



**West Coast Collaborative Alternative Fuel Infrastructure Corridor Coalition  
(WCC AFICC)  
Medium and Heavy-Duty Alternative Fuel Infrastructure Strategic Development Plan  
California Fact Sheet – May 2020**

### **Project Mission**

In service of the WCC's mission to reduce diesel emissions along the West Coast of North America, the mission of the AFICC project is to accelerate the modernization of transportation corridors by deploying alternative fuel infrastructure for medium and heavy-duty (MHD) vehicles and equipment in synergy with other investments. Public-private collaboration to plan projects, leverage funding, and construct modernized corridors with alternative fuel infrastructure will create jobs, increase domestic fuel supply diversity, reduce emissions, improve public health, and support more robust MHD fleet operations.

### **Project Summary**

The WCC AFICC seeks stakeholder input on investment needs for plug-in electric (EV), hydrogen (H<sub>2</sub>), propane (LPG), compressed natural gas and liquefied natural gas (CNG and LNG) fueling infrastructure for MHD vehicles and equipment operating on the West Coast of the United States (U.S.). The WCC AFICC commissioned CALSTART's *Medium and Heavy-Duty Alternative Fuel Infrastructure Strategic Development Plan* to help identify infrastructure gaps, evaluate project implementation readiness, and highlight near-term investments needed to support MHD alternative fuel vehicle and equipment deployment. The AFICC planning process was informed by fleets, equipment users, fuel providers and other WCC Partners who participated in the AFICC's 2016-2019 alternative fuel infrastructure needs assessment for MHD fleet operations in California, Oregon, and Washington. *Download the plan and related materials at <https://westcoastcollaborative.org/workgroup/wkgrp-fuels.htm>*

### **Key California Findings**

- 1) **Proposed Stations** - This plan includes **62 proposed California stations** of various size, throughput, and level of construction for targeted MHD alternative fuel technologies.
- 2) **Development Cost** - CALSTART estimates a total capital expense (CAPEX) of approximately **\$146,200,000** to fund the development of the plan's 62 proposed alternative fuel stations, assuming they all were newly constructed with average throughput and size levels, and capable of accommodating Class 5+ on-highway vehicles  $\geq 16,001$  lbs (*see tables on page two*).
- 3) **Cost-Share Needs** - 77% of all proposals received by the WCC AFICC would be viable for development with external funding assistance up to 80% of project CAPEX.

### **Next Steps**

The plan can be referenced by stakeholders to support participation in eligible funding opportunities. The WCC AFICC believes that the proposals listed in the plan cover a small percentage of the demand for MHD alternative fuel infrastructure on the West Coast, and it welcomes feedback on additional infrastructure needs not reflected in the plan document. The WCC intends to create an AFICC submission form to solicit additional MHD-accessible EV, H<sub>2</sub>, LPG, CNG and/or LNG infrastructure project proposals (e.g., Class 5+ on-highway vehicles  $\geq 16,001$  lbs, locomotives, marine vessels, and other heavy-duty nonroad equipment) from WCC Partners seeking funding assistance and partnerships to support implementation elsewhere in the WCC states and territories, including: Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Washington, Tribal Lands, and the U.S. Pacific Island Territories: American Samoa, Guam, and Northern Mariana Islands. *AFICC Project Submission Form to be announced via the WCC Communicator email newsletter – [click here to join](#).*

## CALSTART Recommendations

- 1) **State Plans** - Take the learnings from the AFICC plan and develop targeted MHD alternative fuel infrastructure investment plans per state.
- 2) **Alternative Fuel Policy** – Further examine state-level policy barriers to alternative fuel infrastructure deployment and develop policies that support accelerated MHD infrastructure project implementation, such as sustaining state-level funding assistance for MHD infrastructure and coordinating across state agencies on relevant policy.
- 3) **Communication and Outreach** - Share the AFICC plan findings throughout the WCC and with partners elsewhere in the U.S.
- 4) **Public Funding Assistance** - WCC partners are well positioned to both fundraise for MHD alternative fuel infrastructure development and to petition for increased public funding support.
- 5) **Implementation** - All parties interested in developing alternative fuel infrastructure are encouraged to leverage the information gathered through the AFICC process for purposes of implementing the projects listed within the plan.
- 6) **Workforce Development** - Consider workforce development opportunities that will arise from MHD alternative fuel infrastructure development on the West Coast.
- 7) **Environmental Justice** - MHD infrastructure development in environmental justice communities should be prioritized where there is synergy with alternative fuel demand.
- 8) **Sustained Partnership** - The partnerships formed between WCC AFICC partners should be sustained, and other geographic regions are encouraged to replicate the WCC AFICC through similar regional partnerships across the U.S.

### California: Funding Needed to Build AFICC-Proposed MHD Alternative Fuel Stations<sup>1,2</sup>

Fuel Type	Stations Proposed	Average Station Throughput	CAPEX Per Station (2019)	Total Cost
EV	34	750 kW-1 MW Peak Capacity	\$2,000,000	\$68,000,000
H2	6	1,000-4,800 kg/Day	\$6,000,000	\$36,000,000
LPG	6	1,000 gallons/Day	\$1,700,000	\$10,200,000
CNG	16	1,695-2,260 DGE/Day	\$2,000,000	\$32,000,000
LNG	0	1,695-2,260 DGE/Day	\$2,500,000	N/A
<b>Total</b>	<b>62</b>			<b>\$146,200,000</b>

<sup>1</sup> Estimate does not represent the total funding needed to deploy comprehensive MHD alternative fueling infrastructure in California; only includes proposals obtained through AFICC outreach as of December 2019.

<sup>2</sup> Table does not include catenary electric infrastructure proposals (5 projects omitted) as these technologies are outside the AFICC planning scope.

## California: AFICC-Proposed Station Locations by Readiness and Fuel Type

<b>Fuel Type</b>	<b>Location</b>	<b>Readiness</b>	<b>Congressional District</b>
EV	Banta: I-5 & I-205	Advanced	9
EV	Barstow: I-15 & I-40	Advanced	8
EV	Blythe: I-10 & CA-78	Advanced	36
EV	Fresno: CA-99 & CA-41	Advanced	16
EV	Hamburg Farms: I-5 & CA-165	Advanced	16
EV	Long Beach: 301 Mediterranean Way	Advanced	47
EV	Long Beach: Port of Long Beach	Advanced	47
EV	National City: I-5 & CA-54	Advanced	51
EV	Red Bluff: I-5 & CA-36	Advanced	47
EV	Redding: I-5 & CA-44	Advanced	1
EV	Sacramento: I-80 & US-50	Advanced	6
EV	San Bernardino: 1535 West 4th Street	Advanced	31
EV	San Diego: I-5 & I-8	Advanced	52, 53
EV	Weaverville: CA-299 & CA-44	Advanced	1
EV	Williams: I-5 & CA-20	Advanced	3
EV	Willow Creek: CA-299 & CA-96	Advanced	2
EV	Willows: I-5 & CA-162	Advanced	3
H2	Long Beach: 1926 East Pacific Coast Highway	Advanced	47
H2	Ontario: 4325 East Guasti Road	Advanced	35
H2	Redding: I-5 & CA-44	Advanced	1
LPG	Corona: CA-91 & I-15	Advanced	42
LPG	Duarte: I-605 & I-210	Advanced	32
LPG	Hawthorne: N/A	Advanced	43
LPG	Norwalk: I-605 & I-105	Advanced	38
LPG	Ontario: I-10 & I-15	Advanced	35
LPG	Sherman Oaks: US-101 & I-405	Advanced	30
CNG	Bellflower: 15330 Woodruff Ave.	Advanced	40
CNG	Gardena: 14800 South Spring St.	Advanced	44
CNG	Kettleman City: I-5 & CA-41	Advanced	21
CNG	Lost Hills: I-5 & CA-46	Advanced	21
CNG	Lost Hills: I-5 & CA-46	Advanced	21
CNG	Tehachapi: CA-58 & CA-58B	Advanced	23
EV	Bakersfield	Emerging	21, 23
EV	Barstow: 2825 W. Main St.	Emerging	8
EV	Los Angeles: 4000 East Sheila St.	Emerging	40
EV	Stockton: 6450 South Austin Rd.	Emerging	9
CNG	Barstow: I-15 & Lenwood Road	Emerging	8
CNG	Coachella: I-10 & Dillon Road	Emerging	36
CNG	Near Bakersfield: I-5 & CA-119	Emerging	21
CNG	Riverside County	Emerging	41
CNG	Riverside County	Emerging	41
CNG	San Bernardino County	Emerging	31
CNG	San Bernardino County	Emerging	31
CNG	San Bernardino County	Emerging	31
CNG	San Bernardino County	Emerging	31
EV	Bakersfield	Potential	21, 23

<b>Fuel Type</b>	<b>Location</b>	<b>Readiness</b>	<b>Congressional District</b>
EV	Grapevine: I-5 & Edmonston Pumping Plant Road	Potential	21
EV	Inland Empire: I-15	Potential	8, 31
EV	Inland Empire: Warehouse Districts	Potential	8
EV	Long Beach: Port of Long Beach	Potential	47
EV	Long Beach: Port of Long Beach Terminal	Potential	47
EV	Los Angeles to Santa Barbara: US-101	Potential	24, 26, 28, 30, 33, 34
EV	Los Angeles: I-10	Potential	34
EV	Los Angeles: Port of Los Angeles	Potential	44
EV	Los Angeles: Warehouse Districts	Potential	34
EV	Near Coalinga: I-5 & CA-198	Potential	21
EV	Near Los Banos: I-5 & CA-152	Potential	16
EV	Sacramento to San Francisco: I-80	Potential	3, 5, 6, 11, 12, 13
H2	Long Beach: I-710 & I-405	Potential	47
CNG	Bakersfield	Potential	21, 23
H2	Sacramento	Unevaluated	6
H2	Sacramento	Unevaluated	6

# California Map: AFICC-Proposed MHD Alternative Fuel Stations

