



Vehicle-to-Grid and Vehicle-to- Building: How to Make Your Electrification Work for Your Organization

**Presented for: The Green Technology
20th Anniversary Summit Workshop**

~AGENDA~

Introduction of Panelists

What is V2G (Vehicle to Grid) and V2B (Vehicle to Building) and how are they different?

Origins of the Grant and Involvement of all Parties

Key Benefits of the Projects: Why V2G and V2B? What do they provide for the Districts, their communities, and for the State of California specifically

Logistics and Results of Projects to date

Panelists for Workshop

Elizabeth Menchaca-Guhl, Energy Commission Specialist I,
Emerging Opportunities, Agriculture, and Construction Unit,
Fuels & Transportation Division

Alex Macharia, VGI Program Manager, The Mobility House

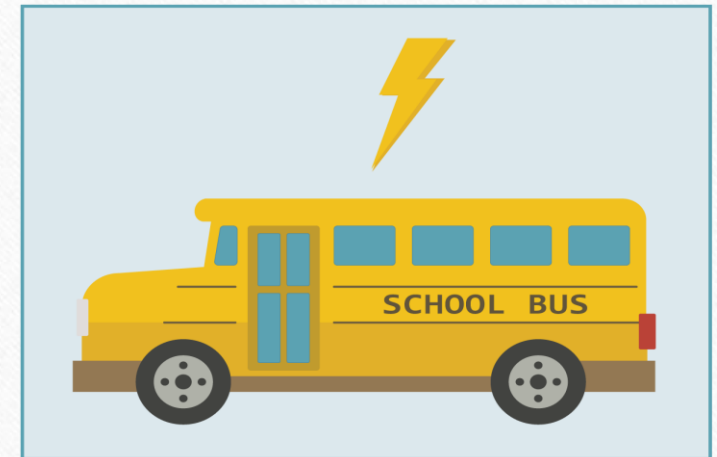
Sophie Young, Manager, Environmental Justice & Equity, World
Resources Institute

Guillaume Brossard, Commercial VP, Polara Energy

Ernest Epley, Director of Transportation, Fremont Unified
School District

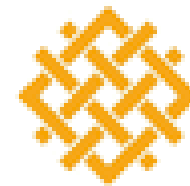
Matthew Belasco, Executive Director, Site Support Services,
Pittsburg Unified School District

Alan Glass, Retired Energy Manager, now Sustainability
Consultant, Pittsburg Unified School District



Background of Grant

- Project was created and funded through the California Energy Commission (CEC) and administered through The Mobility House (TMH) and World Resources Institute (WRI)
- Three school districts – Pittsburg, Fremont, and Napa Unified School Districts – were selected as the grant recipients. Napa later withdrew its participation



WORLD
RESOURCES
INSTITUTE

Why does V2G and V2B matter?

Energy Storage Units – While EV buses are holding a charge, they act as battery storage units, giving the District the ability to help balance supply and demand on the grid when needed.

Emergency Supply – When the grid is stressed or down, electric school buses can provide electricity back into the grid or to power the emergency needs of a school site. This aids in grid stability during brown outs and crisis to the grid.

The Districts will receive a “cost avoidance of funds” by being able to feed power back to the grid, cutting net costs to PG&E for supplying energy stored in EV bus batteries while otherwise sitting idle during high-demand periods.



Electric School Bus Bi-Directional Infrastructure Solicitation

GFO-22-612

Elizabeth Menchaca-Guhl
Fuels and Transportation Division



GRANT FUNDING OPPORTUNITY (GFO)-22-612

Overview



- **GFO Name:** Electric School Bus Bi-Directional Infrastructure Solicitation
- **GFO Type:** Competitive solicitation
- **Timeline:** Released on April 3, 2023 and closed on July 12, 2023
- **Purpose:** Install bi-directional direct current fast charging stations at sites that support California school districts' ability to utilize bi-directional power flow
- **Available Funding:** Up to \$15 million in grant funds made available
 - Maximum \$3 million per project
- **Funding Sources:** Clean Transportation Program

GFO-22-612 Webpage:

<https://www.energy.ca.gov/solicitations/2023-04/gfo-22-612-electric-school-bus-bi-directional-infrastructure>



GRANT FUNDING OPPORTUNITY (GFO)-22-612

Policy Drivers: Objectives



- **Demonstrate how bi-directional capable electric school buses paired with bi-directional chargers can:**



- 1) **Be energy resources during periods of high electricity demand**



- 2) **Mitigate the impact of Public Safety Power Shutoff events and other grid disruptions caused by extreme weather**



GRANT FUNDING OPPORTUNITY (GFO)-22-612

Policy Drivers: Opportunities



- **Demonstrate benefits of electric school bus Vehicle-to-Grid (V2G) and Vehicle-to-Building (V2B) applications**
 - Load management and energy export to support grid resiliency
 - Backup power to provide relief during outages
 - Maximize dynamic rates for cost savings
 - Access compensation from energy export sales
- **Utilize and inform deployments of bi-directional capable electric school buses**
 - CEC's School Bus Replacement Program was expected to deploy 200+ bi-directional capable electric school buses by 2023
 - CARB's Clean Truck and Bus Voucher Incentive Project (HVIP) was expected to deploy 1,000 bi-directional capable electric school buses by 2025

GRANT FUNDING OPPORTUNITY (GFO)-22-612

Project Requirements

- **Project team:** Applicant required to be an EV or charging equipment company partnered with at least one California school district
- **Sites:** Must install and demonstrate bi-directional chargers at 2 or more locations that support California school districts
- **School buses:** Minimum of 3 bi-directional capable electric school buses per V2G site



GRANT FUNDING OPPORTUNITY

Clean Transportation Program

Electric School Bus Bi-Directional Infrastructure



Addendum 1

GFO-22-612

[Solicitation Information](#)

<https://www.energy.ca.gov/funding-opportunities/solicitations>

State of California

California Energy Commission

[March 2023] **May 2023**



GRANT FUNDING OPPORTUNITY (GFO)-22-612

Project Requirements

- **Demand response program enrollment:**
Must be enrolled for 3-years in an export compensation program, such as Emergency Load Reduction Program or Demand Side Grid Support Program
- **Minimum technical requirements for bi-directional charger:**
 - ISO 15118-20 hardware ready
 - OCPP 1.6 or later compliant
 - UL 1741 Supplement certification for interconnection by utility
- **Blueprint:** Must develop a bi-directional charger installation "blueprint" for replication by other school districts



GRANT FUNDING OPPORTUNITY

Clean Transportation Program

Electric School Bus Bi-Directional Infrastructure



Addendum 1

GFO-22-612

[Solicitation Information](https://www.energy.ca.gov/funding-opportunities/solicitations)

<https://www.energy.ca.gov/funding-opportunities/solicitations>

State of California

California Energy Commission

[March 2023] **May 2023**



GRANT FUNDING OPPORTUNITY (GFO)-22-612

Awardees and ZVI-23-007



- Awarded \$10 million to projects in September 2023
- 3 active projects that will install and demonstrate discharge of 55 bi-directional charging ports with 6 school districts across 3 utilities' territories
- ZVI-23-007: "Replicable V2X Deployment for Schools"
 - Executed January 1, 2024
 - Objective: Install 12 bi-directional chargers to perform V2G and at least 1 V2B application across sites owned by school districts in Pacific Gas & Electric Company (PG&E) territory
 - Project team:
 - The Mobility House LLC (Recipient)
 - World Resources Institute
 - The Center for Transportation and the Environment
 - Pittsburg Unified School District
 - Fremont Unified School District





Thank you!

Additional questions? Send an email to Elizabeth.Menchaca-Guhl@energy.ca.gov



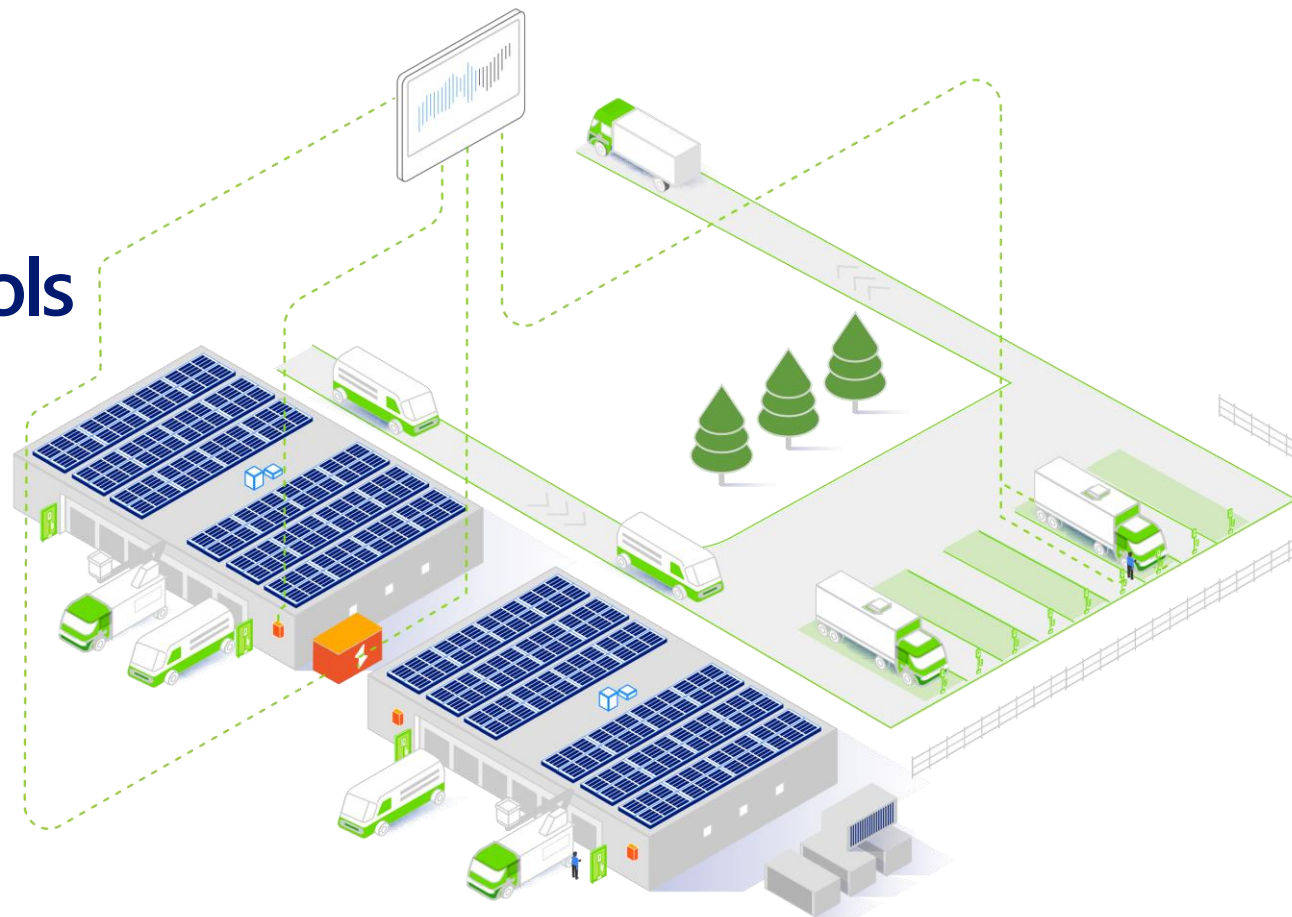


Replicable V2X Deployment for Schools

GREEN CALIFORNIA SUMMIT

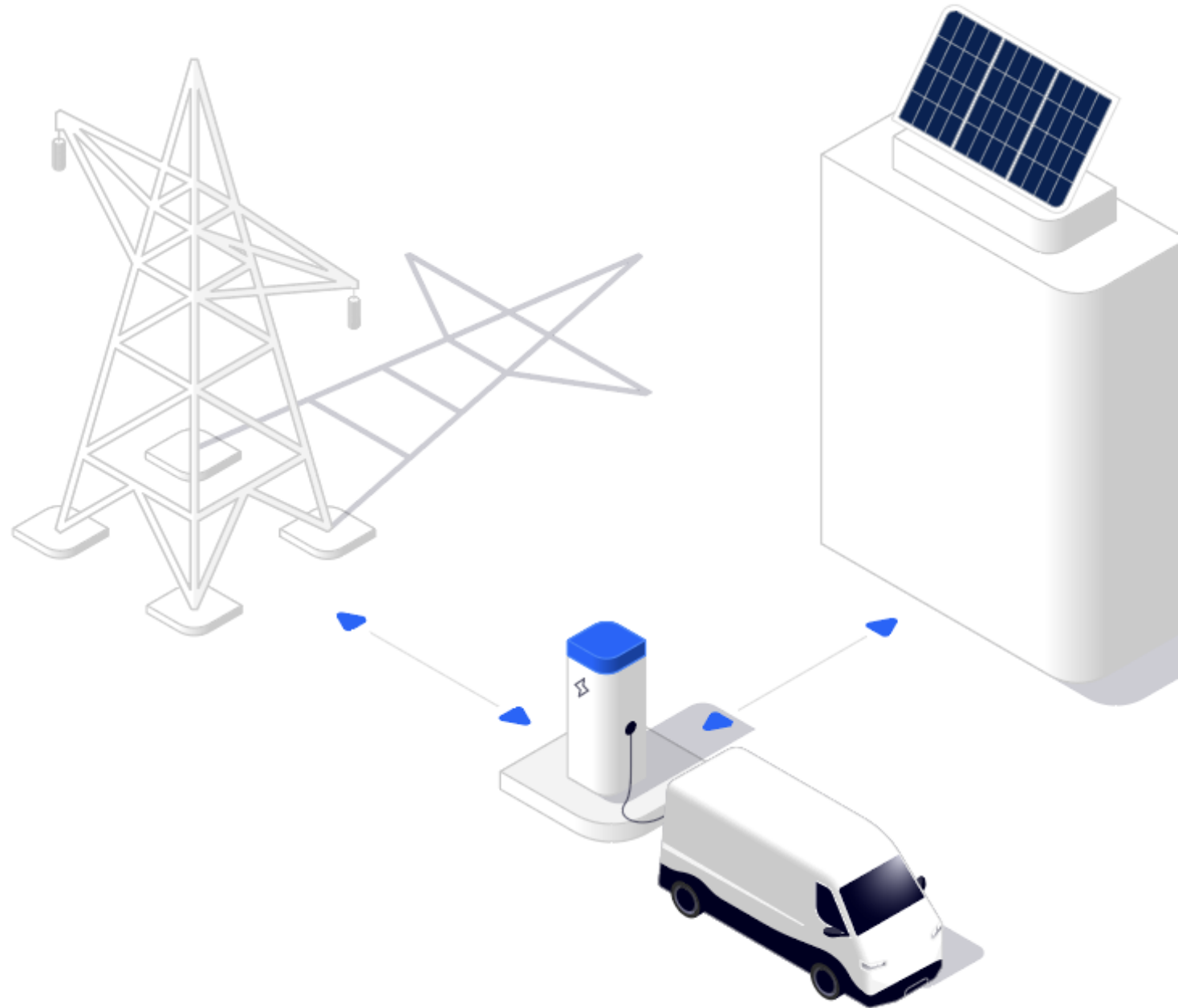
September 2026

Alex Macharia
VGI Program Manager



Agenda

- About PowerFlex
- V2X Charging
- V2X Implementation Insights

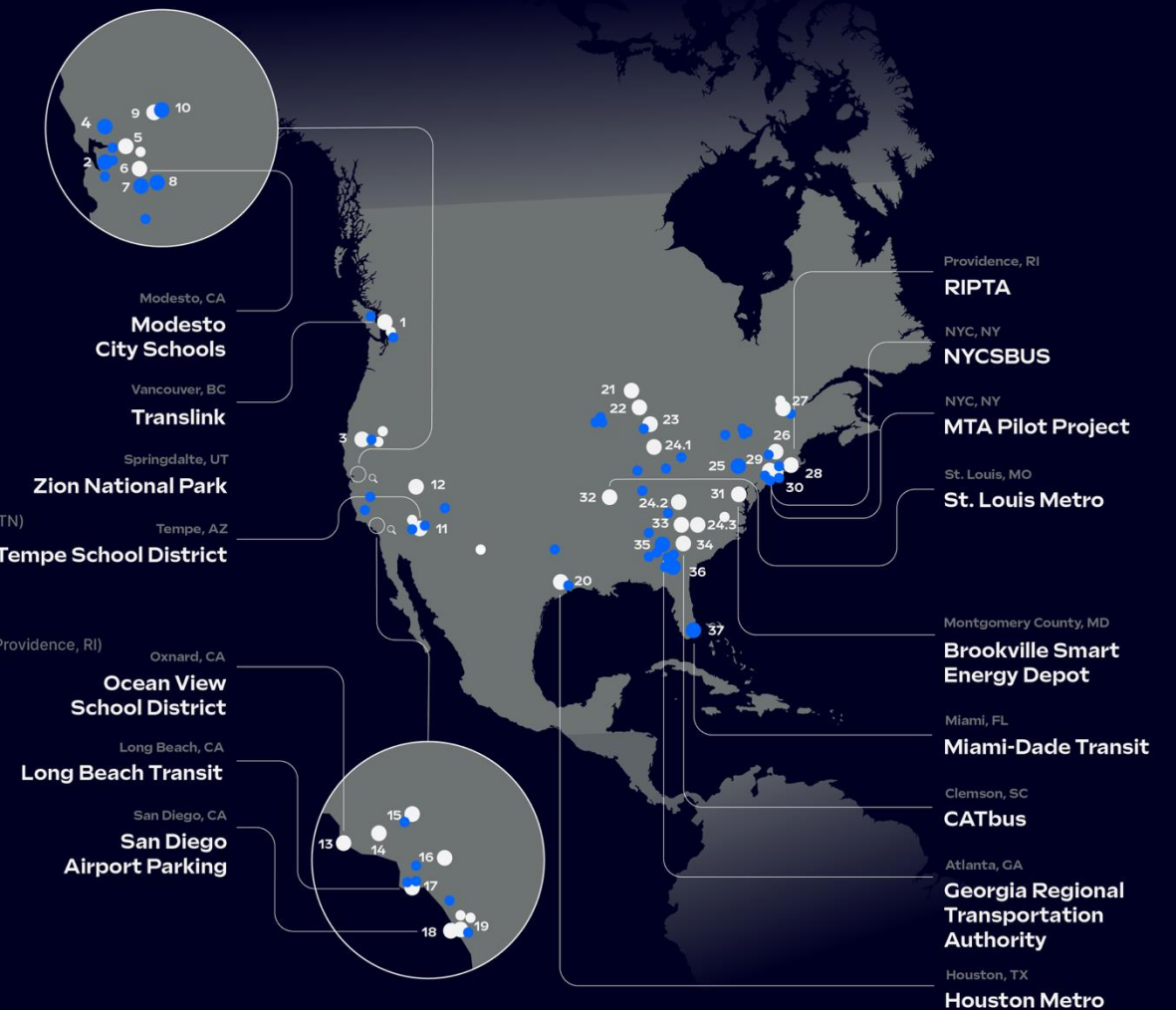


100+ North American Projects

- Operation
- Implementation

Highlights

- Translink** (Vancouver, BC)
- Replicable V2X Deployment For Schools**
2a. Pittsburg Unified School District (Pittsburg, CA)
2b. Fremont Unified School District (Fremont, CA)
- Trinity Alps USD** (Trinity, CA)
- City of Vacaville** (Vacaville, CA)
- Stockton Unified School District** (Stockton, CA)
- Modesto City Schools** (Modesto, CA)
- Chatom Unified School District** (Turlock, CA)
- Turlock Unified School District** (Turlock, CA)
- Gold Oak Unified School District** (Placerville, CA)
- El Dorado Union High School** (Placerville, CA)
- Tempe School District (AZ)** (Tempe, AZ)
- Zion National Park** (Springdale, UT)
- Ocean View School District** (Oxnard, CA)
- Moorpark Unified School District** (Moorpark, CA)
- Antelope Valley Transity Authority** (Lancaster, CA)
- Colton Joint Unified School District** (Colton, CA)
- Long Beach Transit** (Long Beach, CA)
- Ace Parking at San Diego Airport** (San Diego, CA)
- SP+ Parking at San Diego Airport** (San Diego, CA)
- Houston Metro** (Houston, TX)
- Mortenson Headquarters** (Minneapolis, MN)
- Rochester Public Transit** (Rochester, MN)
- Madison Metro Transit** (Madison, WI)
- Central States Dealerships** (Oswego, IL) (Lexington, KY) (Lebanon, TN)
- Newfield Schools** (Newfield, NY)
- Connecticut Department of Transportation** (New Haven, CT)
- Montréal International Airport YUL** (Montréal, QC)
- Rhode Island Public Transportation Authority (RIPTA)** (Providence, RI)
- NYCSBUS** (The Bronx, NY)
- MTA** (New York City, NY)
- Brookville Smart Energy Depot** (Montgomery County, MD)
- St. Louis Metro** (St. Louis, MI)
- Knoxville Area Transit** (Knoxville, TN)
- CATbus** (Clemson, SC)
- Georgia Regional Transportation Authority** (Atlanta, GA)
- Yancy Bus Sales** (Macon, GA)
- Miami-Dade Transit** (Miami, FL)





PowerFlex brings unparalleled experience and partnerships in fleet electrification

70,000+

Chargers Managed

500+ MW

Solar Installed

50+ MWh

Onsite Storage Installed

9

Years of V2G Experience

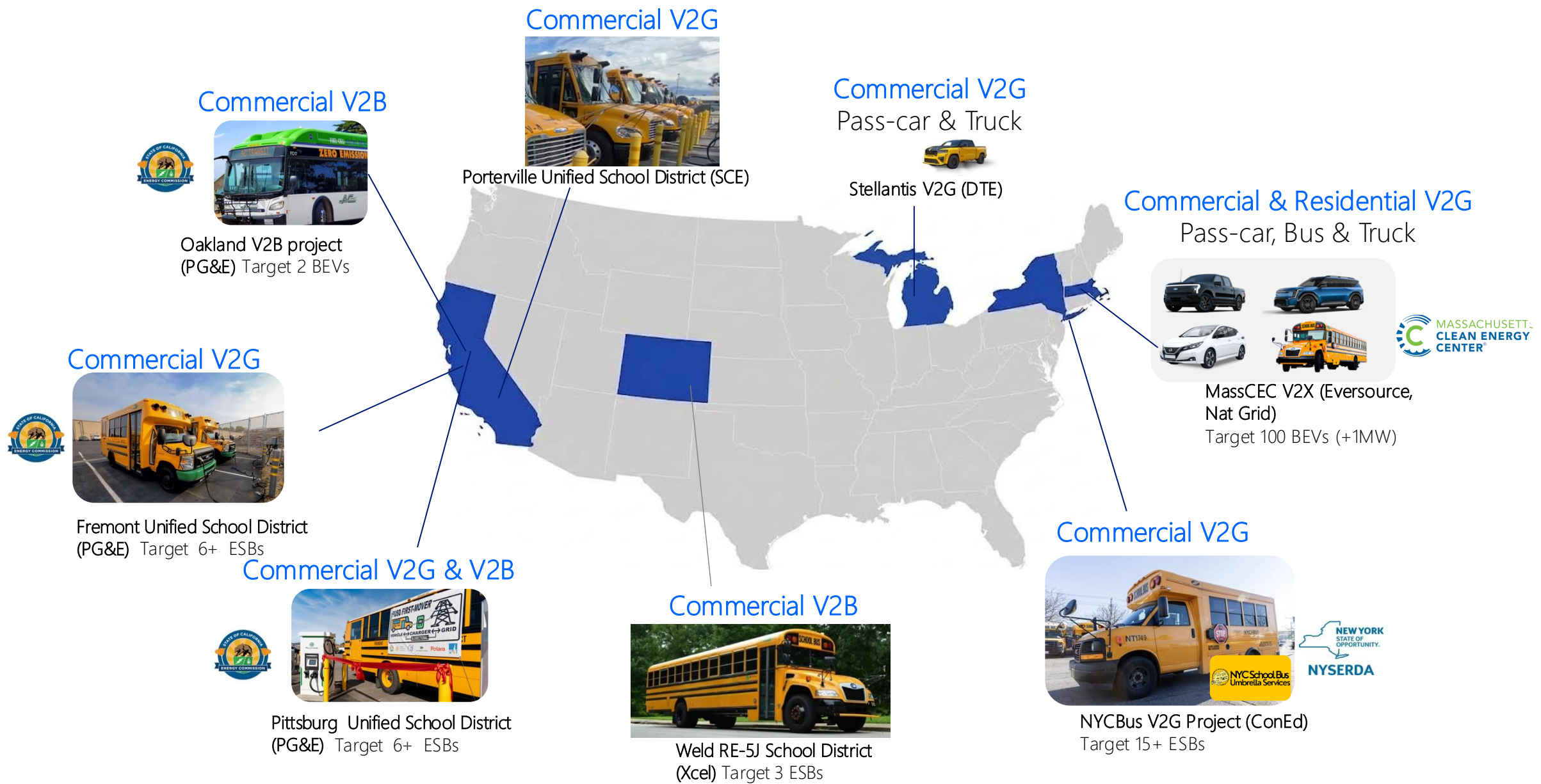
450+

Customers

16+

Years of Experience
in Energy Management

PowerFlex VGI Projects in North America



Grant Information

Project Name: Replicable V2X Deployment for Schools (RVXDS)

- **CEC Program:** CEC Clean Transportation Program
- **Grant Solicitation:** GFO-22-612 – Electric School Bus Bi-Directional Infrastructure
- **Date Awarded:** September 27, 2023
- **Project Title:** Implementing Bidirectional School Bus Charging Using Open Standards to Create a Statewide Blueprint for School Districts / RVXDS

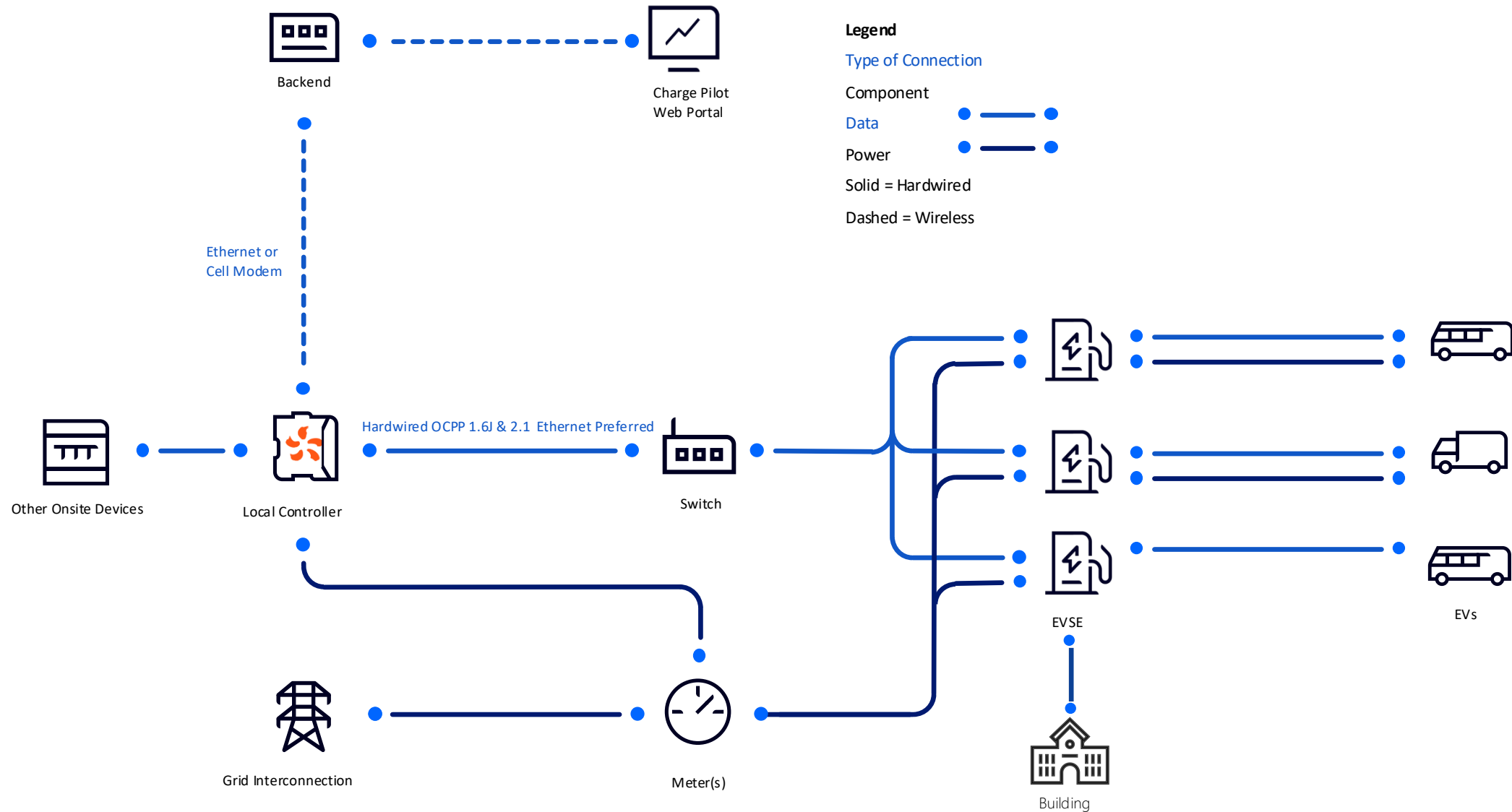
Project Funds Awarded: \$2,924,042

Sites: Fremont Unified School District & Pittsburg Unified School District

Prime: The Mobility House (Technology Development, Integration and Project Manager)

Partners: World Resources Institute, Polara, and the Center for Transport and Environment

PowerFlex V2X CMS Operation

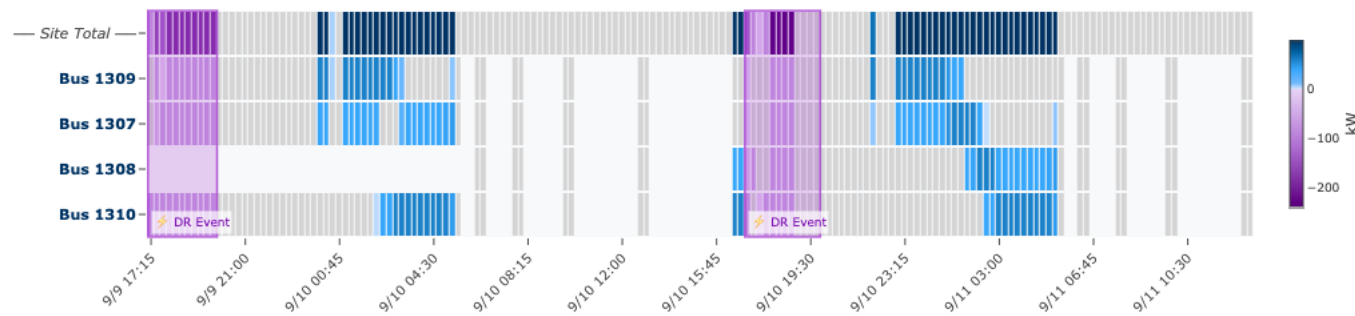


Fremont USD – ELRP V2G Session

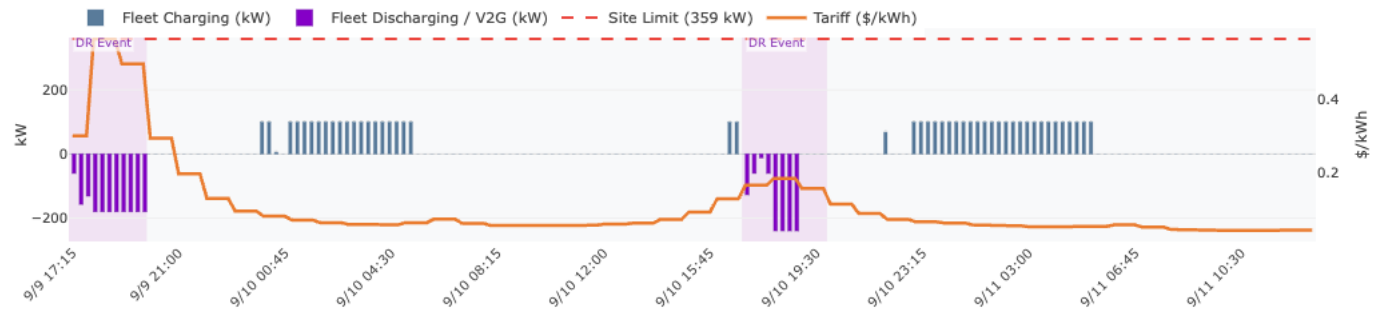
Wednesday, September 9, 2026

Dispatch Plan Click a bus row to drill down

Charging Power Heatmap Each row is a vehicle - color = charging power (kW) - gray = plugged in but idle - white gap = bus away from depot - click any row to drill down



Fleet Charging vs. Tariff

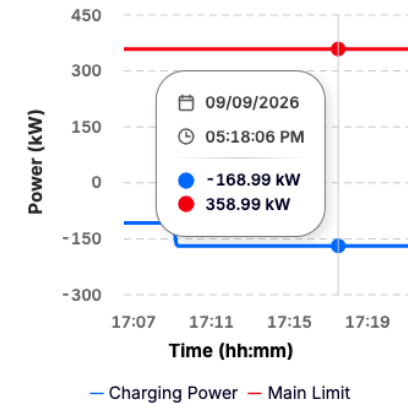


ESB Fleet Charge Plans

ChargePilot Dashboard

Device Status ● Controller online

Power & Limits



Charging Points

[Overview](#) [Details](#)

● 2 Available ● 3 Charging
● 1 Paused (LM)



Cascade Services Deployed

HFP + ELRP + Fleet Charge Optimization

Replicable V2G at Fremont USD



V2G, Electrification and interconnection - Capacity expansion, infrastructure build-out & interconnection



1 Charging Hardware Procurement



2 Architecture & Design



3 Operations & Maintenance



4 Installation & Construction



Goal: Replicable V2G deployment for schools

Implementation: Complete, operational since Aug 2025

Highlights:

- New PG&E 3-phase 480V service with increased site capacity
- Completed Rule 21 interconnection for energy export
- Currently exporting to grid and enrolled in ELRP and HFP
- PF is providing ongoing fleet charging and operational support



5 Charging & Energy Management



Replicable V2G & V2B at Pittsburg USD

Goal: Replicable V2G charging at the PUSD Adult Ed. Center & V2B implementation for community resilience at Heights Elementary School

Implementation: Fall 2026

Considerations and Challenges

- Energization requisition approach and fleet needs
- Site selection (accessibility, fire, egress etc.)
- Hardware specification & charger-bus interoperability
- V2B complexity (BSM, ATS & grid-interfacing requirements)
- DSA and other AHJ permitting requirements
- Regulatory requirements around interconnection
- Overall project costs and other administrative challenges



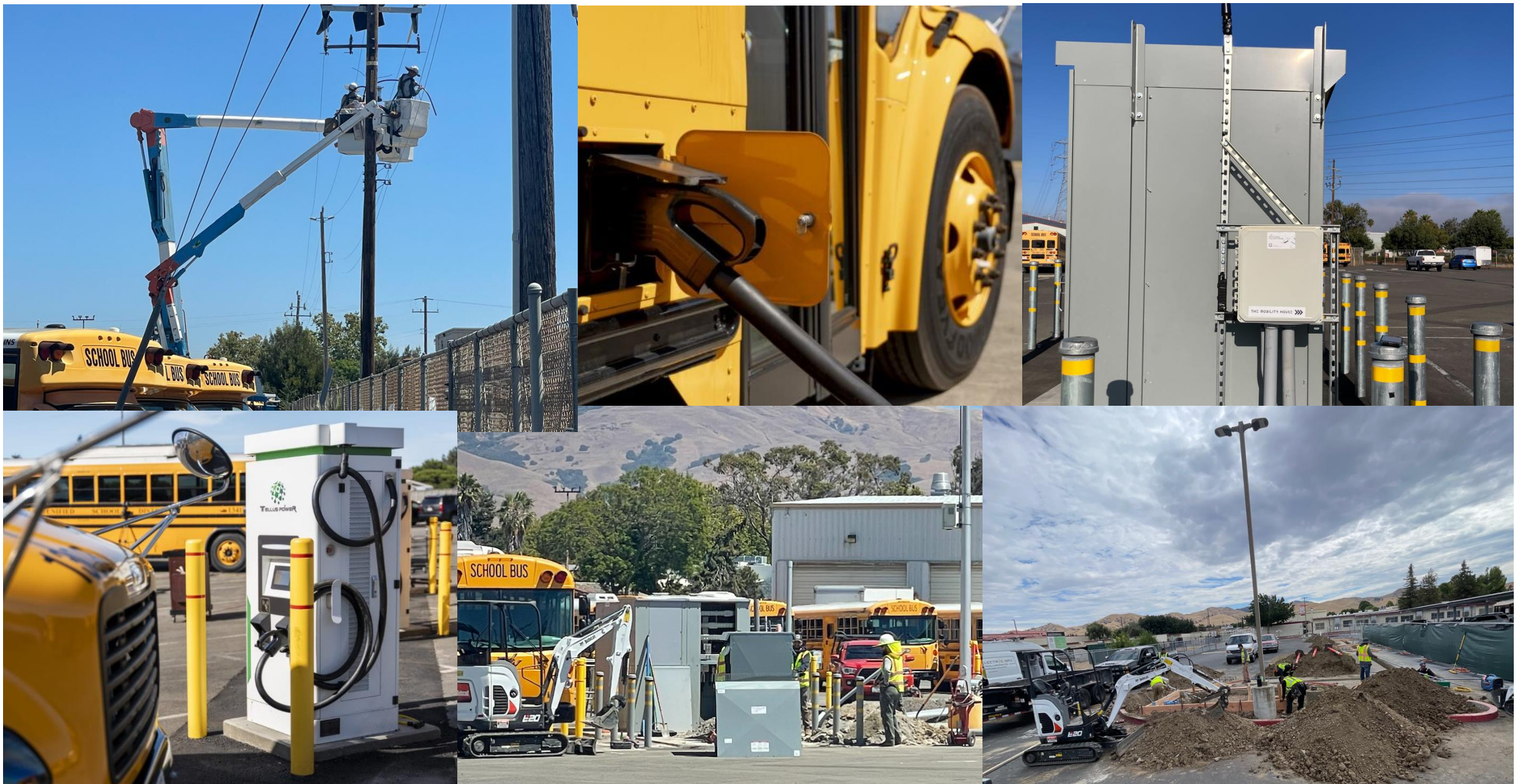


Photo credits: Rich McKie, Elizabeth Hughes, Polara



Thank you!

Alex Macharia

alex.macharia@powerflex.com

Curious about our V2G solutions?



Scan to Learn More

BLUEPRINT TO SCALE VEHICLE-TO-GRID DEPLOYMENTS

Green California Summit | Pasadena, CA

**Electric
School Bus**
INITIATIVE

Sophie Young, Manager, Environmental Justice & Equity

September 16, 2026



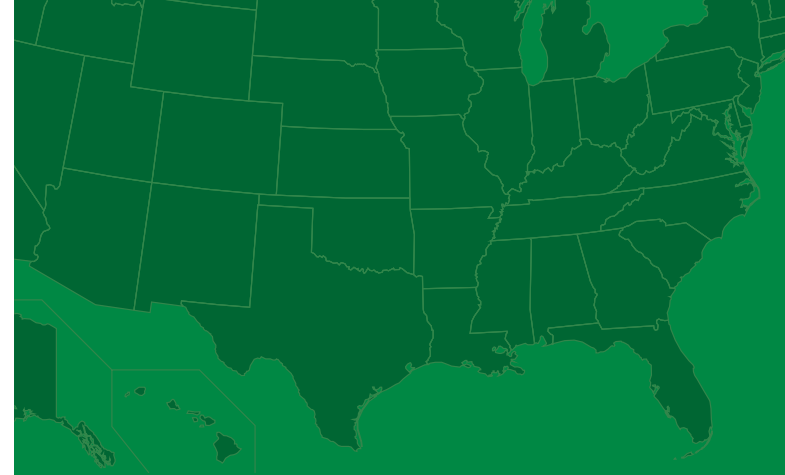
World Resources Institute:
Electric School Bus
Initiative



Blueprint Report



Stakeholder Engagement



Blueprint for Resilient Electric School Bus Fleets



**WRI is a global research organization
working to improve people's lives,
protect nature and halt climate change.**

Our aim: Electrify entire U.S. school bus fleet

- 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.
- Ensure an equitable transition by focusing on underserved communities



Why Electrify School Buses?

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



Lower GHGs in transport sector



Improved health and cognitive outcomes for children



Cleaner air than with diesel buses, especially in communities of color



Reduced operating expenses for school districts



Normalize electric mobility for an entire generation



New jobs in green manufacturing



A tipping point for MHD + electrification



Enhanced resiliency and renewables integration with V2G

Electric School Bus Adoption

13K

13,900+ electric school buses committed, procured, delivered or in operation as of July 2025

1,542

1,542 districts and private fleet operators

36%

36% are in school districts with the highest shares of low-income households

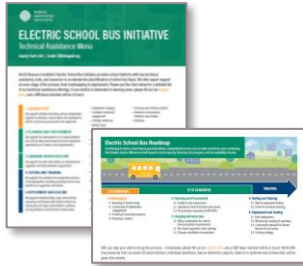
49

Commitments in **49** states, D.C., several territories and Tribal nations

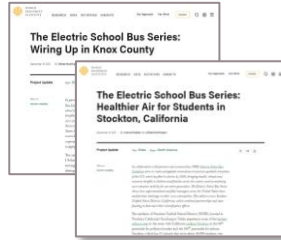
60%

60% of electric school bus commitments are in non-urban areas: suburban areas (35%), towns (8%), and rural areas (14%) versus cities (40%).

ESB Initiative Resources



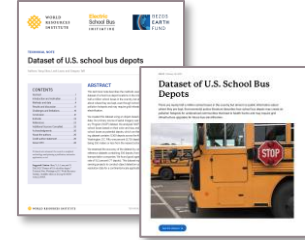
Technical assistance & instructional resources for school districts



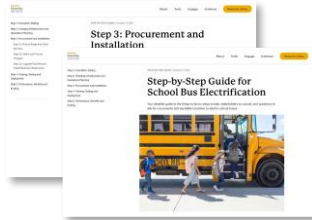
Case studies sharing key learnings, best practices and practical knowledge



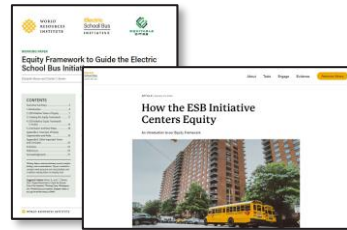
Partner-oriented strategic plans and roadmapping assessments



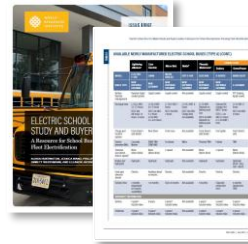
Dataset of U.S. School Bus Depots



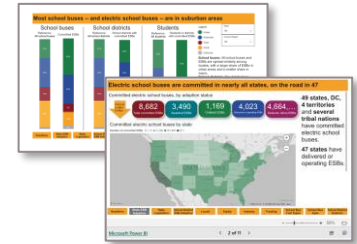
Step-by-step guide for school bus electrification



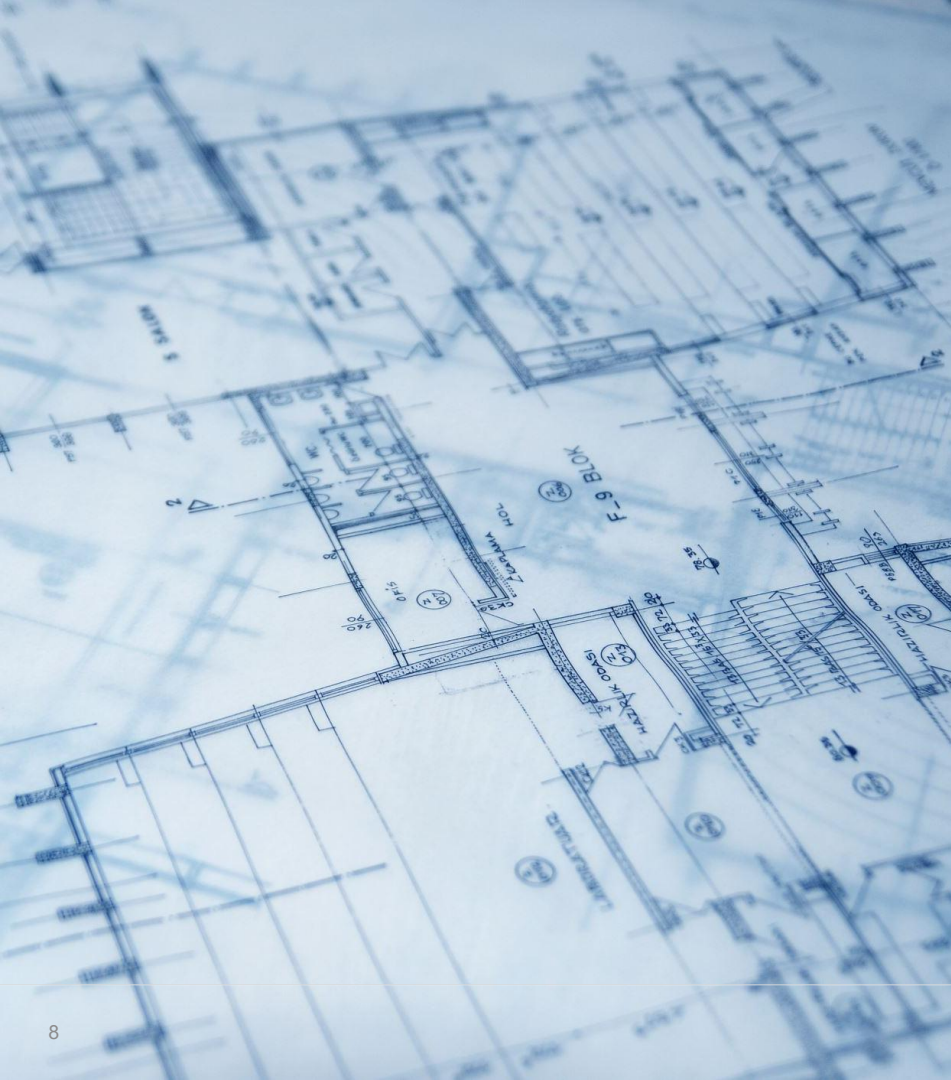
ESB Initiative Equity Framework and approach to prioritizing equity



Electric school bus US Market Study and Buyer's Guide



Electric School Bus Data Dashboard



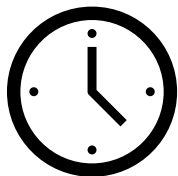
Report: Blueprint for Future Deployments

WRI is documenting the pilot's implementation lessons to support future Vehicle-to-Grid/Building projects:

- ❖ Site readiness
- ❖ Infrastructure design
 - Charger placement
 - Site layouts
- ❖ V2G commissioning
 - Utility coordination
 - Charger configuration
- ❖ Stakeholder engagement

School Buses & “Vehicle-to-Everything” (V2X)

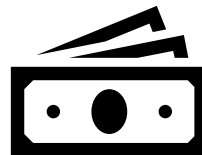
Electric school buses are well-suited to support V2X



Predictable
operational
schedules



Large
battery
capacity



New revenue
stream for
school districts



Local Engagement: Partner Subgrants

WRI is working with Pittsburg and Fremont USD to engage stakeholders on the project impacts and benefits:

- ❖ Stakeholder landscape analysis
- ❖ Outreach and engagement plan
 - Planning phase
 - Implementation phase
 - Project completion and results
 - Blueprint report



Image Credits: Beatriz Figueroa & Ernest Epley

Sharing the Benefits of V2X



Grid Flexibility & Emergency Preparedness

- V2X services provide grid operators with an on-demand source of power that can provide a range of services. Vehicles can also provide back-up power and mobile power supplies in emergencies.



Decarbonization: Support Renewables

- V2X allows vehicles to absorb renewable energy generation when it is abundant and release that energy when it is not.



Compensation: Lowers Total Cost of Ownership (TCO)

- V2X can generate value by providing services to the grid where vehicle operators are compensated.



Battery Health: Improve battery longevity

- Vehicles participating in V2X that takes state of charge into account can experience improved longevity.

Responding to Project Questions & Feedback



Operations: Drivers, Mechanics, Parents



Costs: School District Staff, Parents



Sustainability: Students, Parents, District Staff



Project Recommendations: All Stakeholders

**Electric
School Bus
INITIATIVE**

THANKS!

sophie.young@wri.org

IMAGE CREDIT: GILBERT ROSAS

Polarra

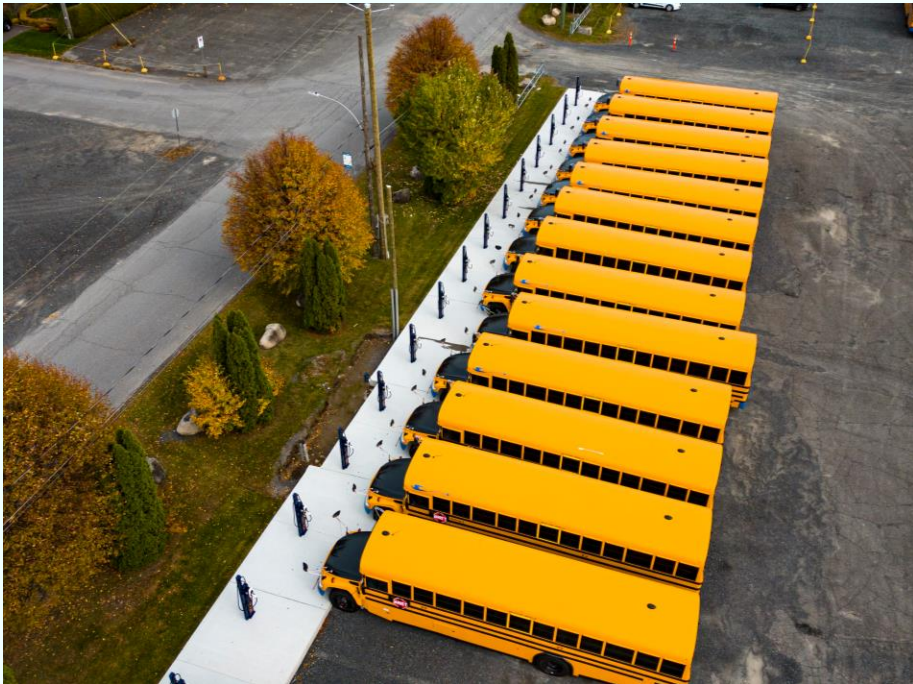
Your preferred partner
for fleet electrification



Who we are

Polara empowers fleets to electrify with confidence, offering proven charging solutions, deep industry expertise and hands on support.

Whether it's a full turnkey rollout or modular "à la carte" services, Polara will help your clients electrify faster, with less friction and better outcomes.



+50

Experts in charging infrastructure and software development



+2,000

Electric vehicles connected to our charging infrastructure



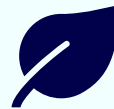
+165

Scalable charging sites deployed across North America



+40 MWh

Under management by our smart charging platform, Cleo



+45,000

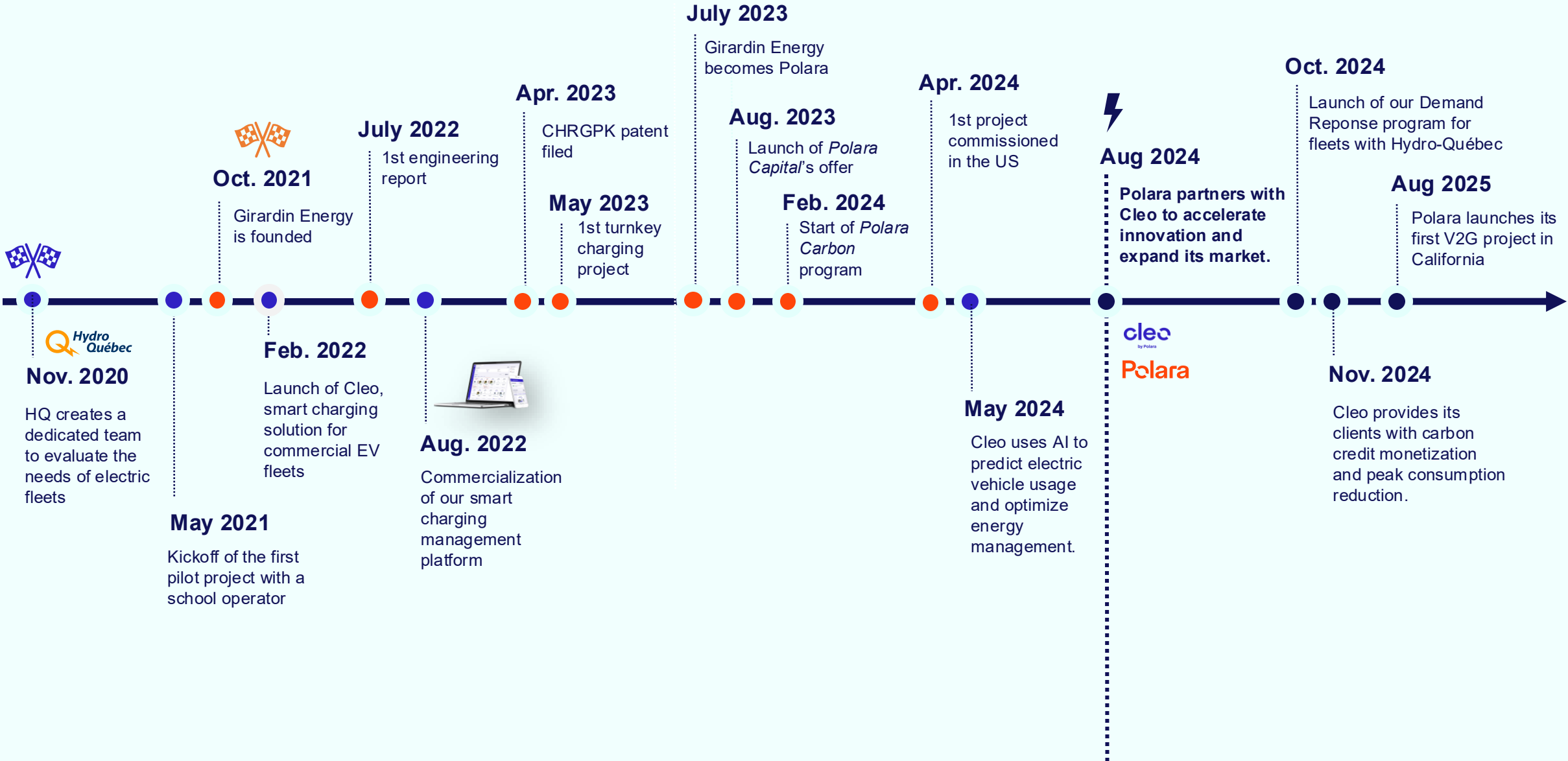
Tons of CO2 already avoided by our customers to date, and that's just the beginning!



+1,400

Charging ports managed by Cleo's platform

On the road to success: key milestones



Fastly growing business

A North American company



Proprietary hardware
built in the US



Local sourcing of charging
infrastructure
(chargers, electrical, etc.)



**Partnership with local
companies and experts** for civil
work, general contracting and
permits



Dedicated project managers
with extensive on-field experience

Our charging solutions

From the initial fleet study to smart charging management, Polara support your electric transition with complete turnkey solutions or customized à la carte services.



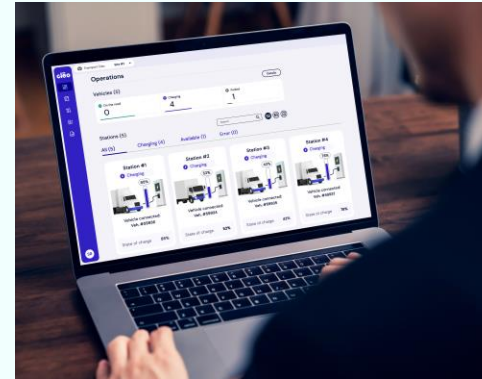
Planning & design services

Feasibility and fleet studies, engineering, planning, costs and benefits, implementation strategy.



Infrastructure

Charging stations, electrical distribution equipment (transformer, switchgear), terminals, etc.



Energy management

Smart charging management platform developed by our in-house team in Canada



Financing

Tailor-made financing programs (loans, leasing) and energy & charging monetization

Infrastructures



Polara in Fremont & Pittsburg USD V2G project

A single partner across engineering, equipment, utility coordination and delivery

Our Role

- Complete site engineering
- Coordination with the municipality and PG&E
- Permitting and regulatory approvals
- Preparation of bid packages and procurement support
- Qualification and selection of electrical contractors
- Construction oversight and management of technical challenges throughout the project



Polara in the Fremont USD V2G project

Infrastructure Fremont phases 1, 2 & 3

- A new electrical distribution system for 9 bidirectional V2G chargers 60 kW
- Upgrade on the transformer for the existing 10 AC & 4 DC chargers
- Infrastructure enabling school buses to export energy back to the grid while parked

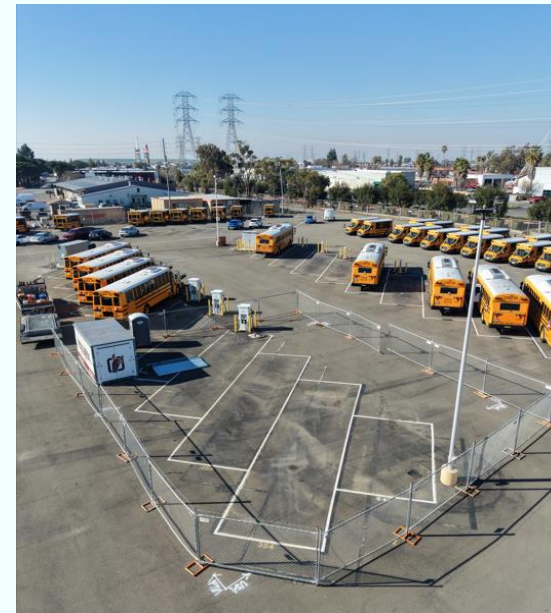
Key Challenges

- Regulatory compliance issues related to the originally specified switchgear
- Utility-driven requirements and constraints
- Design modifications during project execution
- Managing procurement lead times and specific technical requirements

⚡ Impact

Project delivered on time. The success of the initial phases led Fremont Unified School District to expand the deployment with several additional phases.

- New 2500 Amp switchgear
- Step-down and relocated PG&E transformer.
- Electrical infrastructure
- 9 bidirectional chargers
- V2G integration



Polara in the Pittsburg USD V2G project

Infrastructure Pittsburg phases 1 & 2

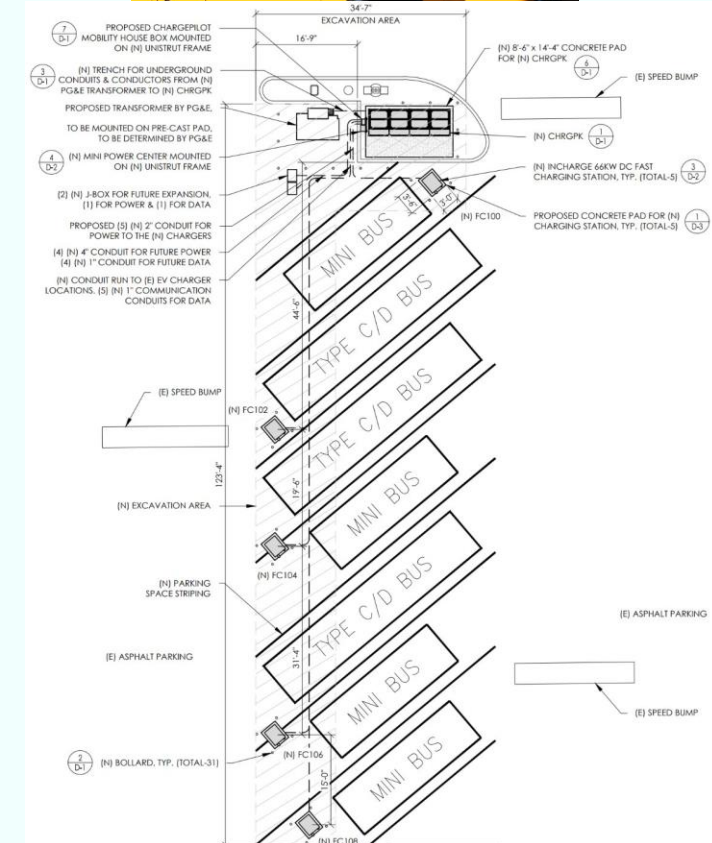
- 5 new bidirectional V2G chargers in the first deployment
- New dedicated electrical service and distribution infrastructure
- Infrastructure enabling parked school buses to export energy to the grid
- Coordination of utility, municipal, and California school-facility requirements

Key Challenges

- Utility-driven requirements and site constraints
- Unexpected site conditions requiring conduit installation in the electrical cabinet
- Site-layout modifications during project execution
- 3 design iterations required before installation

⚡ Impact

The lessons learned in earlier USD Fremont phases directly benefited to the Pittsburg project, improving project execution and delivery in Pittsburg.



Keys Success Factors

How Polara addressed delivery risks and what should be repeated on infrastructure projects

- | | | | |
|----|--|---|---|
| 01 | Engage the utility early | ➤ | Initiate service-upgrade and interconnection work before finalizing long-lead equipment. Give the utility early visibility into the project. |
| 02 | Document every step and approval | ➤ | Maintain written, step-by-step records to support decisions and accelerate issue resolution. |
| 03 | Design with future phases in mind | ➤ | A scalable foundation and early civil work can reduce costs and help keep later phases on schedule despite equipment delays. |
| 04 | Build contingency into the schedule | ➤ | Protect key milestones against utility reviews, redesigns, equipment delays, and corrective work. |
| 05 | Qualify the site before design | ➤ | Verify ownership boundaries, electrical infrastructure and installation constraints early to avoid relocation, redesign and schedule impacts. |



Polara



Canada

1111, rue Saint-Charles O, #1155
Longueuil, QC J4K 5G4

USA

2915 Ogletown Road
Newark, DE, 19713

Contact us today!

Info@polara.energy

Fremont Unified School District Vehicle-to-Grid Project

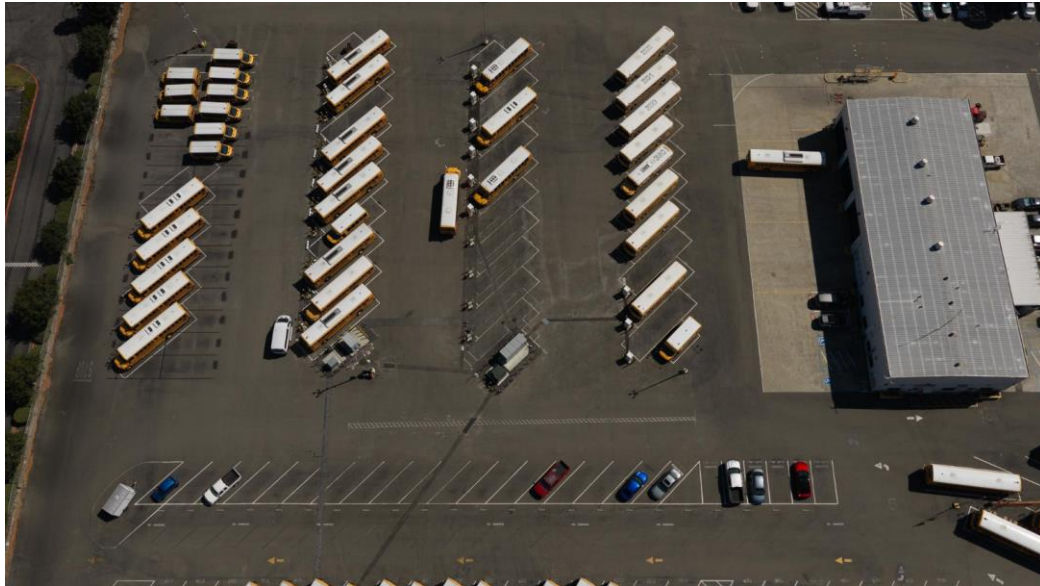
Erny Epley
Director of Transportation

From electric school buses to an energy resource



How FUSD Found the Opportunity

A phone call became a district-wide demonstration project.



CEC opportunity introduced through the World Resources Institute

A very short decision window: “Are you in?”

FUSD already understood electric buses and charging — V2G added a new layer

The big idea: parked buses can potentially become a managed energy resource

Partnerships quickly expanded the project beyond transportation

Building District & Stakeholder Support

The project connected transportation to a much larger sustainability effort.

“What are we doing to ensure a more sustainable environment for future students to learn and thrive?”

Student-led Board initiative created a cross-department sustainability task force

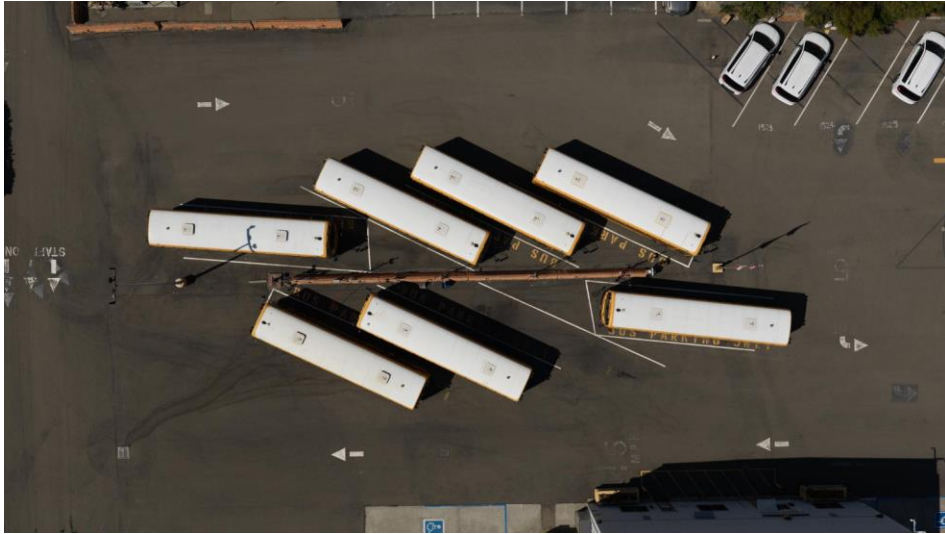
Curriculum & Instruction • Operations & Grounds • Child Nutrition • Transportation

Transportation’s role was straightforward: electrify the fleet
V2G expanded that work into energy management and grid resiliency

Key questions: cost, reliability, operations, technology, and District responsibility



Planning: Turning the Concept Into a Feasible Plan



World Resources Institute

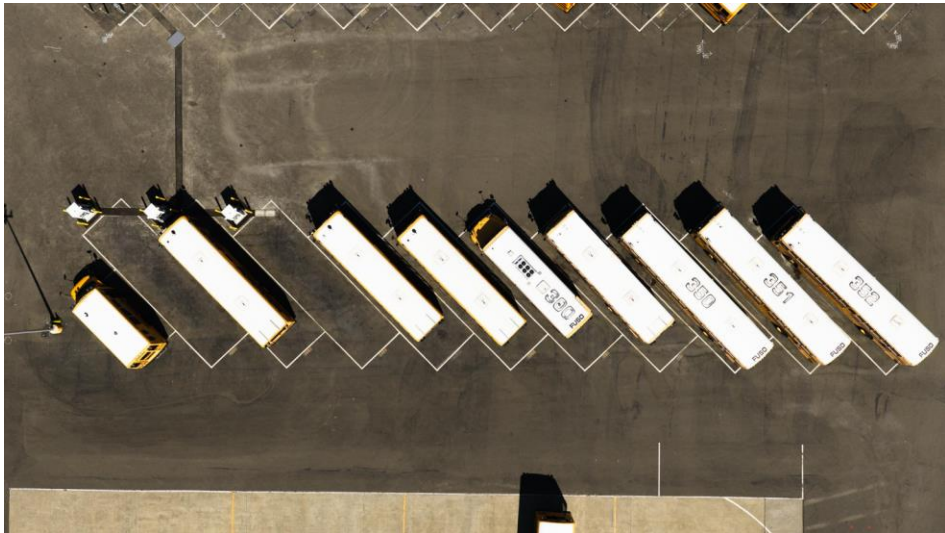
Strategy, grant partnership & planning

The Mobility House

V2G expertise & technology planning

Polar Energy

Feasibility, infrastructure & implementation planning



Where does the equipment go?

How much electrical capacity is available?

How do chargers, buses and controls communicate?

Why Three Construction Phases?

Build, learn, adjust — while keeping the transportation yard operating.



Phasing reduced disruption to daily transportation operations

Each phase created an opportunity to learn from the previous one

Buses still had to leave every morning — the project had to work around the mission

What Success Looks Like

From a grant concept to real infrastructure, real buses and real-world learning.

A functioning V2G installation at an active school transportation facility

Experience integrating charging, buses, infrastructure and daily operations

Data is helping move the conversation from assumptions to evidence

Key questions we are learning to answer:

- When are buses available?

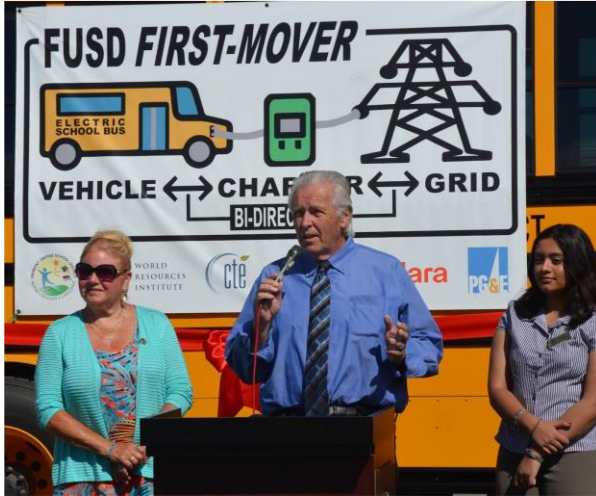
- How much energy can realistically be managed?

- How does V2G affect charging schedules?

- What value can this provide to the District?



What's Next? Phase 4 & Beyond



Build on what we have learned from the demonstration

Integrate transportation and energy management into the District's broader infrastructure strategy

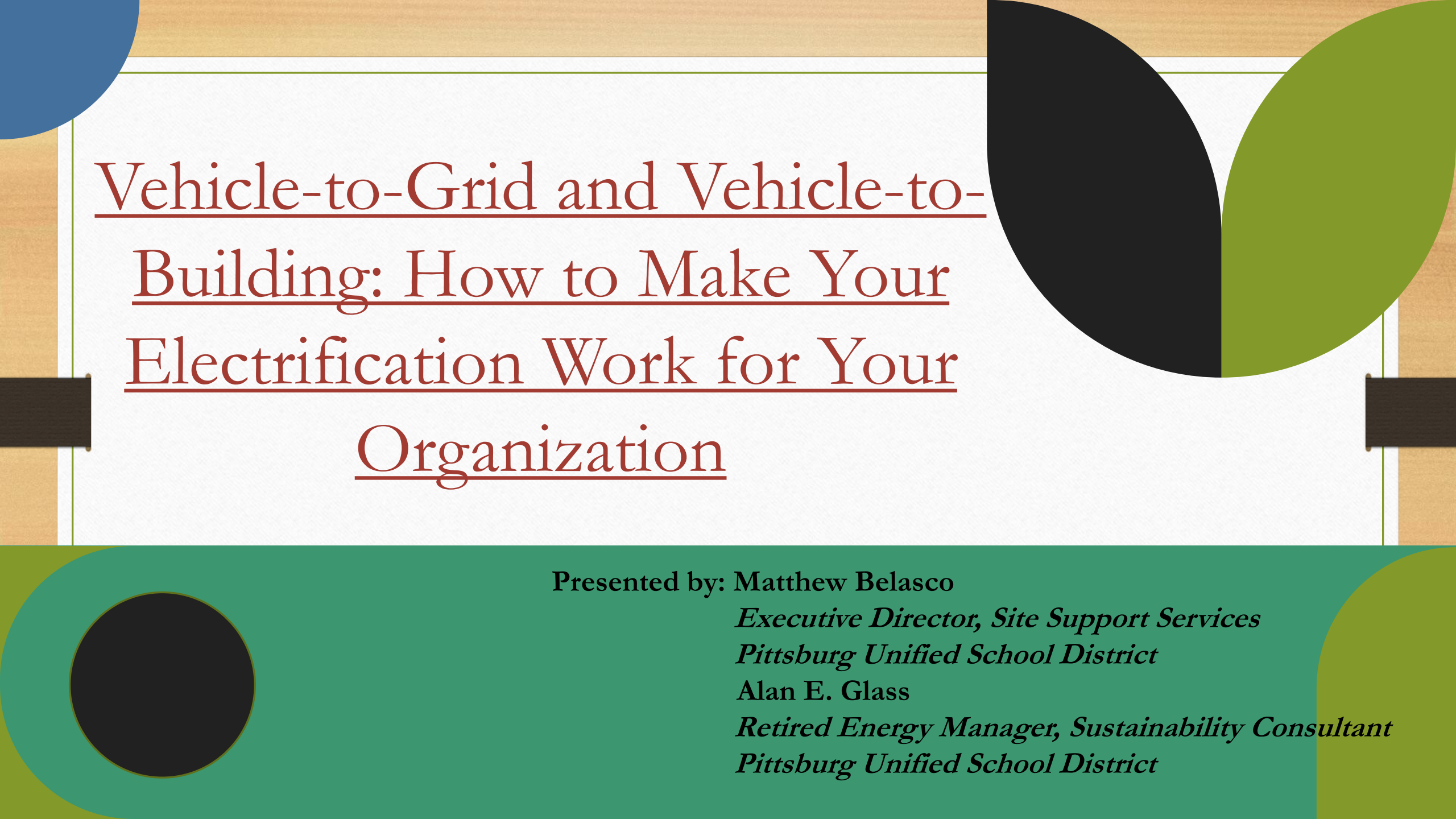
As the electric fleet grows, so does the potential value of the fleet's stored energy

Think beyond "vehicles that need to be charged" → mobile energy storage assets

Continue answering the technical and financial questions with real-world data



Learn now so future decisions are based on experience — not assumptions.



Vehicle-to-Grid and Vehicle-to- Building: How to Make Your Electrification Work for Your Organization

Presented by: Matthew Belasco

Executive Director, Site Support Services

Pittsburg Unified School District

Alan E. Glass

Retired Energy Manager, Sustainability Consultant

Pittsburg Unified School District

~PUSD Statistics~

Pittsburg Unified School District Statistics

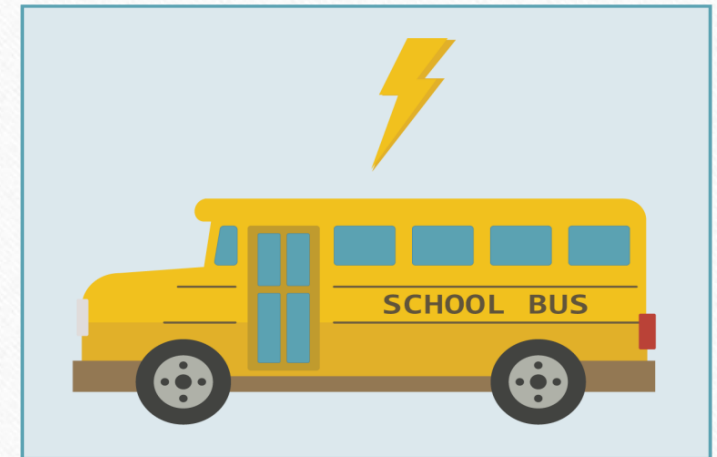
- Located in the East part of Contra Costa County, Bay Area
- Approximately 10,700 scholars in 13 schools
 - 8 Elementary Schools
 - 3 Junior High Schools
 - 1 Comprehensive and 1 Alternative High Schools
- 82% of scholars qualify for Free & Reduced Lunch program

Sustainability Efforts

Introduction of solar to PUSD in 2010, with all school sites, plus other locations, with a total of 3.43MW of power capacity. Funded through bonds and COP (Certificate of Participation)

Recognized by Sustainable organizations, such as the Green Ribbon Schools and the Green Technology Summit organization.

70% of the District's white fleet are electric vehicles, while our yellow fleet consists of EV and propane-powered low to no emission vehicles



Background of Grant

- Pittsburg Unified School District's Board of Education accepted receipt of the CEC grant in July 2024
- Originally not to cost the District, due to grant restrictions at the original site (Site Support Services Center) intended, District incurred costs for doing new set of plans for Pittsburg Adult Education Center (PAEC), property adjacent to District yard (SSSC)



Where are we now?

Pittsburg 1

Alan Glass role as liaison between the Grant and its administrators and Pittsburg Unified.

Pittsburg 1 broke ground about a month ago at PAEC, Phase 1, which is intended only for bus charging. Phase 2 will be the addition, with District financing, of up to ten level 2 chargers for cars. There is no cost to charge if you are a staff member or student of the District.

Work to be done by end of October 2026.

Where are we now?

Pittsburg 2

Pittsburg 2 is at Heights Elementary School

One Level 3 unidirectional charging station being installed, where a bus can be plugged in and discharge the battery into the school, to power the multi-purpose room (MPR), kitchen, A/C and heating, lights and plug load in MPR. Allow District and community to have an emergency center during times of stress to the grid or emergency, i.e. natural disaster

Mobilization begins 9/28/26 and construction on 10/5/26. Project will take approximately 6 weeks total.

Issues with Projects



- Delays due to grant issues at SSSC with existing PG&E grant, needed to change location of project to adjacent property at PAEC
- Originally not to cost the District, due to grant restrictions at the original site (SSSC) but District needed to incur new expenses to adjust to new location.
- Project was given a DSA exemption, but that prompted the City and County to require permits for construction, adding to time frame to start work

Issues with Projects

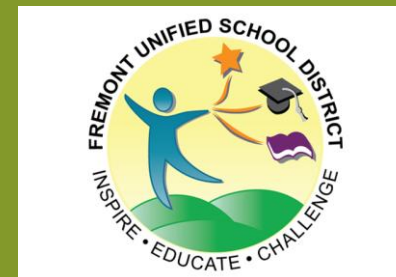
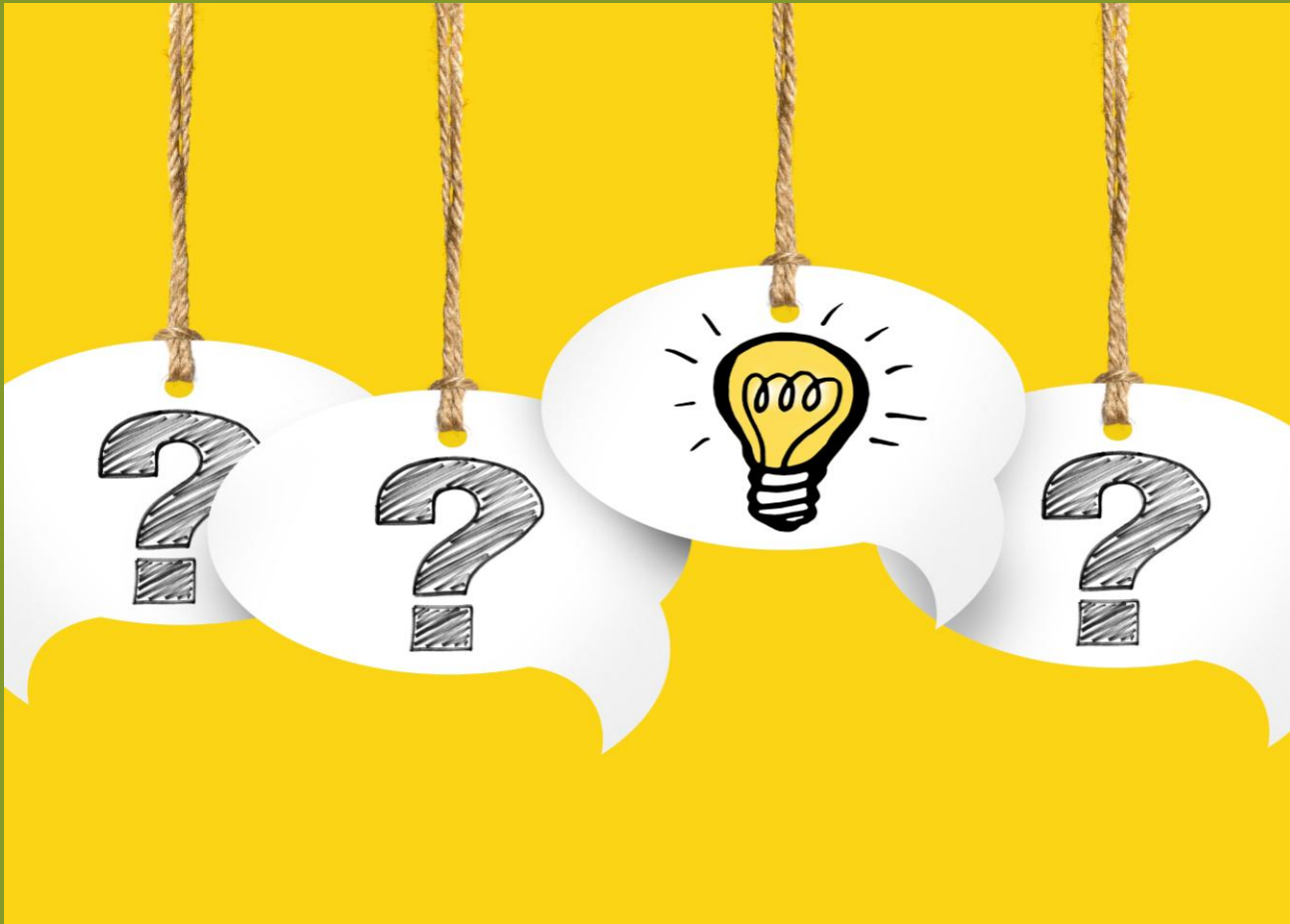


- Pittsburg 2 had issues of where to place transformer and equipment, due to budget limitations for construction
- Limited space in the school's main electrical room, added to issue of equipment placement in the school structure, Creative placement of needed electrical panel was done.
- Project was initially intended to start and complete during summer months, but delays cause mobilization to start in late September, and construction begins on October 5, where school will be out for that week.

~Why are We Doing This?~

- Grant allowed for PUSD to install eight (8) Level 3 charging stations for bus fleet, doubling our capabilities to charge EV buses.
- The project at Heights Elementary School will allow the District to have the option of powering the school in times of grid crises, which allows us to have independence from grid failure, as well as provide the community with an available emergency center
- Projects continue to show how Pittsburg Unified is a leader of sustainability in the school district community, as well as for the citizens of the City. Our work here can lead the way for other school district and government agencies as well.

Questions for any of the panelists?



Panelists for Workshop

Elizabeth Menchaca-Guhl, Energy Commission Specialist I, Emerging Opportunities, Agriculture, and Construction Unit, Fuels & Transportation Division Elizabeth.Menchaca-Guhl@energy.ca.gov

Alex Macharia, VGI Program Manager, PowerFlex (The Mobility House) Alex.Macharia@powerflex.com

Sophie Young, Manager, Environmental Justice & Equity, World Resources Institute Sophie.young@wri.org

Guillaume Brossard, Commercial VP, Polara Energy Guillaume.brossard@polara.energy

Ernest (Erny) Epley, Director of Transportation, Fremont Unified School District eepley@fusdk12.net

Matthew Belasco, Executive Director, Site Support Services, Pittsburg Unified School District mbelasco@pittsburgusd.net

Alan Glass, Retired Energy Manager, now Sustainability Consultant, Pittsburg Unified School District aglass@pittsburgusd.net

