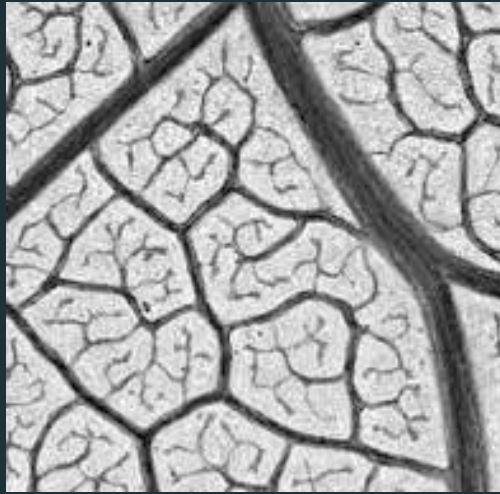


DOCKETED

Docket Number:	22-EVI-04
Project Title:	Electric Vehicle Charging Infrastructure Reliability
TN #:	246708
Document Title:	Presentation - Building Reliability & Trust in EV Charging
Description:	N/A
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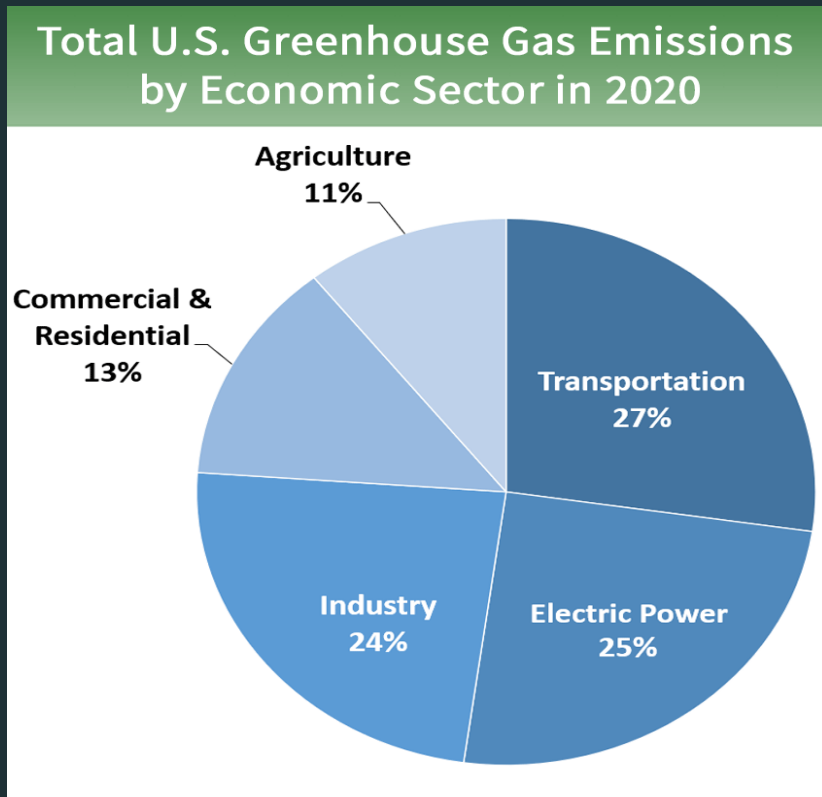
BUILDING RELIABILITY
& TRUST IN EV
CHARGING



Sustainable Mobility Solutions



OUR CHALLENGE & OPPORTUNITY



<https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>

Total 2020 emissions=5.91 m tons;

According to 2020 Princeton Net Zero America: the US must eliminate or offset 6b tons every year to achieve 2050 net zero.

The primary means in transportation are:

- Electrification
- Hydrogen
- Biofuels/biomass


Infrastructure must be built and workers must be trained.

WHAT WE DID

SMS gathers industry leaders—familiar and new—to find areas where we add value.

Our EV Infrastructure Strategy Council settled quickly on charging performance for focus.

Our EV infrastructure group

- 
- Apple
 - CHAdeMO
 - ChargePoint
 - Department of Energy
 - Electrify America
 - Flo-EV
 - Ford
 - Hyundai-Kia America
 - Ideanomics
 - Lucid
 - NREL
 - Rivian
 - Tesla
 - Toyota NA

WHAT THEY SAID

Charging sessions FAIL 25-30% of the time without a clear understanding of why.

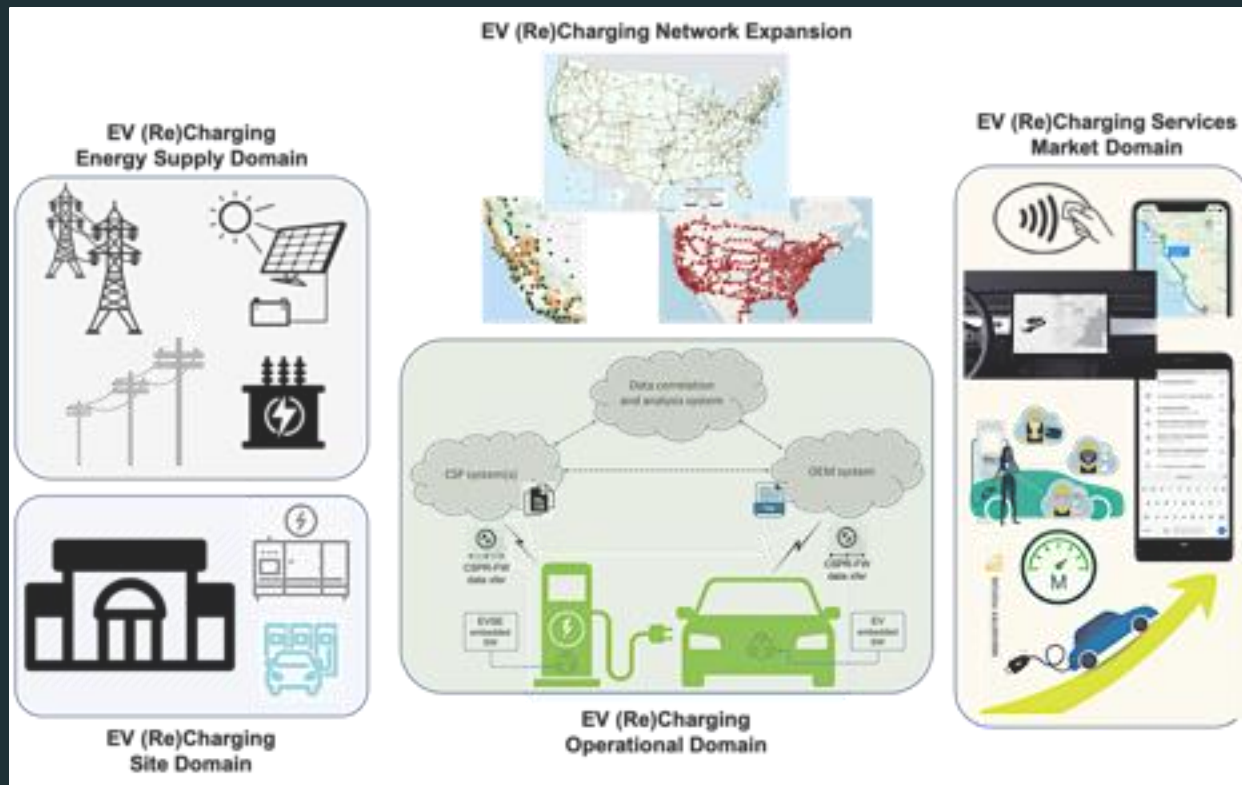
Error codes are not named, categorized or evaluated consistently.

"If we don't fix this none of our plans--regardless of how good they are--will come to pass because consumers won't accept EVs."



“There is no widely-accepted, open standards-based means for industry, government, commercial, and consumer stakeholders to gauge the performance and reliability of EV Charging Systems and Infrastructure.”

MODEL SOLUTION



- A framework for charging performance reliability based on:
- Top OEMs, charge providers review of their session data;
 - Identification of 5 major causes accounting for failure;
 - Data dictionary
 - Best practice for analysis and review

CSPR Interface



ET: Organization Tag (unique ID)
TI: Time Interval (start, end)
LT: Location Tag (station, site)
GPS: lat/long/height
AR: Area (Radius, boundary, market area, zip)

NR: Number of Records
NP: Number of Ports

Service Availability (uptime) data
Charging Session (CS) data
Service Pricing data
Anomalies data (CS)
Anomalies data (other)

SOLUTION IN ACTION

Draft high-level Project Plan

Framework for EV Charging Infrastructure: Charging System Performance Reporting Best Practice

Craig Rodine, Technical Advisor
SAE International, Office of Sustainable Energy

Version 0.75

25 March 2022

