



WORLD
RESOURCES
INSTITUTE



BUILDING MOMENTUM FOR ELECTRIC SCHOOL BUSES

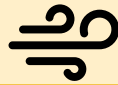
SUE GANDER, DIRECTOR, ELECTRIC SCHOOL BUS INITIATIVE

WHY ELECTRIFY THE U.S. SCHOOL BUS FLEET?

Electrification can accelerate decarbonization while bringing direct, tangible benefits to every community



Improved health and cognitive outcomes for children



Cleaner air, especially in high-pollution corridors and communities of color



Reduced operating expenses for school districts



New jobs in green manufacturing



A tipping point for MHD + electrification



Enhanced **resiliency** and **renewables integration** with V2G

DIESEL BUSES HARM HEALTH & DEVELOPMENT

- Older diesel school buses can produce nearly **twice as much soot** per mile as a tractor-trailer truck.
- Children riding on diesel school buses are exposed to up to **5 to 10 times more air toxics** inside the bus than ambient levels.
- There are **documented impacts** on respiratory health and academic performance.



THE BURDEN OF AIR POLLUTION IS INEQUITABLE

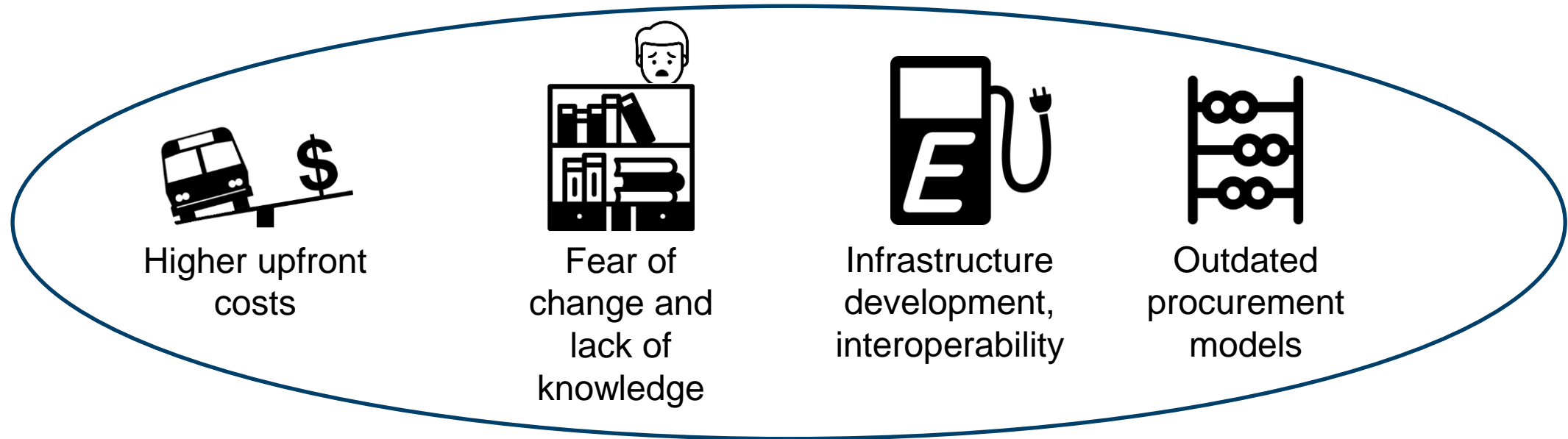


- 70% of low-income students take the bus compared to 50% of non-low-income students
- PM exposure from on-road sources can be 75% higher for Latinos, 73% higher for Asian Americans, and 61% higher for African Americans
- Native Americans are disproportionately impacted by air pollution, and have childhood asthma rates 50% above national average

WRI'S ELECTRIC SCHOOL BUS (ESB) INITIATIVE



STILL BARRIERS TO GET ESBS TO SCALE



Extra cost and capacity constraints for underserved communities



ESB MISSION STATEMENT

In collaboration with partners and communities, WRI's Electric School Bus Initiative aims to **build unstoppable momentum** toward an **equitable transition** of the U.S. **school bus fleet to electric by 2030**, bringing health, climate and economic **benefits** to children and families across the country and **normalizing electric mobility for an entire generation.**

WRI: ENGAGING THE ESB ECOSYSTEM

Goal: An Equitable Transition to Electric School Buses



Foundation: Equity, Communications, Engagement

PROJECT WIDE ADVISORY COUNCIL | * = CO-CHAIR



Maria S. Bocanegra*
Commissioner,
Illinois Commerce
Commission



Solyana Mesfin*
High school student & Student
Member, Kentucky Board of
Education



Harold Wimmer*
National President &
CEO, American Lung
Association



Maia D. Bellon
Partner, Cascadia Law Group



Curt Macysyn
Executive Director,
National School
Transportation Association



Mari McClure
President & CEO,
Green Mountain Power



Melissa Miles
Executive Director,
New Jersey Environmental
Justice Alliance



Patty Monahan
Commissioner,
California Energy
Commission



Michael A. Nutter
Former Mayor of Philadelphia



Andre Perry
Senior Fellow, Metropolitan
Policy Program, Brookings



Gil C. Quiniones
CEO, ComEd



Victor A. Rojas
Senior Vice President,
Sustainable Capital Advisors



Gilbert Rosas
Energy Education Specialist,
Stockton Unified School District



Nathaniel Smith
Founder & Chief Equity
Officer, Partnership for
Southern Equity



Erica Swinney Staley
Executive Director,
Manufacturing
Renaissance



Carol Tyson Government
Affairs Liaison, Disability Rights
Education & Defense Fund



Johana Vicente
Chispa National Senior
Director, League of
Conservation Voters



Karen Wayland
CEO,
GridWise Alliance



Randi Weingarten
President,
American Federation
of Teachers



Kelsey Wirth
Co-founder & Chair,
Mothers Out Front



Curtis Wynn
CEO, SECO Energy

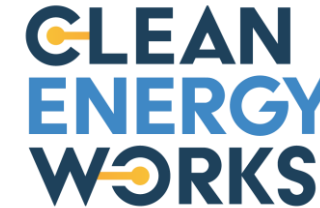
NATIONAL & STATE PARTNERS (WITH MORE TO COME)



RESILIENT CITIES CATALYST



ALLIANCE FOR
ELECTRIC
SCHOOL BUSES



GREENLATINOS
Luchando por la Liberación Ambiental

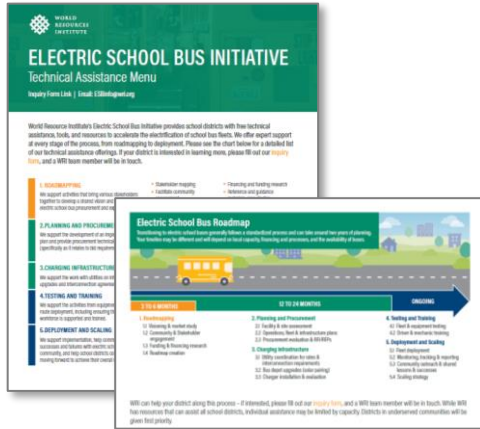


SIERRA CLUB
NEW JERSEY CHAPTER

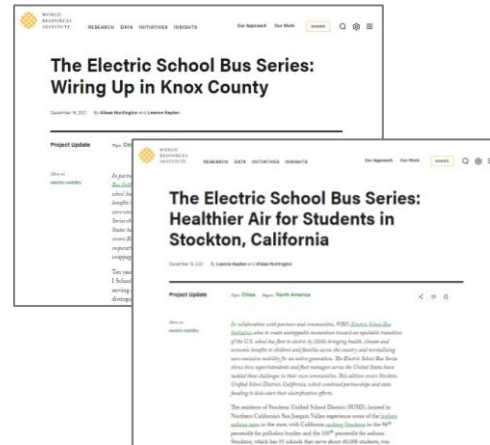
ELECTRIFYNY



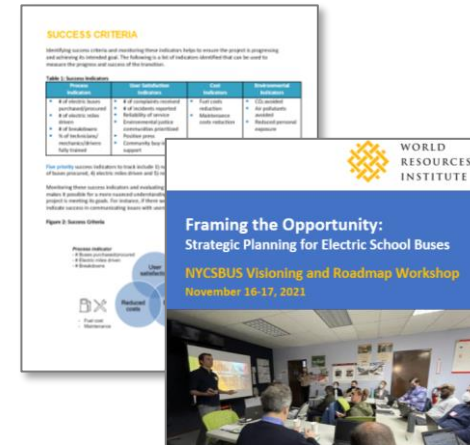
MANY ESB INITIATIVE TOOLS AND RESOURCES



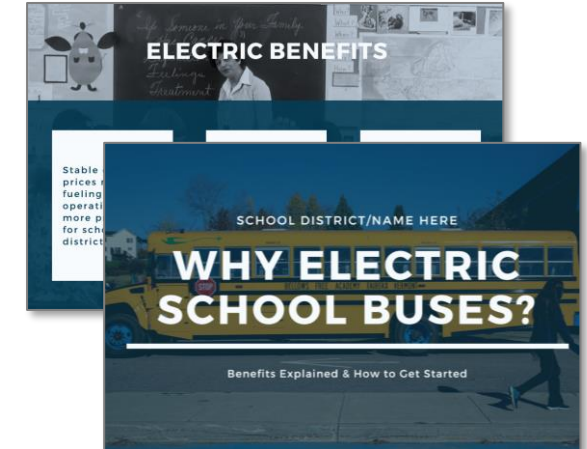
Technical assistance & instructional resources for school districts



Case studies sharing key learnings, best practices and practical knowledge



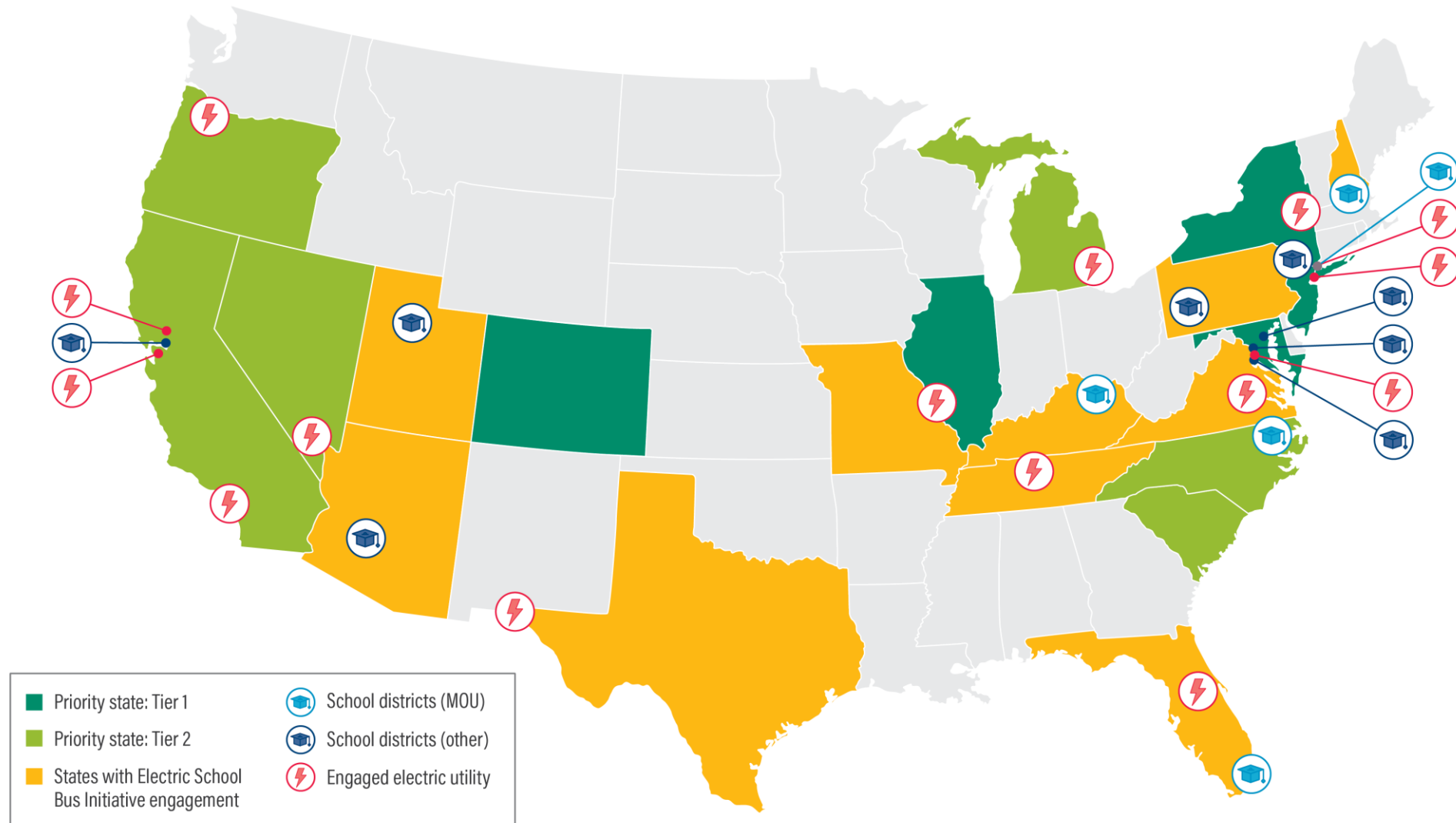
Partner-oriented strategic plans and roadmapping assessments



District-ready informational and promotional materials

Additional tools and resources in development, including **total cost of ownership calculator**, **site assessment checklist** and more

WRI IS PARTNERING ACROSS THE COUNTRY...



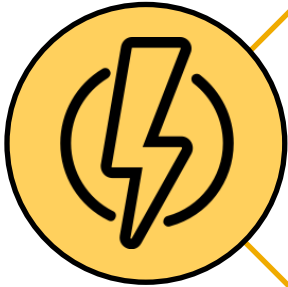
THE STATE OF ELECTRIC SCHOOL BUSES



THE STATUS OF ELECTRIFICATION



480,000 school buses in the U.S.



Less than **1%** are electric

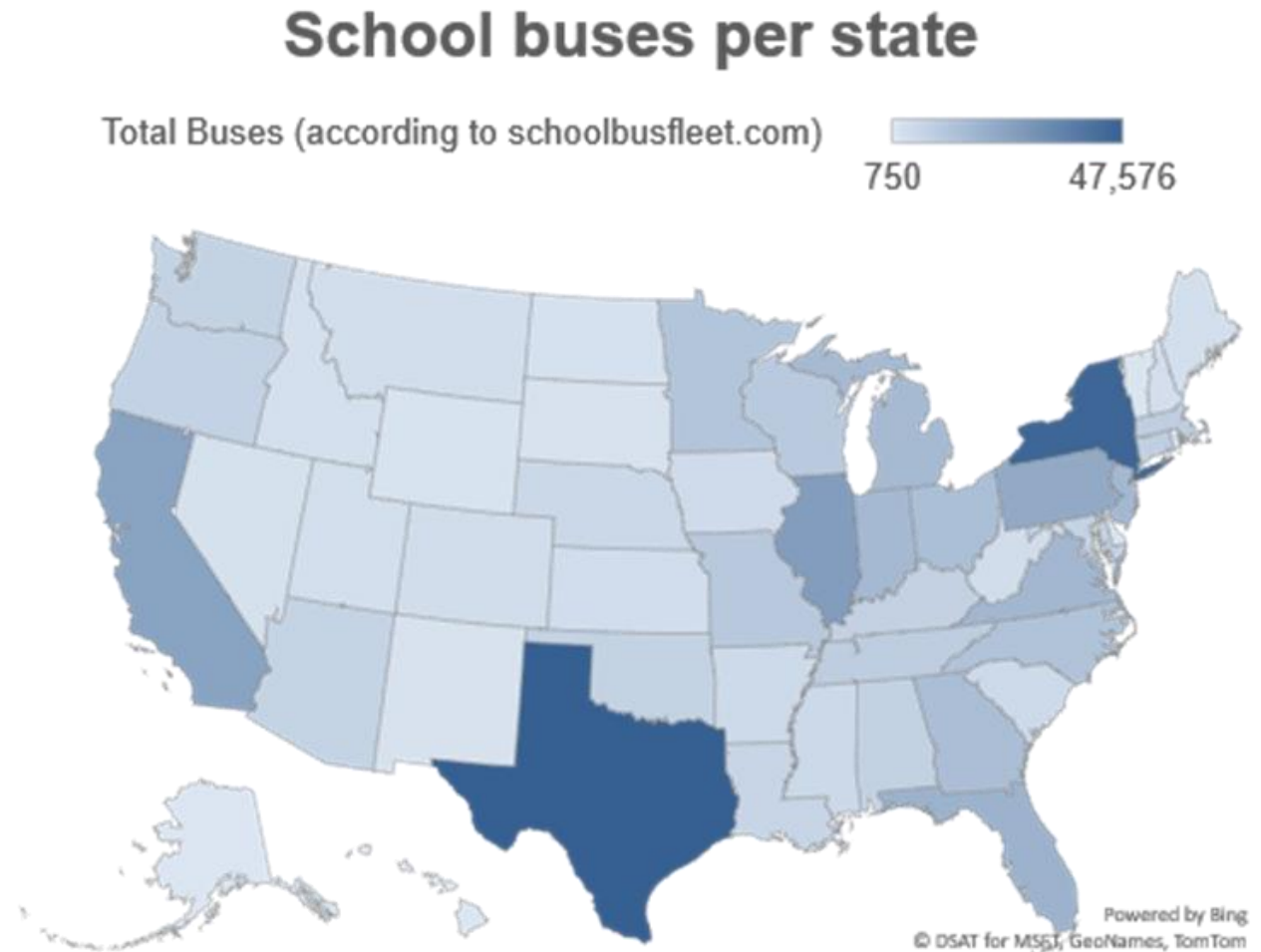


School districts in 36 states have deployed or committed to ESBs

THE GEOGRAPHY OF RIDERSHIP

- States with most school buses:
 1. Texas – 47,576
 2. New York – 45,600
 3. Illinois – 26,322
- Districts with most school buses:
 1. New York City, NY – 8,215
 2. Las Vegas, NV – 1,660
 3. Gwinnett Co., GA – 1,636

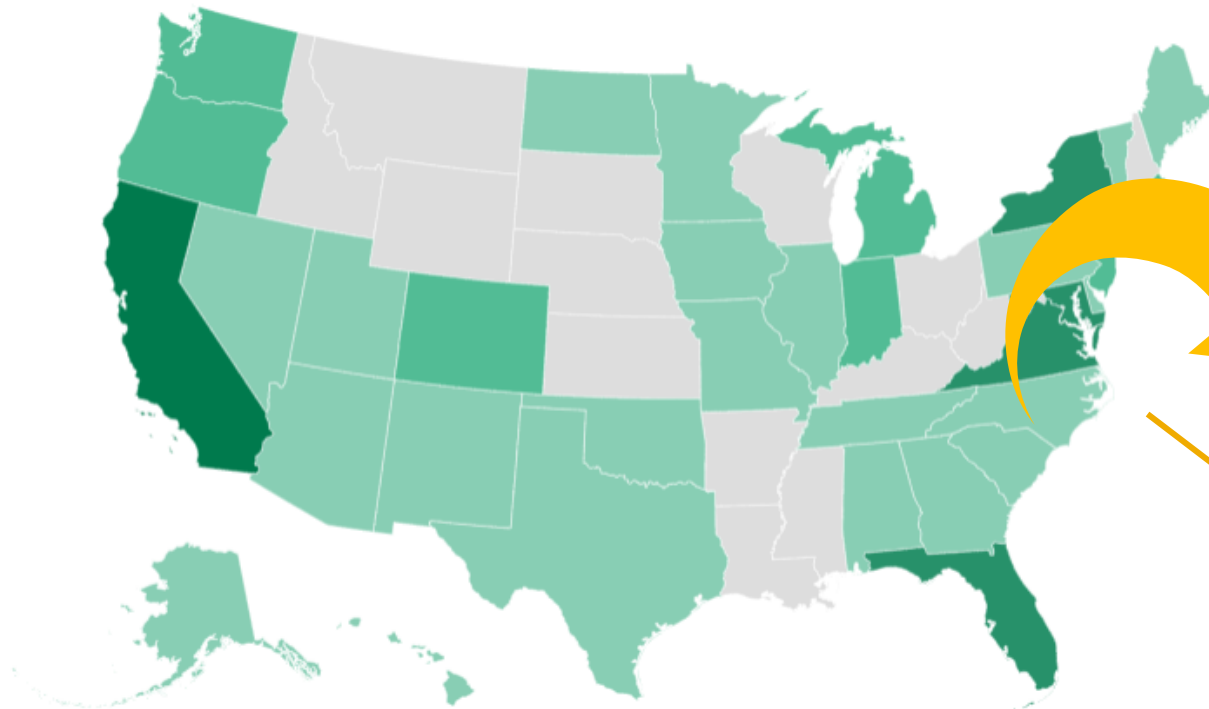
In California, districts with large shares of students relying on buses tend to be small, rural, largely low-income



ELECTRIC SCHOOL BUS CONCENTRATION

Committed* electric school buses by state

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



Source: Original WRI data collection • Data as of December 2021

*announced, procured, delivered or in operation



WORLD RESOURCES INSTITUTE

ESBs operating in **every type of community**, and committed* to in 36 states



Leading state commitments:

- California: 792 electric school buses
- Maryland: 332 electric school buses
- Florida: 218 electric school buses



NEW **\$5B** FEDERAL ELECTRIC 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.



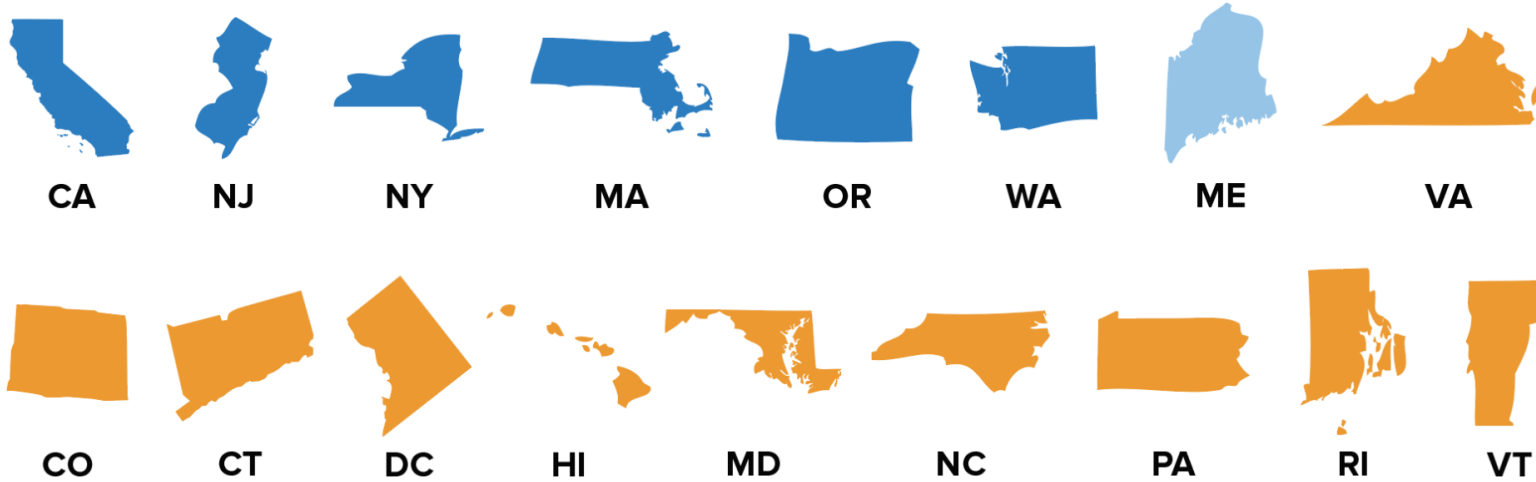
Includes **\$2.5 billion in dedicated, standalone funding for electric school buses** and another \$2.5 billion for electric and alternative fuel school buses.



EPA is charged with **designing and implementing a Clean School Bus Program** to disburse the funds.

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

STATES EMBRACING TRANSITION TO ESBS



NY Gov. Hochul Proposal

– every new school bus purchased in NY must be electric by 2027, all school buses emissions-free by 2035 (State of State 2022)

Also: Local ESB Goals

New York City

– committed to fully electrifying fleet of 9,500 buses, by 2035

Philadelphia

– aims to fully electrify fleet in 10 yrs

Montgomery County, MD

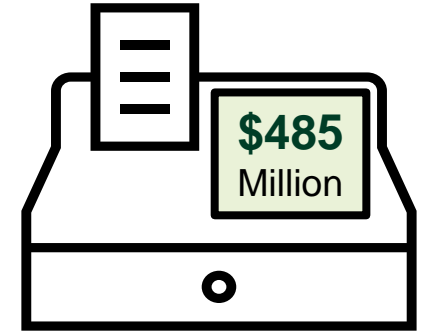
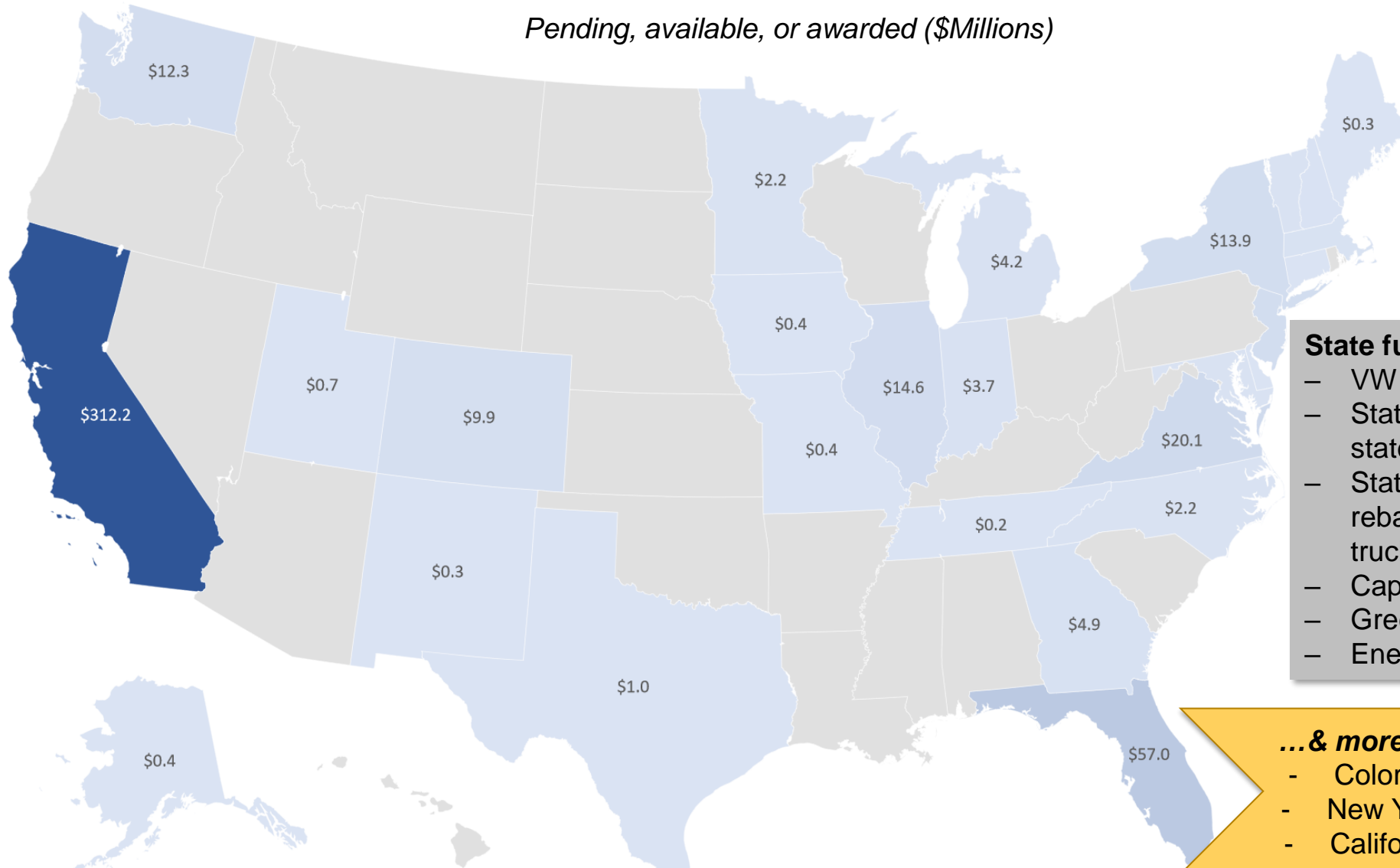
– committed to transitionn fleet, more than 1,400 buses, by 2035

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 ADMINISTERED \$ FOR ESBS – 27 STATES

Pending, available, or awarded (\$Millions)



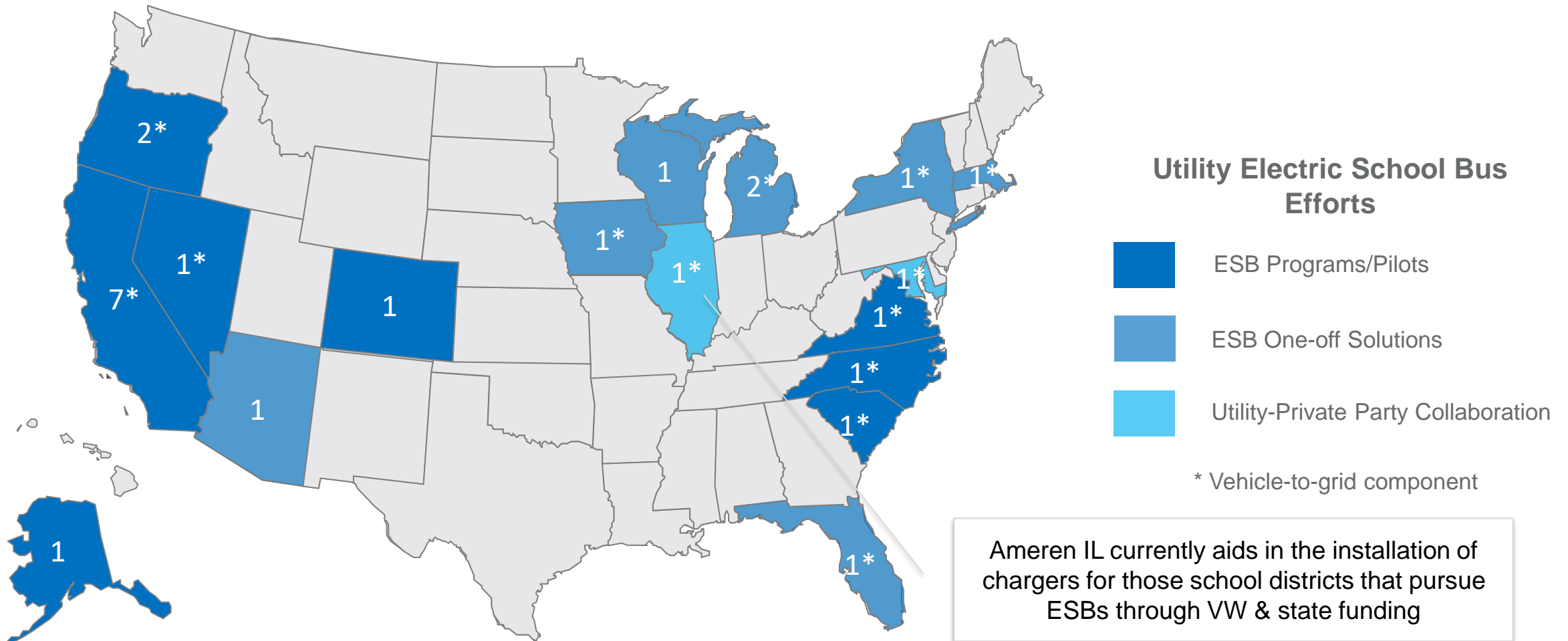
State funding sources:

- 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
- Energy community transition grants

...& more may be on the way!

- Colorado budget proposal (\$65M)
- New York Environmental Bond Act
- California budget proposal (\$1.5B)

UTILITY ESB PROGRAMS – IN 17 STATES – MANY V2G



THE OPPORTUNITY & ROLE FOR STATE ENVIRONMENTAL LEADERS IN SCALING ESB

A POSSIBLE TO DO LIST...SET AN ESB GOAL &...

- ☐ Leverage VW settlement funding
- ☐ Explore SEP funds, green banks
- ☐ Examine regulations like ACT
- ☐ Coordinate with other agencies
- ☐ Offer TA for grant applicants
- ☐ Sponsor a ride & drive
- ☐ Talk with WRI! Sue, Justin, Jennifer



THANK YOU

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



WORLD RESOURCES INSTITUTE