

Exhibit to Agenda Item #1

Brief the Board on the Sacramento Region Zero Emission Vehicle Deployment Strategy jointly developed by SMUD, Sacramento Area Council of Governments (SACOG), Sacramento Regional Transit District (SacRT), and the Sacramento Metropolitan Air Quality Management District (Sac Metro Air District).

Board Strategic Development Committee and Special SMUD Board of Directors Meeting

Tuesday, November 29, 2022, scheduled to begin at 5:30 p.m.

Virtual Meeting (online)

Sacramento Region Zero Carbon Transportation Initiatives

ZEV Deployment Strategy



The opportunity

4 agencies + 1 solution-focused strategy

- Reduce vehicle miles traveled (VMT)
- Replace existing sources with zero-emission fuels (electricity and hydrogen)
- Invest in under resourced neighborhoods

VARIABLE	CURRENT
Passenger VMT (w/in region)	42,579,600
Passenger VMT (through-travel)	9,216,100
Commercial VMT (Trucks)	6,644,100
Transit Bus VMT	47,200
Total VMT	58,487,000

Total VMT per Weekday in Sacramento Region

Improve air quality • Reduce GHG emissions • Abate exposure to toxins
• Adapt to warming planet • Promote efficient mobility

The framework

Sacramento Area ZEV Development Strategy

4 AGENCIES

Sacramento



Regional
Transit



SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT



1 GOAL

Zero Emission
Transportation Future





Zero-Emission Transportation Future for the Sacramento Region

1

2

3

4



Investing in
Under Resourced
Communities

- 600 ZEV Buses
- 5+ Charging & Refueling Facilities

Transit Fleet



1

- 5 MD-HD Charging Plazas

MD-HD Fleet



2

- 52 eMobility Hubs
- 182 LD EV Chargers

eMobility



3

- 4,000 People Trained
- 1,000 People Hired

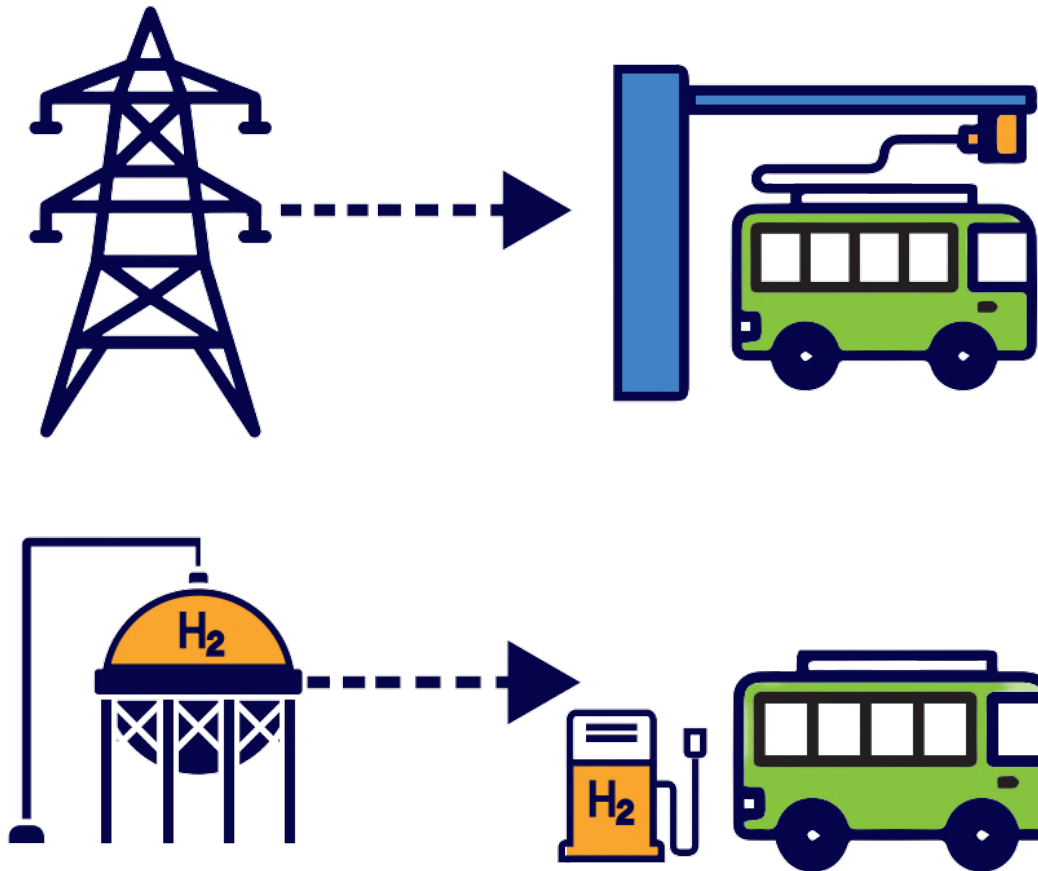
**Clean Energy
Workforce**



4

1

Transit fleet conversion & refueling infrastructure



600

Transit buses
converted
to zero
emissions

5+

Charging
& Re-Fueling
Facilities

Supporting
Neighborhood
Electrification
Efforts



Investment: \$540 million

600 transit buses • 3 garages • existing garage modifications

- Leverage research and initiatives from the 4 agencies to achieve transit electrification.
- Work with charging infrastructure manufacturers and operators to plan for transit only and multi-purpose charging operations in alignment with grid distribution system demand.
- Install DC fast chargers.



Support neighborhood electrification efforts


- Analyze potential impacts of new bus charging infrastructure on underserved neighborhoods.
- Conduct focused outreach to school districts.
- Include workforce development.



The design

- Regional dispersed charging network focused on short “top off” charging to maintain range.
 - DC fast chargers with overhead ports.
- 3 new bus garages that support electric and hydrogen buses, with adequate grid distribution system capacity, a site footprint that can accommodate sufficient space for overhead charging and that minimizes travel time to routes.
- A location that can provide parking and charging for interregional transit buses.
 - SacRT location or community college facility.

Timeline

- 
- 2022**
Engage community colleges.
 - 2023 - 2026**
Grid distribution system upgrades.
 - Prior to 2045**
Over 600 zero-emission transit buses transitioned & 5 charging facilities built.

2

Goods movement and medium & heavy-duty fleet transition



5
MD-HD
Charging
Plazas

Opportunities
to support
LD needs,
WFD training,
& more



Investment: \$100 million

Up to 5 MD-HD charging plazas

- Identify sites considering regional MD-HD transportation needs, regional and statewide climate goals, grid distribution system capacity, industry input and partnership, opportunities to support other needs (e.g.; LD charging, workforce development, etc.).



Improve community health • Remove adoption barriers

- Improve air quality.
- Avoid introducing new traffic into underserved neighborhoods.
- Provide equitable access to zero-emission MD-HD charging and fueling amongst independently-owned operators.



The design

- Strategically placed to support major goods movement highways in Northern California.
 - Interstate 5, Interstate 80, Highway 50, and State Highway 99.
- Plazas require 25 MW of electricity with hydrogen. Utilize high power DC fast chargers.
 - Potential for more chargers over time.
 - Future-proofed grid capacity to accommodate increased demand and/or improved technology.
- Colocation of travel plaza amenities (e.g., food, showers, and internet access)
- Potential to support additional opportunities (e.g., LD charging, workforce development, etc.).

Timeline

- 
- **2022**
Complete Northern CA Megaregion ZEV Medium/Heavy Duty Vehicle Blueprint.
 - **2023**
Identify priority locations, concept design, budget, approach to ownership.
 - Implement pilot plaza.

3

Charging & transportation options for under-resourced communities



52
eMobility Hubs
Throughout
Sacramento
Region

182
LD Ev Chargers
Installed

Supporting
288,000
LD EVs
by 2030



Investment: \$182 million

52 eMobility hubs • 182 LD EV chargers installed • 288,000 LD EVs by 2030



- Identify regional charging infrastructure needs and coordinate infrastructure planning
- Identify sites considering under resourced communities, charging deserts, colocation with community assets, grid capacity and cost/time of upgrades.
- Engage community-based organizations and under resourced communities. Determine priorities for eMobility hubs and shared EVs.
- Facilitate eMobility options (e.g., car share, electric scooters)
- Acquire or develop tool to maximize utility and usage.



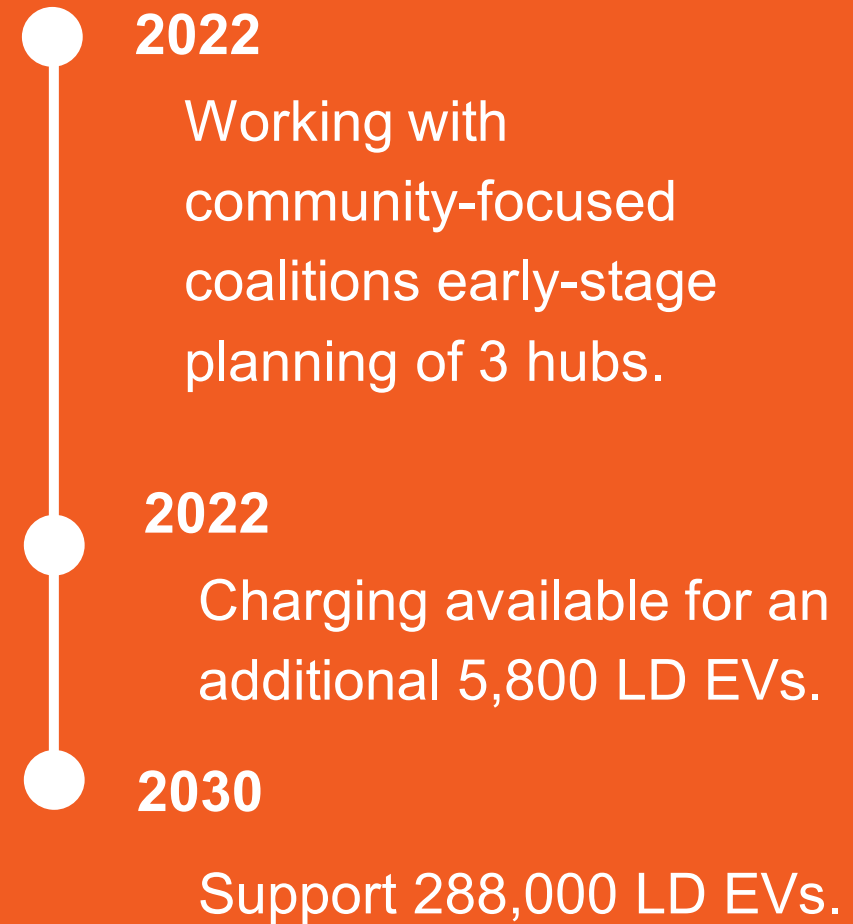
Engage under-resourced communities as a key stakeholder

- Prioritize and address community charging needs and increase access to EVs and eMobility.
- Design eMobility information tool that it is accessible to under resourced communities.

The design

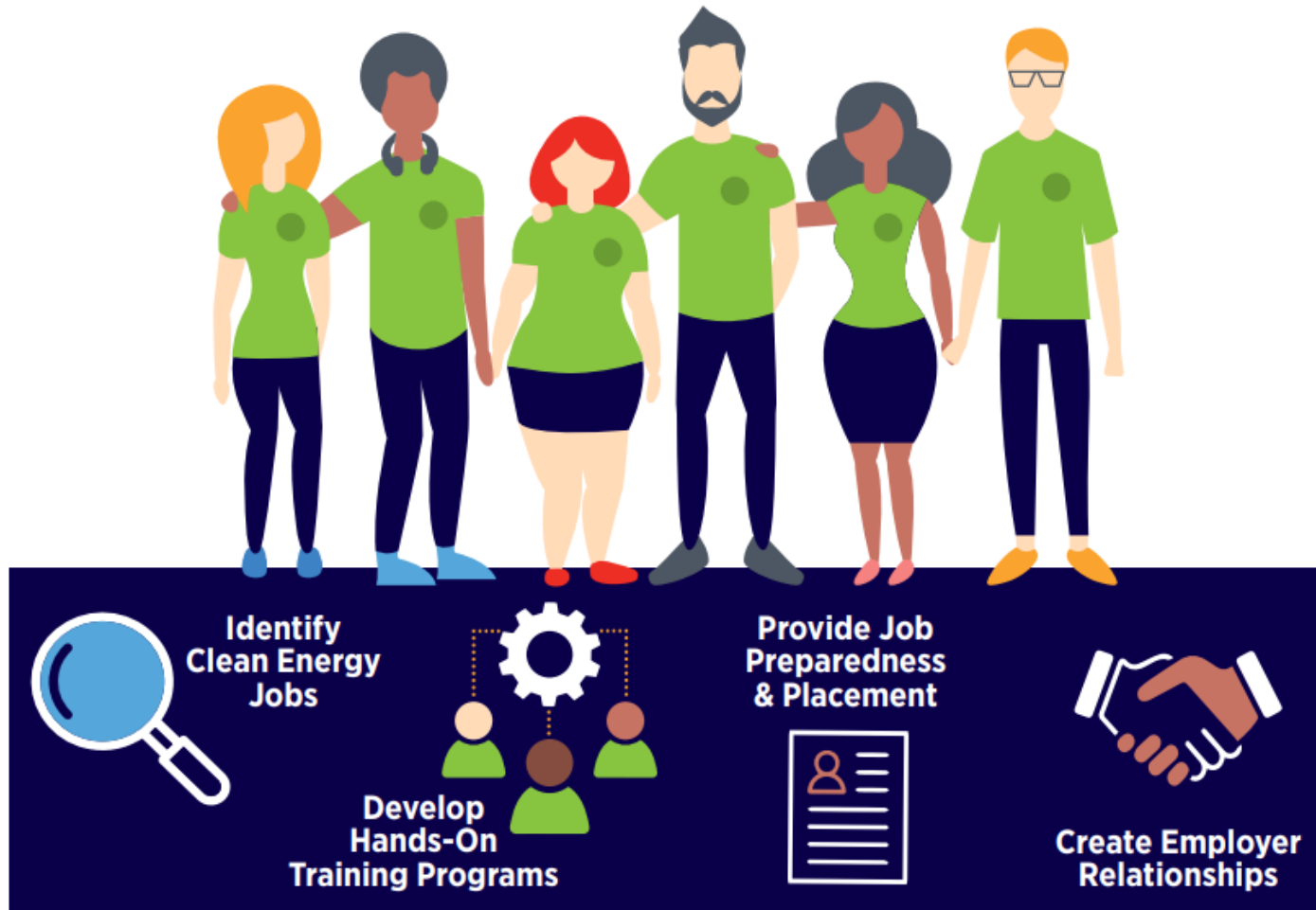
- Mix of charging technologies and e-mobility options.
 - Level 2 chargers for hubs co-located with community assets.
 - DC fast chargers at charging plazas to serve interregional transportation.
- Inclusion of information tool that easily identifies location, availability, and downtime status.
- Located in under resourced communities and charging deserts.
 - Support those without ready access to home or workplace charging.
 - Consider impacts on grid distribution system.
 - Potential for co-location with MD-HD charging infrastructure.

Timeline



4

Workforce development



4,000
People
Trained with
Clean Energy
Skills by 2024

1,000
People Hired into
High-Paying Clean
Energy Jobs
by 2024

Entry-Level
Employability,
Workforce
Retraining,
Reskilling,
& Local
Recruitment



Investment: \$145 million

4,000 people trained with clean energy skills by 2024 •

1,000 people hired into high-paying clean energy jobs by 2024



- Bring economic opportunities to under resourced communities
- Grow partnerships that harbor entry-level employability, workforce retraining, reskilling, and local recruitment.
- Coordinate infrastructure planning with adjacent utilities.

Improve economic opportunity in communities that have historically been under resourced through electric transportation.



The design

- Conduct jobs assessment identifying zero-carbon jobs needed and requisite skills for employment.
- Align workforce training programs around skills and core competencies.
- Develop hands-on job training and readiness programming.
- Leverage partnerships for job and intern placement.
 - Help secure interviews, review resumes, and coach participants through job prep process .
 - Align wrap-around services (e.g., transportation, childcare, case management, etc.).
- Convene employer relationships with community.

Timeline



2022

Collaborating with community-based organizations to train under resourced community members.

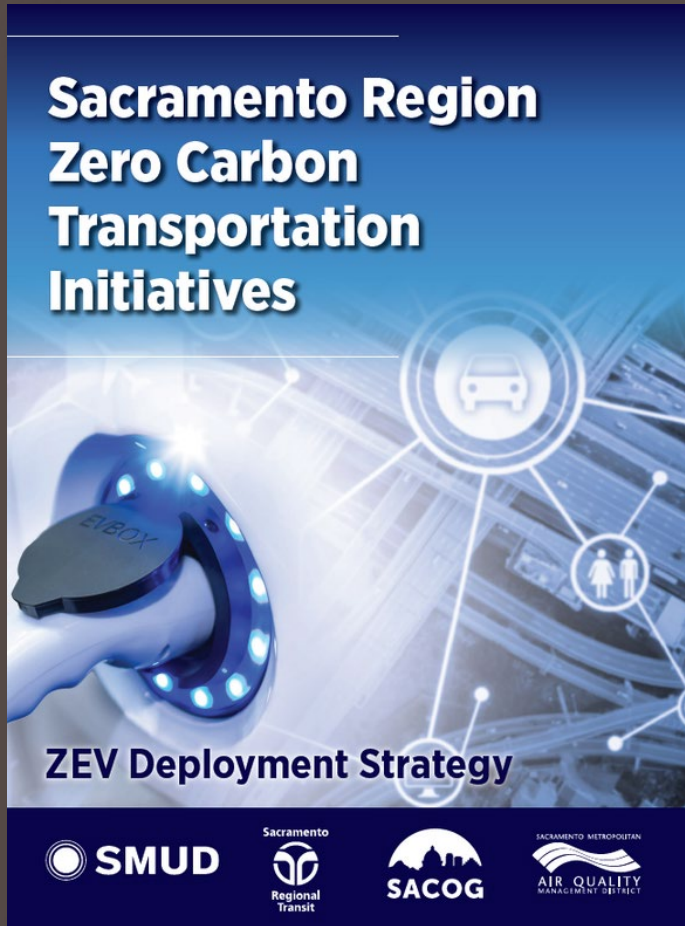


2024

4,000 people in clean energy skills and 1,000 people hired into high-paying jobs.

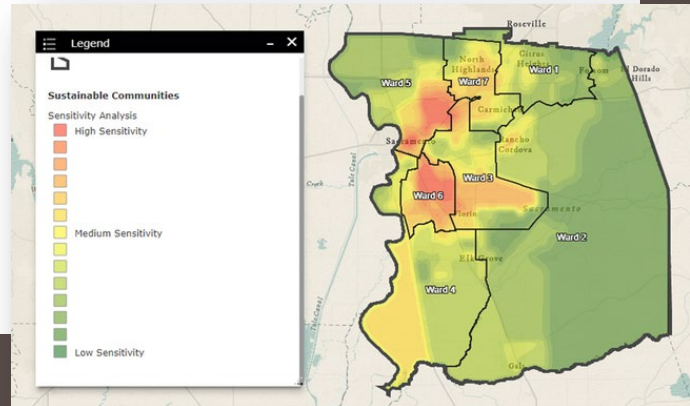
The full report

The Sacramento Region Zero Carbon Transportation Initiatives includes further details on these four projects, along with information on adjacent efforts supporting the Sacramento Area ZEV Deployment Strategy.

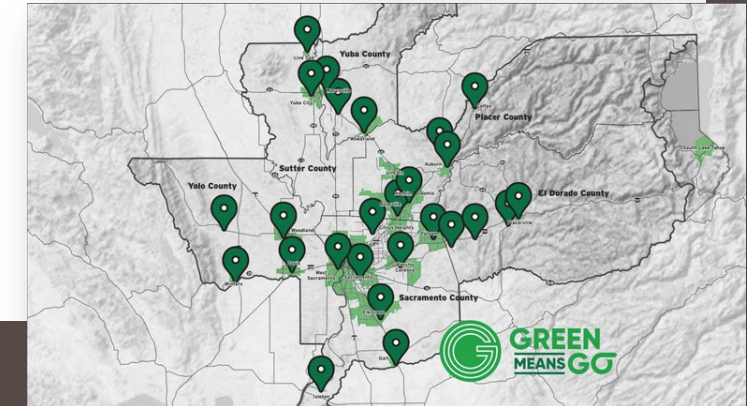


[VIEW THE FULL REPORT](#)

SMUD Sustainable Communities Resource Priorities



SACOG Green Means Go



Political, regional & social alignment



Presenting the initiative to elected officials

- 4-agency Boards
- Federal legislative delegation
- Cap to Cap



Regional alignment & support

- Coordinating with regional wildfire and water agencies
- Local agencies
- Community-based organizations



Social awareness

- Partners
- Events

Why is alignment important?

Infrastructure Investments and Jobs Act (IIJA) - \$1.2 trillion

- **\$760 billion** - Moving America and the Environment Forward
- **\$550 billion** - new investments/programs
- **\$8 billion** - ARCHES H2 Hub
- **\$5 billion / Ca - \$384 million** - National Electric Vehicle Infrastructure Program (NEVI)
- **\$5 billion** - Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
- **\$3.2 billion** - Infrastructure for Rebuilding America (INFRA)

Why is alignment important?

Inflation Reduction Act (IRA) - \$369 billion

\$269 billion	\$9 billion	\$7500 new, \$4000 used Up to \$40k commercial	\$27 billion
Extension and expansion of clean energy tax credits with direct pay	Energy efficiency rebates	EV tax credits	Greenhouse gas reduction fund
Lots of new strings attached! Treasury guidance is forthcoming.	Allocations to state energy offices for heat pump water heaters, appliance electrification, electric system improvements.	Even more strings attached! Domestic content and final assembly requirements as well as income caps.	Supports competitive grants to national and local “green banks.” Targets Justice40 communities.