



Show Me the Money

CALACT Spring 2023 Conference

April 18, 2023



GO-Biz Overview



Business Investment
Services



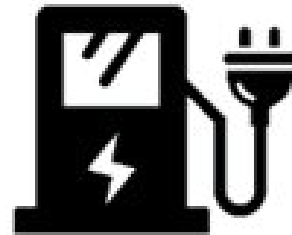
International Affairs



Small Business



Permits



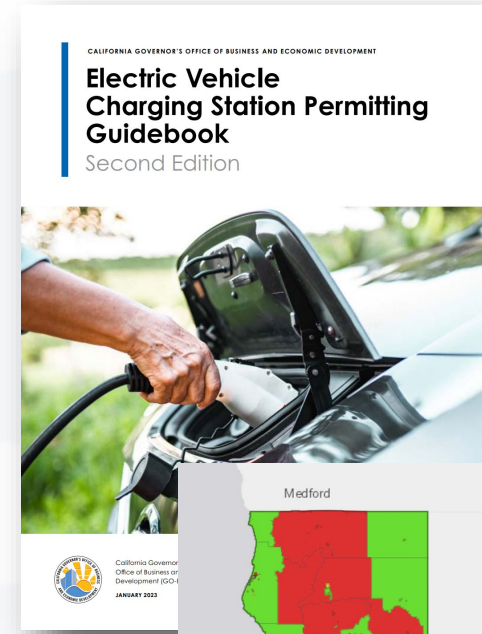
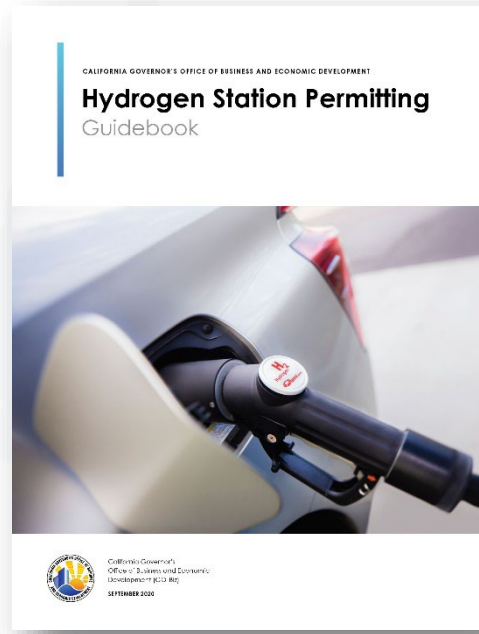
Zero Emission Vehicle Market
Development



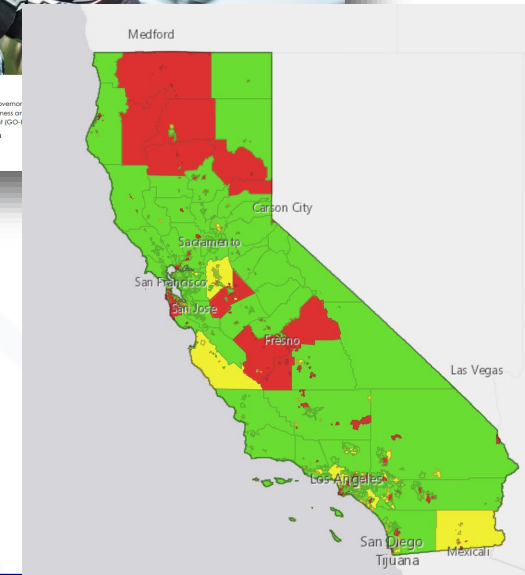
Infrastructure &
Economic Development
Bank (I-Bank)



Zero Emission Vehicle Market Development



- State agency alignment and coordination
- Industry collaboration and collective problem-solving
- ZEV-related business support
- Fueling infrastructure permitting assistance
- Existing and proposed regulatory navigation assistance
- Coordinate with Caltrans, CARB, and CEC to support ZEB deployment



Our Newest North Star(s)

- **Carbon Neutrality** (AB 1279)
legally binding carbon neutrality by 2045
- **100% Clean Electric Grid** (SB 1020)
100% clean electricity retail sales by 2045
- **Capture and Remove Carbon Pollution** (SB 905) establishes regulatory framework & excludes using tech to recover more oil



September 16, 2022: Governor Newsom signs sweeping legislative package



2022 Scoping Plan (CARB)

Unprecedented Deployment of Clean Technology and Nature-Based Climate Solutions



37x total on-road ZEVs



6x electric appliances in residences



1700x hydrogen supply



4x installed wind/solar generation capacity



> 2.5 Million acres of NWL climate action per year

Significant GHG Reductions



94% decrease in liquid petroleum fuel demand



91% decrease in fossil gas used in buildings



66% decrease in methane emissions from agriculture



10% reduction in wildfire emissions

Record Funding Commitments



California's Climate Commitment | 2021-2022 Budget Agreements



\$13.8 Billion
Transportation



\$10 Billion
Zero-Emission Vehicles



\$9.1 Billion
Clean Energy & Reliability



\$8.7 Billion
Drought & Water Resilience



\$5.7 Billion
Climate Resilience



\$2.3 Billion
Wildfire & Forest Resilience



\$1.1 Billion
Agriculture



\$975 Million
Climate Homes



\$723 Million
Climate Schools & Research



\$525 Million
Climate Innovation



\$460 Million
Circular Economy



\$346 Million
Climate Health



\$315 Million
Climate Jobs



**\$54.1
BILLION
TOTAL**

September 2022



Innovative Clean Transit Rule

- Adopted December 2018: requires public transit agencies to transition to 100% ZEB
- Beginning 2029: all new purchases must be ZEB
- By 2040: full ZEB transition
- Applies to all buses > 14,000 lbs. (standard, articulated, over-the-road, double-decker, and cutaway)

ZEB Percentage of Total New Bus Purchases

Year	Large Transit	Small Transit
2023	25%	--
2024	25%	--
2025	25%	--
2026	50%	25%
2027	50%	25%
2028	50%	25%
2029	100%	100%



ZEB Deployment Is Beyond Funding

- Fuel availability and long-term cost projection
- Infrastructure buildout and power supply
- ZEB performance and reliability
- Workforce training
- Operation and service expansion



Statewide Initiatives Supporting Deployment

- Objectives:
 - Create a business-friendly environment for ZEB deployment
 - Remove roadblocks
- Examples:
 - Statewide procurement contracts (ZEBs, hydrogen, etc.)
 - Coordination for federal funding application (ARCHES, CFI, etc.)
 - Direct funding support (TIRCP, LCTOP, HVIP, ENERGIIZE, Carl Moyer, etc.)
 - Flexibility allowing state funding as matching fund (HVIP)
 - Legislative support (SB 350, AB 2622, etc.)



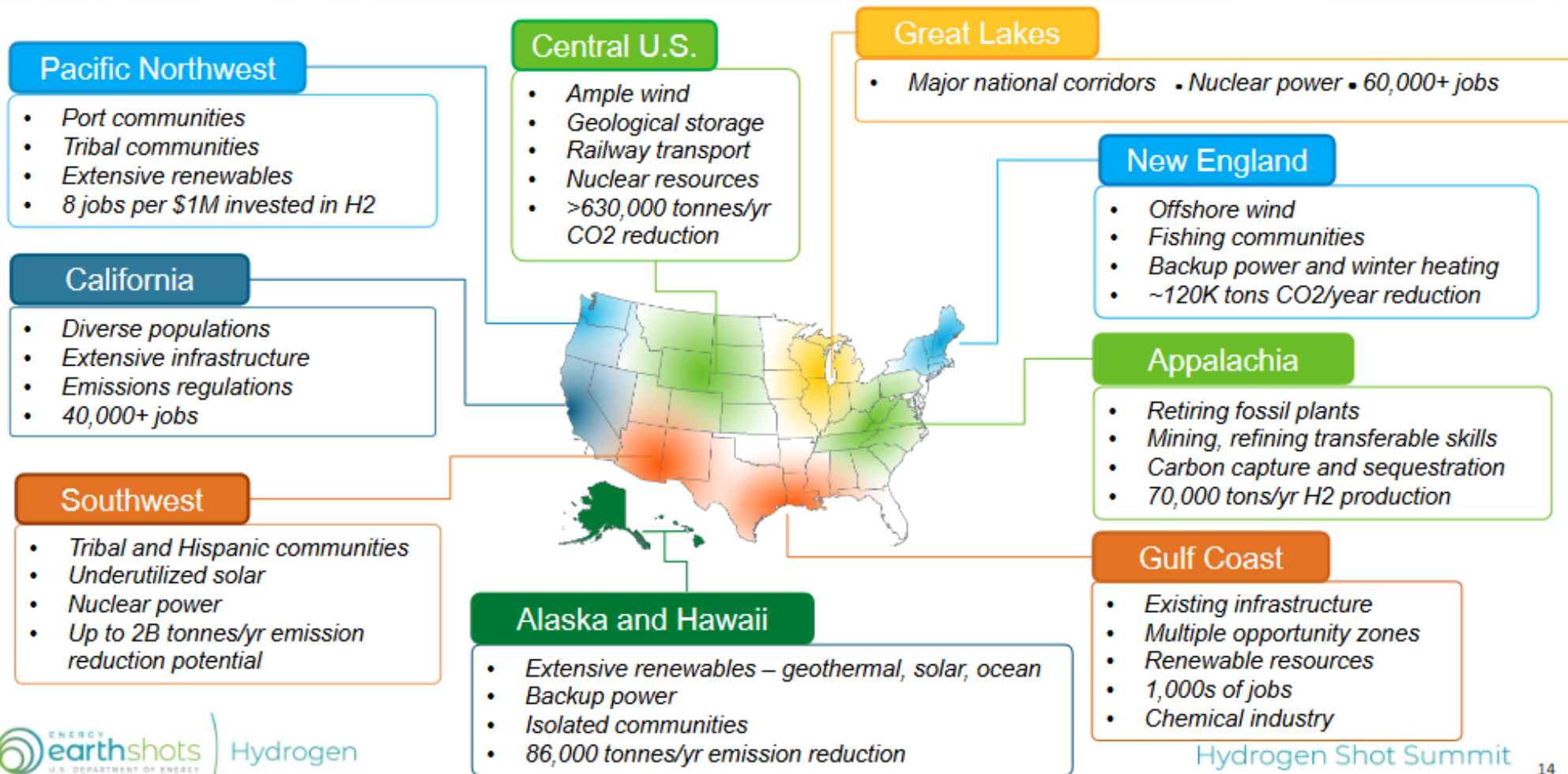
Statewide Transit H2 Procurement Contract

- Enable easier access to (more) affordable clean hydrogen
- Performed transit agency and H2 provider interviews + collaboration with agencies to develop formal DGS request
- Currently under development at DGS (with support from GO-Biz, CARB, CEC)
- Expected availability ~June 2024



Federal Opportunity: US DOE \$8B for 4-8 Regional Hydrogen Hubs

RFI Findings: Regional clusters and geographic factors



Founding Members (for incorporation)



archesh2.org

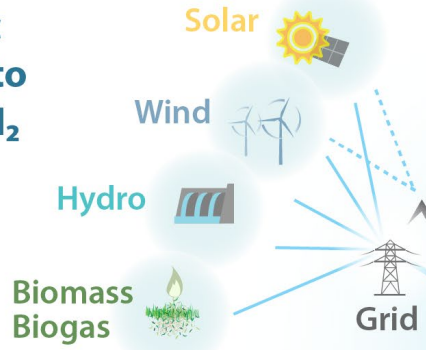


Renewables 100
Policy Institute

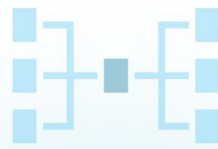


Alliance for Renewable Clean Hydrogen Energy Systems

MAKE H₂
Renewable Electric Power to Clean H₂



CENTRAL R & DDD



USE H₂
Transportation
Freight / I-5 corridor
Ports and Marine
Rail & Aviation

Industry
Cement
Steel
Ammonia
Agriculture

Central R&DDD
Research & Development
Demonstration & Deployment

People-centered
Energy equity, Environmental Justice
Environmental and Community Impact
Training, Education, Workforce development

Analysis and Guidance
Technoeconomic analysis, modeling, financing
Tech-to-Market, feasibility studies, innovation

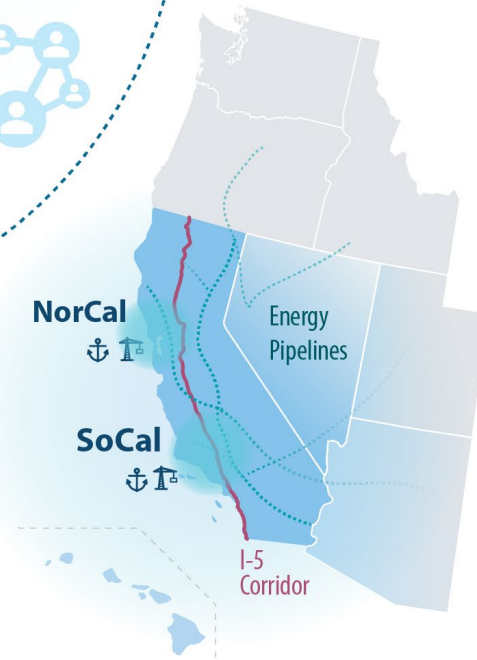
H₂ carrier H₂ transport H₂ fuels

STORE/MOVE H₂

Store

Transport

Pipelines



We need partnership to succeed...



The background features a light green gradient with several large, glossy green spheres of varying sizes. A prominent glass stem connects two of these spheres, one positioned higher and to the left, and another lower and to the right. The overall aesthetic is clean and modern.

Thank You!

Gia Vacin

Deputy Director

ZEV Market Development

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Executive Order N-79-20



Sets three crucial goals for the ZEV Market:

1. 100% of in-state sales of new passenger cars and trucks will be zero-emission by 2035.
2. 100% zero-emission medium and heavy-duty vehicles in the State by 2045 where feasible and by 2035 for drayage trucks.
3. 100% zero-emission off-road vehicles and equipment by 2035, where feasible.



Bipartisan Infrastructure Law – H2 Highlights

- **Includes \$9.5B for clean hydrogen:**
 - \$1B for electrolysis research, development, and demonstration
 - \$500M for clean hydrogen technology manufacturing and recycling R&D
 - \$8B for at least four regional clean hydrogen hubs
- **Aligns with Hydrogen Shot** priorities by directing work to reduce the cost of clean hydrogen to **\$2 per kg by 2026**
- **Requires developing a National Hydrogen Strategy and Roadmap**



President Biden Signs the Bipartisan Infrastructure Law into law on Nov. 15, 2021.

Photo Credit: Kenny Holston/Getty Images

ARCHES Mission

ARCHES is a public-private partnership to create a sustainable statewide clean hydrogen (H₂) hub in California and beyond, utilizing local renewable resources to produce hydrogen with the objective to fully decarbonize the regional economy, while prioritizing environmental justice, equity, economic leadership, and workforce development.



ARCHES Principles

- ✓ **Statewide**
Leveraging California's size and diverse geography and economy to produce, transport, store, and use H₂ at scale with multiple clusters of each, provides and ideal H₂ test-bed for the nation.
- ✓ **Green**
California has long led the nation and the world in environmental innovation and policy and will do so again with clean H₂.
- ✓ **Stakeholder and Community-Engaged**
Built-in and ensured at all stages in the process.
- ✓ **Equity and Justice Centered**
Prioritized in all decisions with a focus on California's impacted, disadvantaged, low-income, and tribal communities.

- ✓ **Aligned with State Interests**
To move California toward a robust H₂ economy and marketplace, and a cleaner, greener future.
- ✓ **Solution-Oriented**
Focused on implementation with targeted research and innovation to achieve the DOE's \$2/kg 5-year goal and the administrations \$1/kg 10-year goal
- ✓ **Objective and Unbiased**
Representing and ensuring the interests of all parties
- ✓ **Multi-dimensional**
Considering all aspects of a successful H₂ economy.
- ✓ **Connected**
Within California and other H₂ hubs.

