



Electric School Bus Momentum

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World Resources Institute

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 WORLD RESOURCES INSTITUTE

Electric
School Bus

INITIATIVE



- Commitments
- Manufacturing
- Federal Funding
- State Policy
- State Incentives



WRI is a global research organization that turns big ideas into action at the nexus of environment, economic opportunity and human well-being.

- 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





480,000+ school buses in U.S.

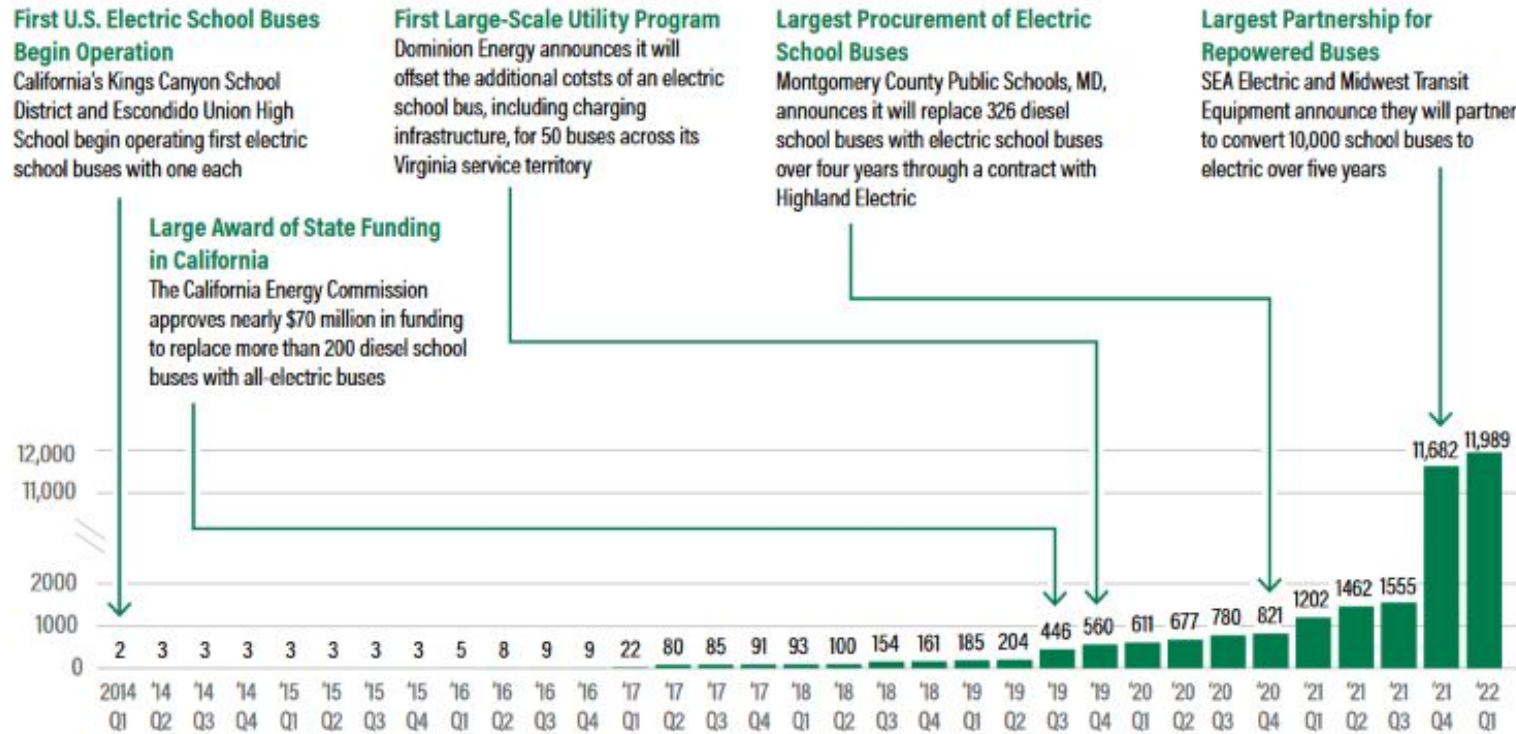


Less than **3%** are electric



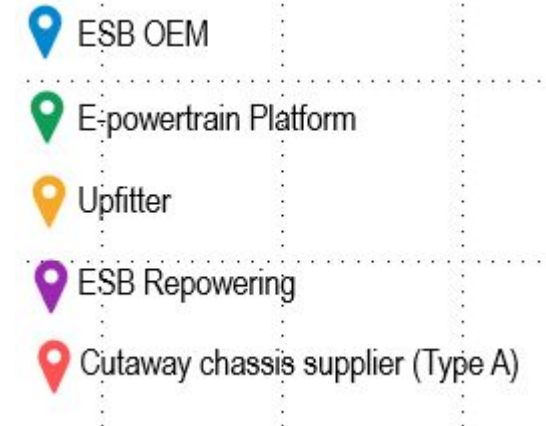
School districts in 38 states
deployed or committed to ESBs

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



Notes: This 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. Abbreviation: Q = quarter.

Source: Based on Lazer and Freehafer 2022.



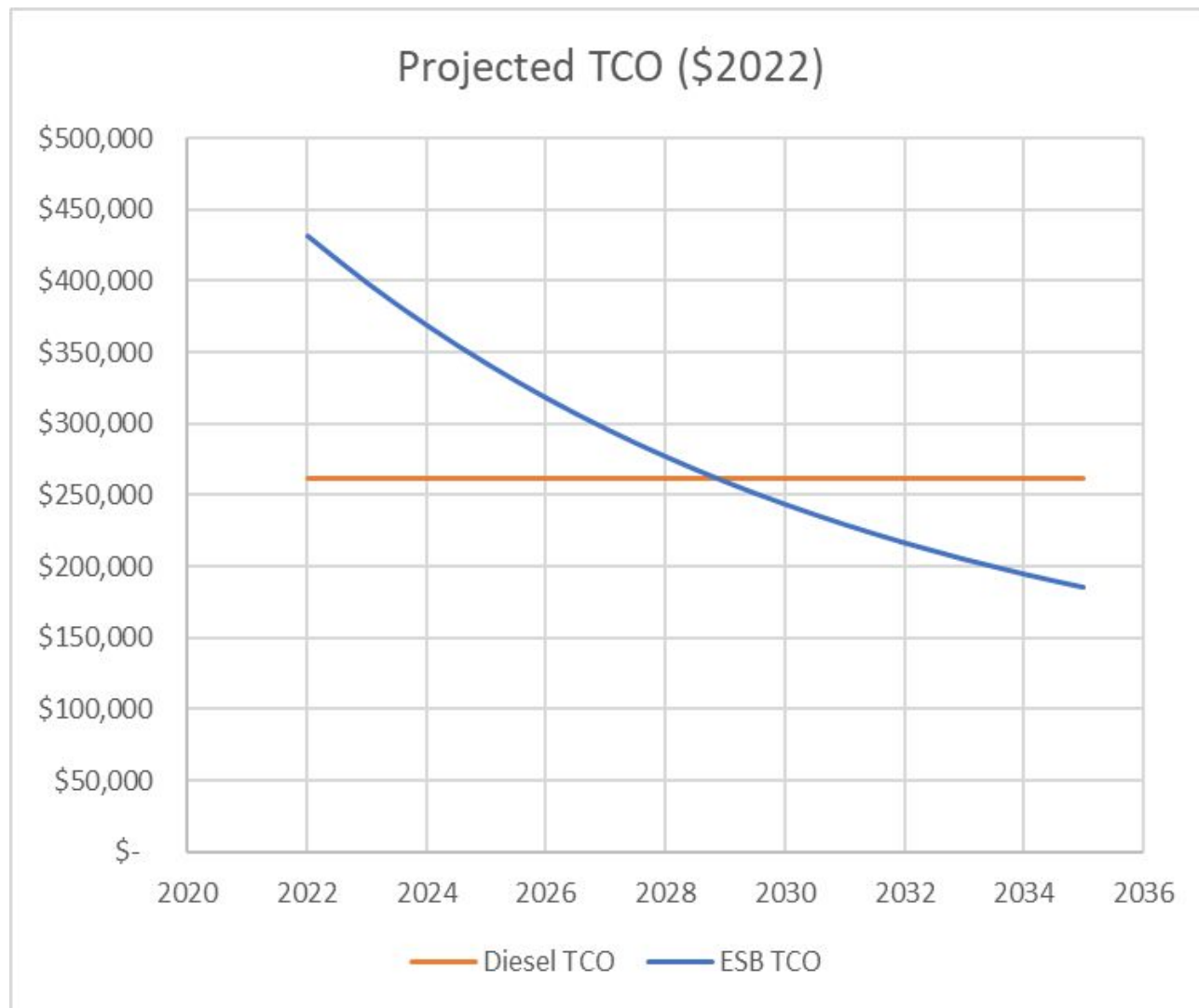
Notes: This map includes companies with announced Type A, C, D ESBs in the U.S. and other relevant companies tracked by WRI as of February 2022. This map focuses on existing & planned facilities that perform manufacturing & assembly.

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)

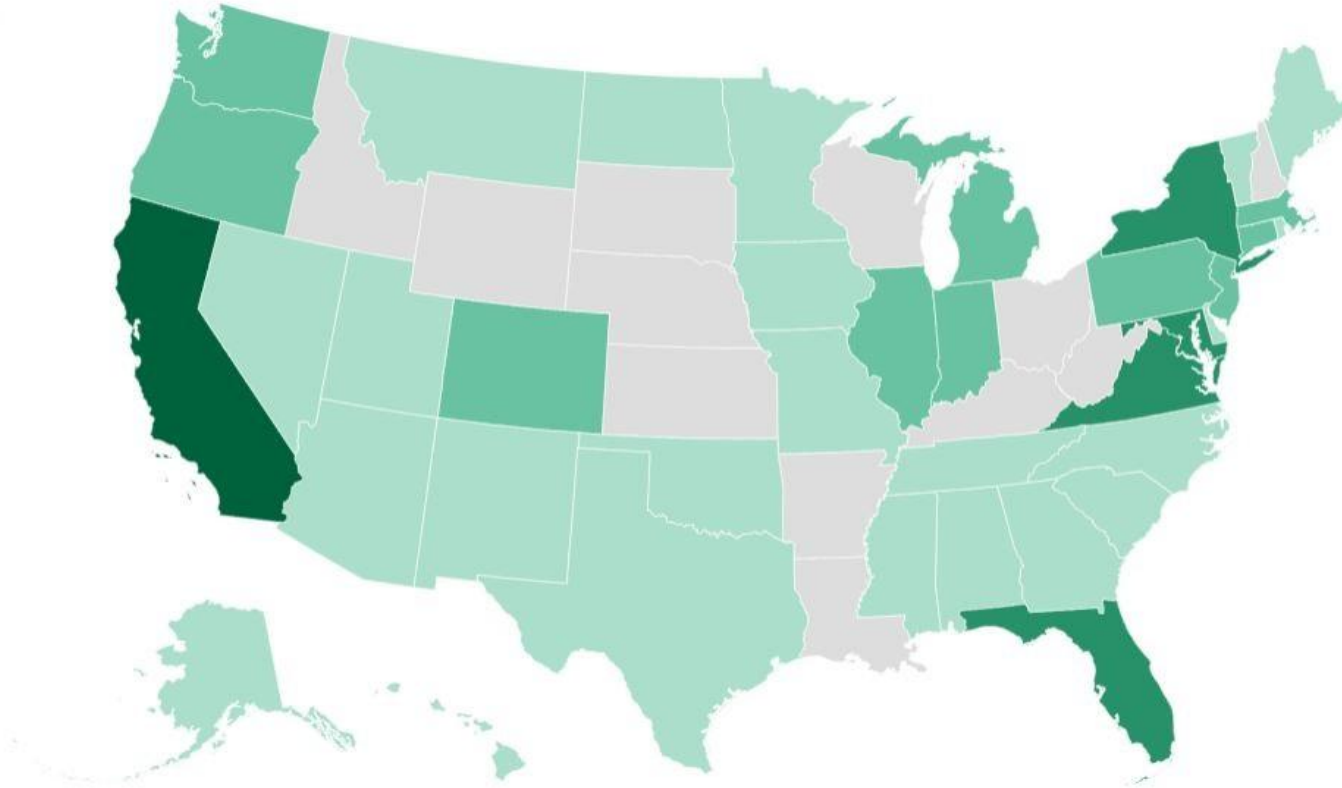
	Blue Bird	Lion	Thomas	IC Bus/Navistar	BYD
MODEL	BLUE BIRD VISION	LIONC	SAF-T-LINER C2 JOULEY	IC CE SERIES ELECTRIC BUS/ PB10E	TYPE C
Price range	\$326,810–\$365,000 ^a	\$338,253–\$422,302 ^b	\$335,287–\$437,000 ^c	\$347,870–\$364,123 ^d	Not available
Length (L)/width (W)/height (H)	L: Max 477"	L: 473"	L: 396"	L: 303.9"/474.9"	L: 435"/462"
	W: 96"	W: 96–102"	W: 96"	W: 96"	W: 102"
	H: 123"	H: 122"	H: 144"	H: 123"	H: 132.9"
Passenger capacity	77	77	81	29–72	78

- **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.**



Committed* electric school buses by state

0 1-10 11-100 101-500 501+



Source: [Lazer and Freehafer, 2022](#) - Data as of June 2022

*awarded, ordered, delivered, or in operation

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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

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.

Department of Transportation, Department of Energy, and other agencies have the opportunity to provide ESB funding beyond the \$5 billion allocated to EPA

EPA Doubling First Round of CSBP Funding to NEARLY ONE BILLION



EPA United States Environmental Protection Agency

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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 (press@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 Rebates. This is the first 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 \$965 million.

EPA will move swiftly to review applications submitted and expects to issue a robust slate of awards next month. EPA is also designing the next rounds 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 2023.

"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 a future where clean, zero-emissions school buses 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 25 million children who ride the bus every day."

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



- \$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

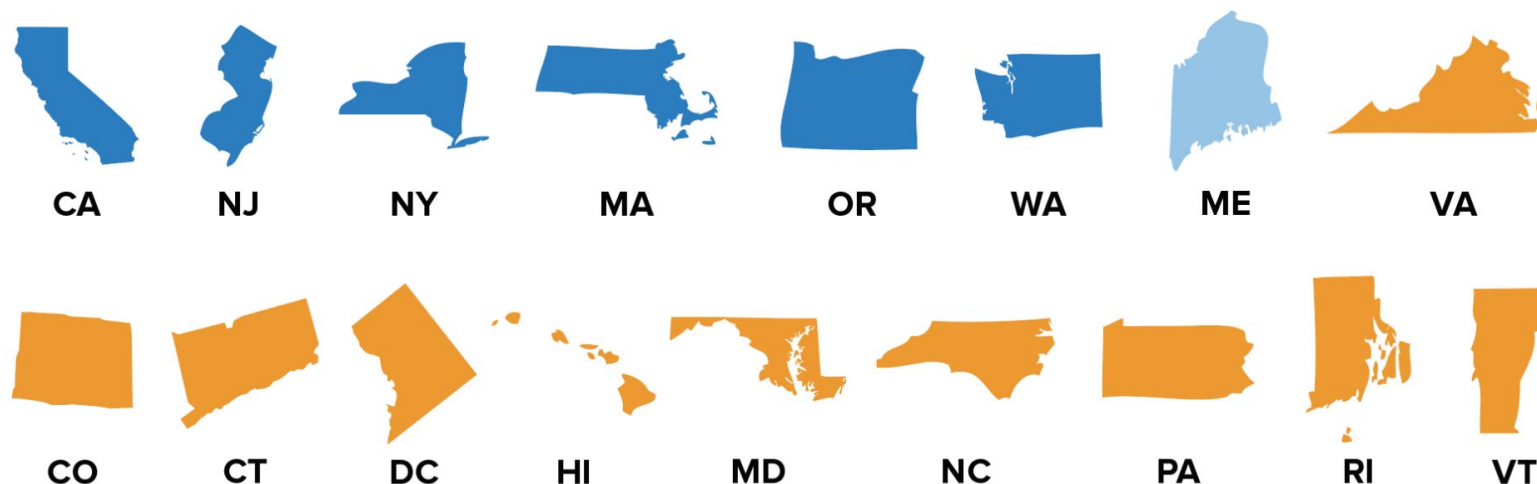
- 100% of **new** school buses ZEV by 2025

Maine

- 75% of **new** school buses ZEV by 2035

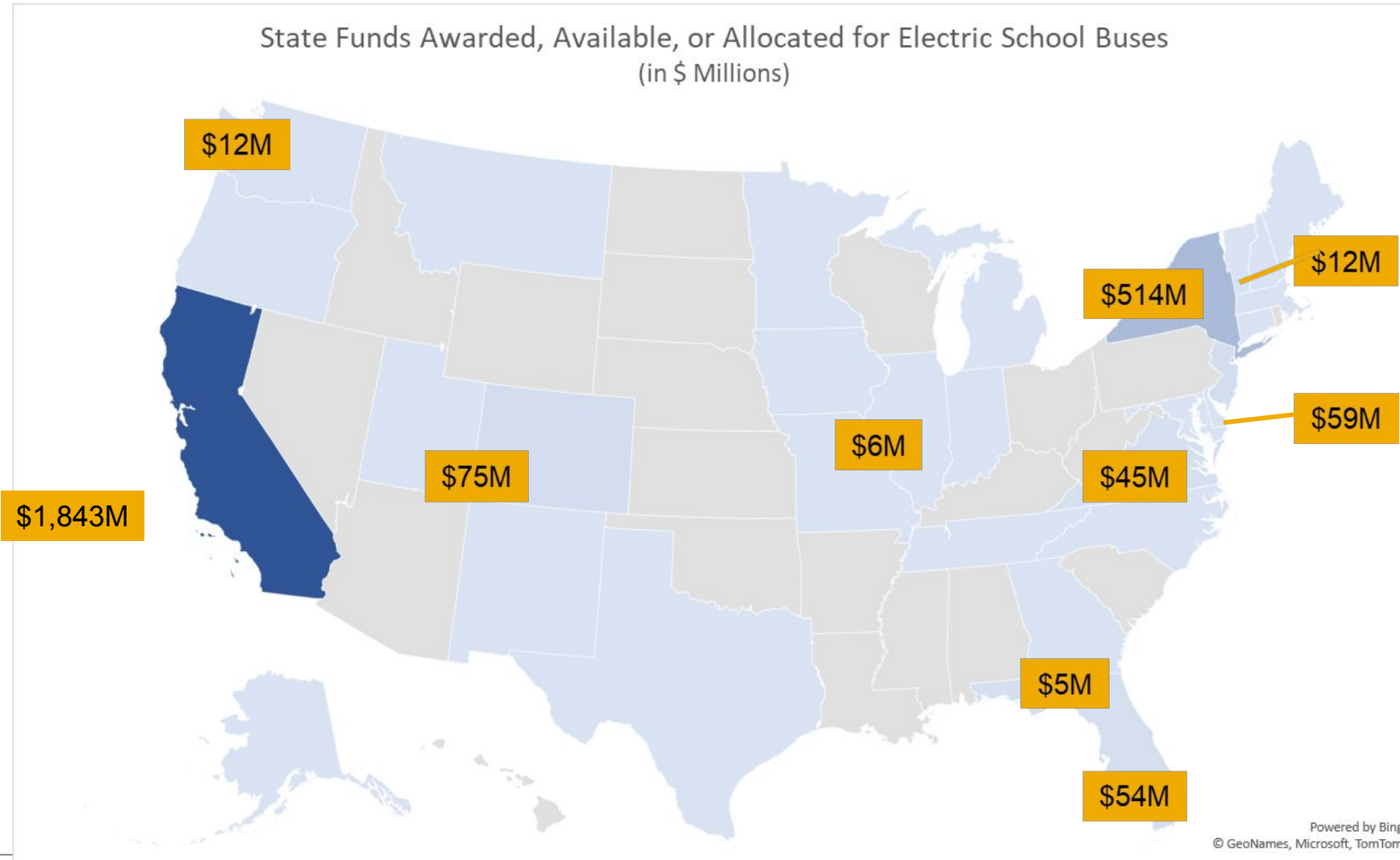


States in MOU (+NV) States in MOU and ACT (+CT) State in MOU and ACT Under Consideration (+CO)



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 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

THANK YOU!

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