

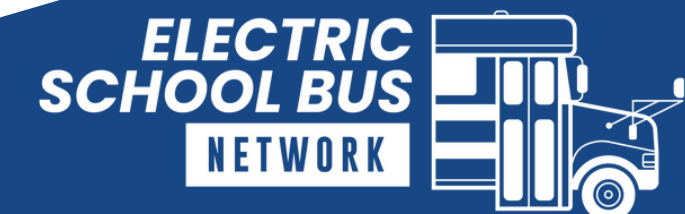
**ELECTRIC**  
**SCHOOL BUS**  
NETWORK



# CHARGER SELECTION

**California Electric School Bus Working Group**

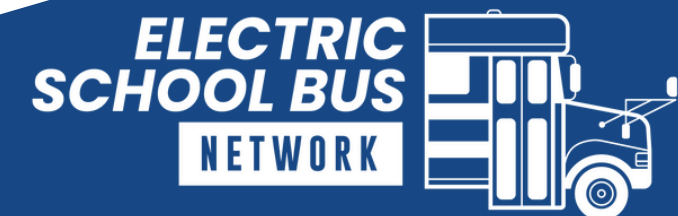
April 5, 2023 | 11:00 a.m. PT



**April 5, 2023**

## **WORKING GROUP AGENDA**

1. Intro to the Electric School Bus Network
2. Selecting a Charger for Your ESB
3. Guest Speaker Introductions
4. Q+A with Panelists
5. Summary +Closing



# MEET THE TEAM



**Michelle Hanson**  
Program Manager



**Tesi Bravo**  
Lead Project Manager



**Juan Espinoza**  
Project Manager



**Chrystal Ales**  
Project Manager

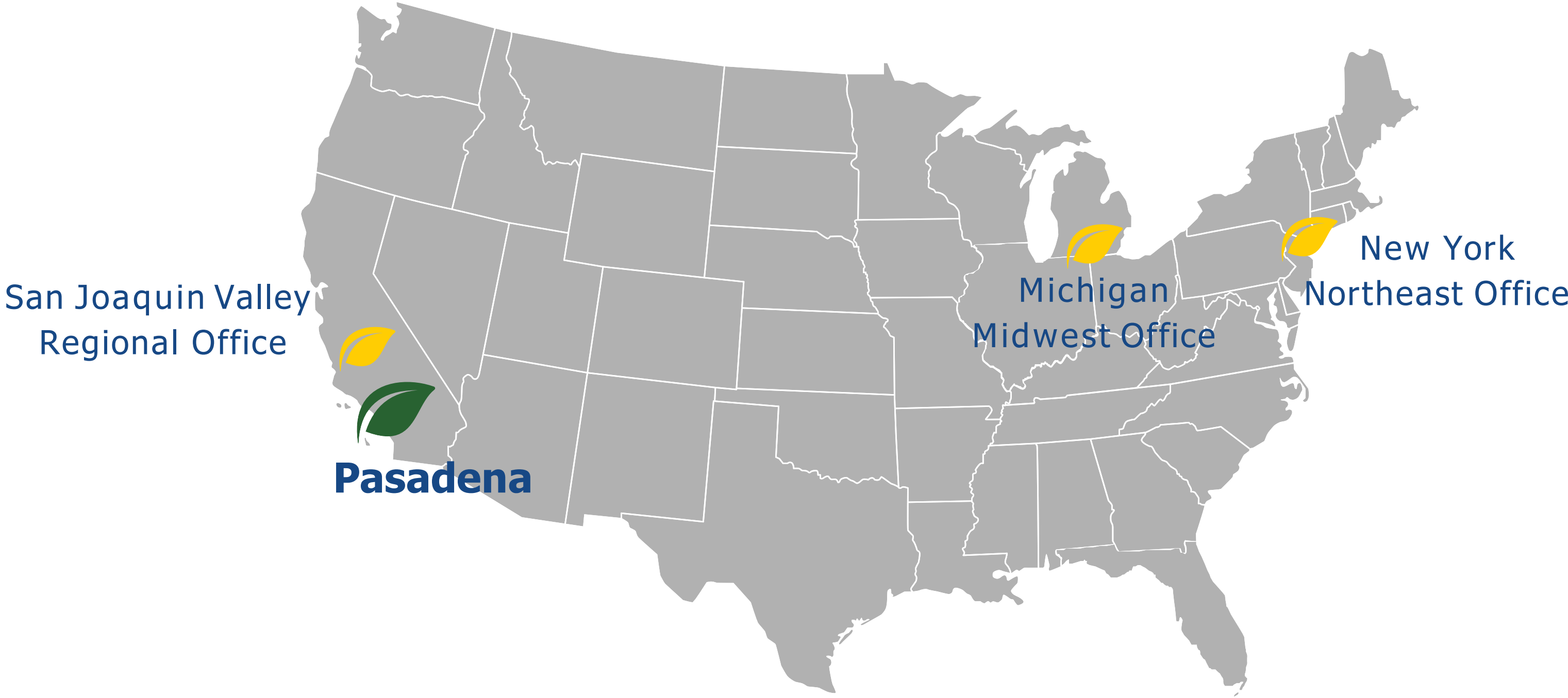



**Katelyn Tomaszewski**  
Project Manager

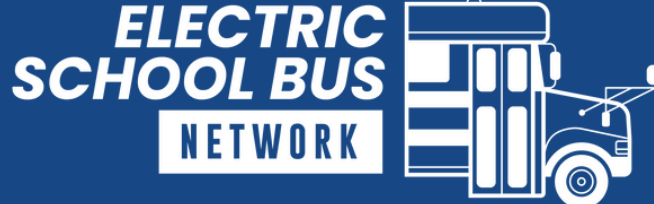


**Liza Walsh**  
Associate Project Manager

# GLOBAL ORGANIZATION TRANSFORMING TRANSPORTATION FOR GOOD



 **Headquarters**       **Regional Office**

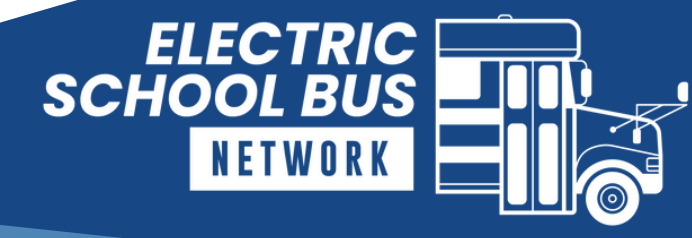




# ELECTRIC SCHOOL BUS NETWORK

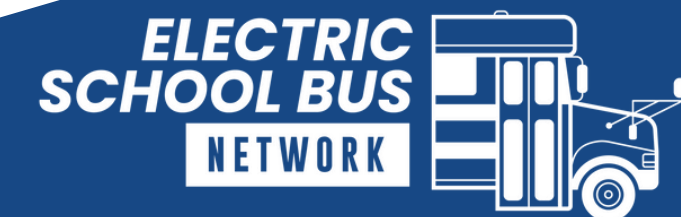
The Electric School Bus Network accelerates nationwide school bus fleet electrification through peer-to-peer networking and dialogue-driven working group meetings for school districts, advocacy and government organizations, and industry representatives. The ESB Network provides access to educational tools, resources, and subject matter experts to **help support the electric school bus fleet transition.**

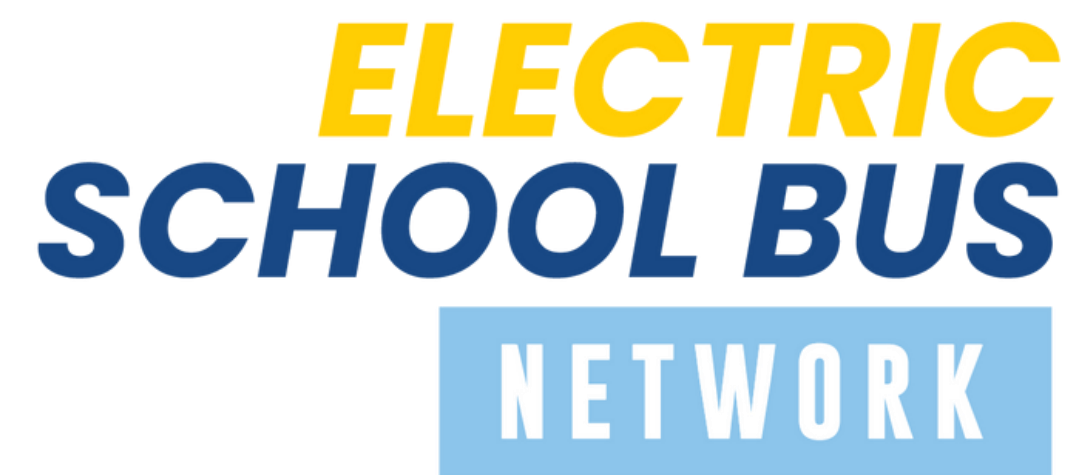
**In Partnership with:**



# ELECTRIC SCHOOL BUS WORKING GROUPS

- **Working Groups are not webinars!**
- **They are ongoing,** not static
- Panels with industry subject matter experts
- Goal: **Ease the transition of the U.S. school bus fleet to electric**
  - Facilitate conversations
  - Provide up-to-date information
  - Independent/Third Party Partner





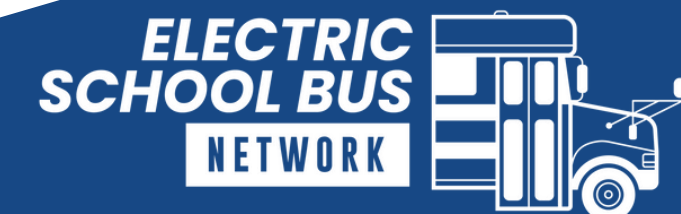
# WORKING GROUP TOPIC:

## Selecting a Charger for Your ESB

**Tesi Bravo**

Lead Project Manager

**CALSTART**



**ELECTRIC**  
**SCHOOL BUS**  
NETWORK



## CHARGER SELECTION PANEL

**Tim O'Neill**

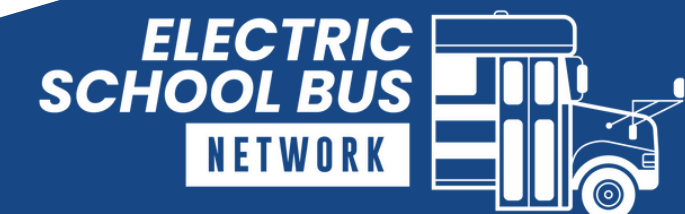
Pacific Gas and  
Electric Company  
[tko2@pge.com](mailto:tko2@pge.com)

**Elizabeth Hughes**

Mobility House  
[elizabeth.hughes@mobilityhouse.com](mailto:elizabeth.hughes@mobilityhouse.com)

**Jason Groves**

Southern  
California Edison  
[jason.groves@sce.com](mailto:jason.groves@sce.com)



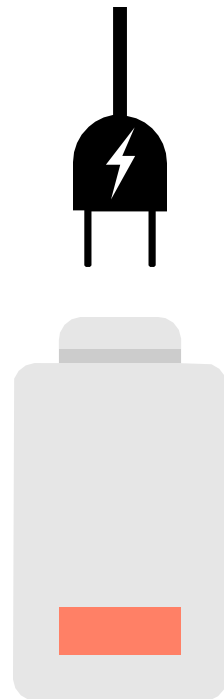


# SETTING THE PROJECT UP FOR SUCCESS

## Charger Types, Size, and Connector Cables



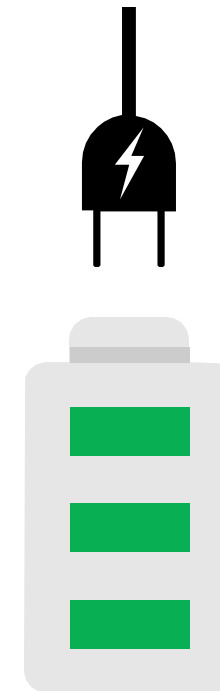
AC



DCFC



V2G



AC



TYPE 1



TYPE 2

DC



CHAdeMo

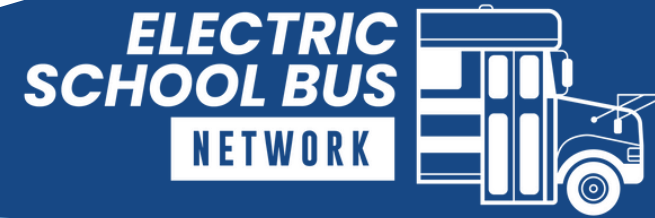


CCS COMBO



# CHARGER ACCESSORIES

- Cable management
- Mounting Systems
- Software
- Signage
- Security
- Communications Hardware
- Maintenance
- Networking
- Demand and management software
- Fleet management software



# WHAT IS NEEDED FOR PRE-PLANNING?

## Project Demand

Charger Size (Output Rating kW)

Quantity of Chargers

## Service Size & Voltage (if possible)

Specifications	Terra 54	Terra 54 HV
<b>Electrical</b>		
Max output power	50 kW continuous	

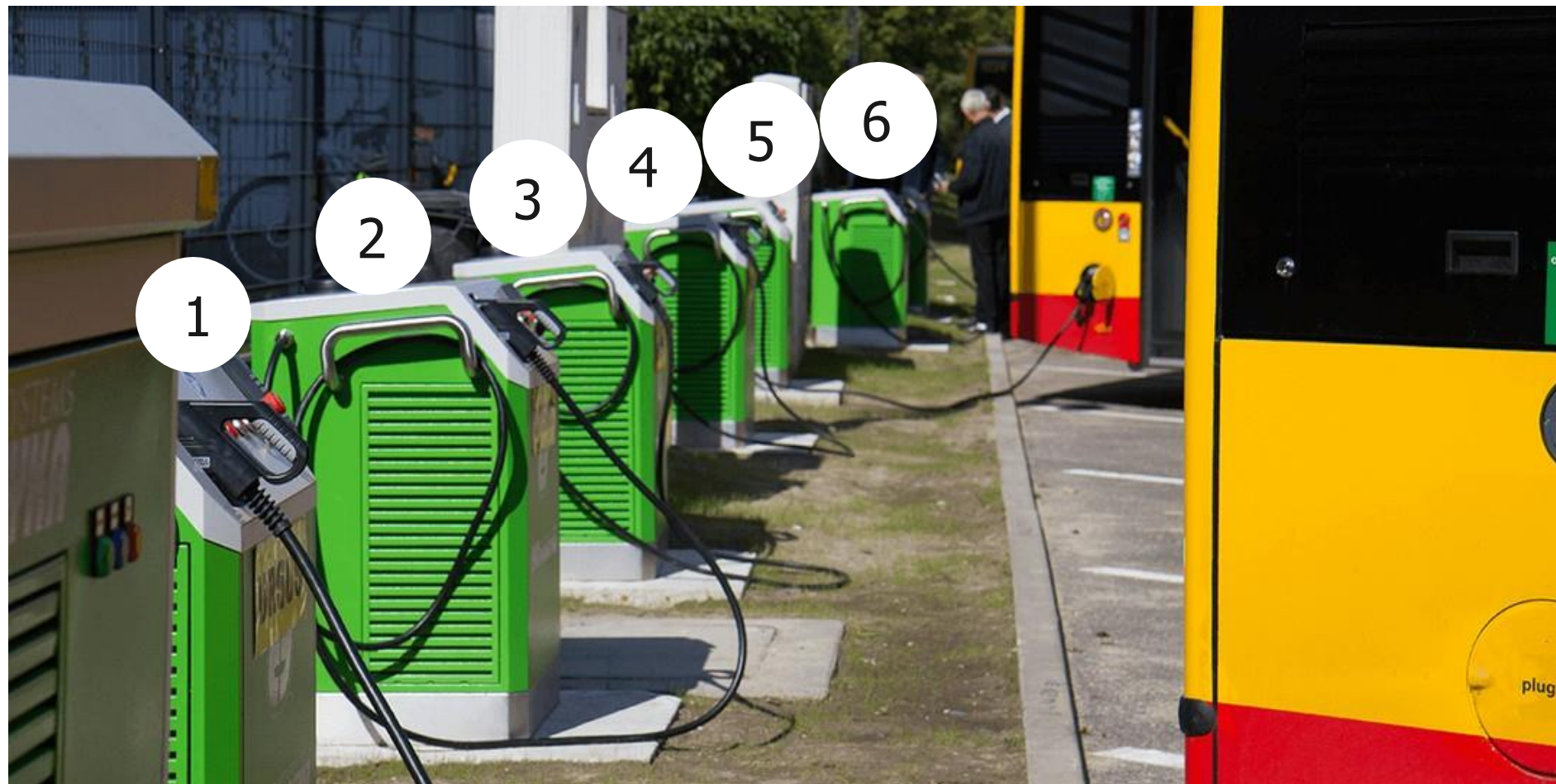
## Station Electrical Output

Max Output Power	62.5 kW
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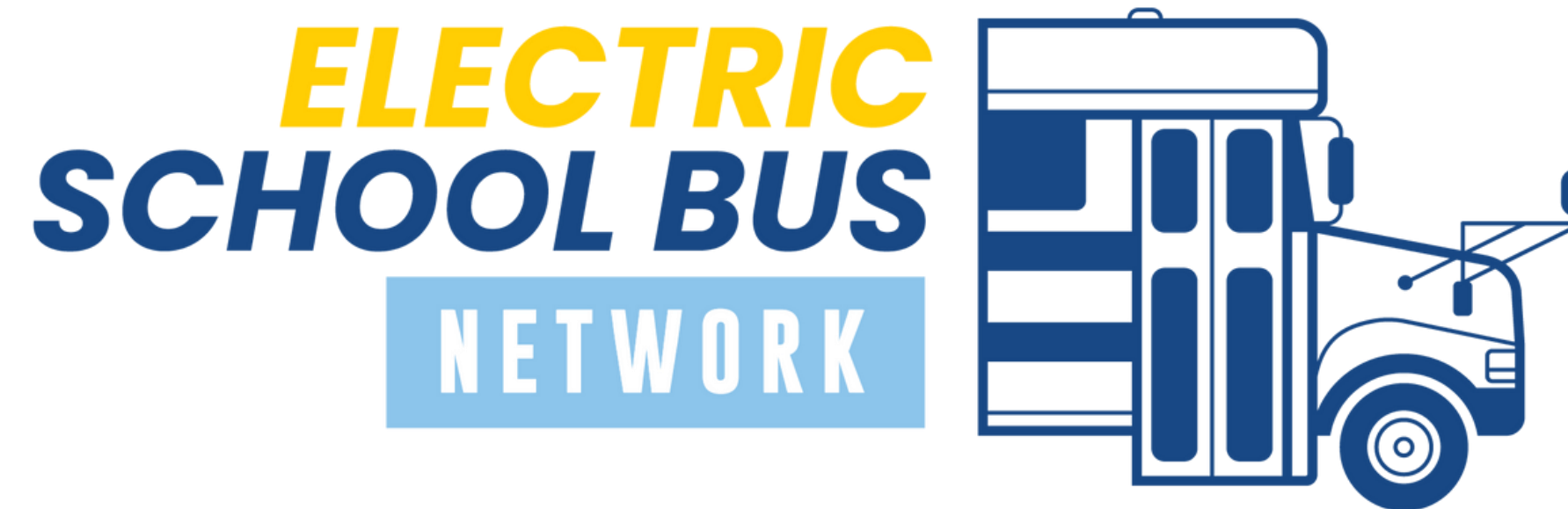
# WHAT IS PROJECT DEMAND?

Project Demand = Charger Size x # of Chargers

50kW Charger



Project Demand:  
50kW Charger x 6 chargers =  
300kW



## The End

# Selecting a Charger for Your ESB

**Tesi Bravo**

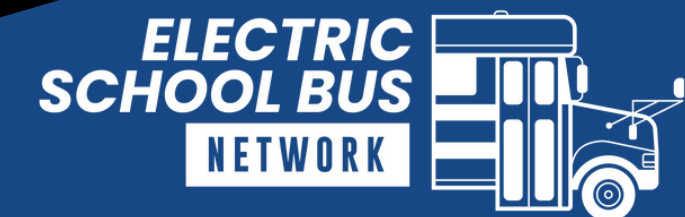


**[infrastructure@calstart.org](mailto:infrastructure@calstart.org)**

**[tbravo@calstart.org](mailto:tbravo@calstart.org)**

# GUEST SPEAKER Q+A

**Please raise your hand or type your questions for our panelists in the chat!**



# CLOSING

## FOLLOW UP

- Follow-Up Email on 4/7
- Recording of meeting
- Copy of slides
- Links to resources shared

## NEXT MEETING

Wednesday, May 3 - 1:00 p.m. PT

## QUESTIONS

Email [SchoolBusTeam@calstart.org](mailto:SchoolBusTeam@calstart.org)

