus Rebate. This is the second round of funding from the EPA Clean School Bus Program, which President Biden’s Bipartisan Infrastructure Law created with a historic $5 billion investment for low- and zero-emission school buses over the next five years.

In May, EPA had announced the availability of $500 million, but given overwhelming demand from school districts across the country, including in low-income communities, tribal nations, and territories, EPA is nearly doubling the amount of funding that will be awarded to $900 million.

EPA will review swiftly all applications submitted and expects to issue a robust slate of awards next month. EPA is also designing the next round of program funding to launch in the coming months, which will include an ambitious grant competition. Through future rounds of funding, EPA will make available another $1 billion for clean school buses in Fiscal Year 2024.

"Thanks to the leadership of the Biden-Harris Administration and the President’s Bipartisan Infrastructure Law, we’re working across all 50 states to accelerate the transition to cleaner, zero-emissions school buses that are the American standard," said EPA Administrator Michael S. Regan. "America’s school districts delivered this message loud and clear — we must replace older, dirty diesel school buses. Together, we can reduce climate pollution, improve air quality, and reduce the risk of health impacts like asthma for as many as 23 million children who ride the bus every day."
ESB Friendly Policies in the Inflation Reduction Act (IRA)

• $1 billion to electrify MHDVs
• Up to $40,000/bus in a qualified Commercial Clean Vehicle Tax Credit
• Up to $100,000/charger in the Alternative Fuel Refueling Property Credit
• Rural Energy for America Program
• Greenhouse Gas Reduction Fund
• Funding to Address Air Pollution at Schools
• Environmental and Climate Justice Block Grants
• Advanced Manufacturing Production Credit
• Domestic Manufacturing Conversion Grants
New York
• 100% of **new** school buses ZEV by 2027
• **all** school buses ZEV by 2035

Connecticut
• 100% of **all** school buses electric by 2040
• 2030 for buses operating in EJ communities

Maryland
• 100% of **new** school buses ZEV by 2025

Maine
• 75% of **new** school buses ZEV by 2035
Multi-State Medium Heavy Duty Zero Emission Vehicle (MHDV) Memorandum of Understanding (MOU) coordinated by NESCAUM sets goals of 30% zero-emission MHDV sales by 2030 and 100% zero-emission MHDV sales by 2050.

Advanced Clean Trucks (ACT) Rule sets increasing zero-emission vehicle sales requirements for MHDV manufacturers beginning in 2024. States can adopt CA rule under provisions of the Clean Air Act.
State Policy Action for ESBs – ACT and MOU

State funding sources:
- VW Settlement Funds
- State financial incentives such as state tax exemptions
- State voucher programs that offer rebates for buses and trucks (NY, CA, NJ)
- Cap and trade funds
- Green banks

Source: Atlas EV 2022 + WRI additions
THANK YOU!

Find out more at wri.org/electric-school-buses