

State of California  
AIR RESOURCES BOARD

**STAFF ANALYSIS OF ELECTRIFY AMERICA'S  
FIRST ZERO EMISSION VEHICLE INVESTMENT PLAN**

Date of Release: **July 21, 2017**

Scheduled for Consideration: **July 27, 2017**

This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

## EXECUTIVE SUMMARY

Volkswagen (VW) subsidiary Electrify America has submitted the Zero-Emission Vehicle (ZEV) Investment Plan (Plan) to the California Air Resources Board (CARB or Board). This document evaluates Plan compliance pursuant to the requirements of the 2.0-liter Partial Consent Decree (Consent Decree), inclusive of CARB's February 10, 2017, Guidance Document and May 24, 2017, direction to Electrify America to submit a supplement to the investment plan (Request for Supplement letter), and June 27, 2017, legislation.

As background, the United States District Court for the Northern District of California approved the 2.0-liter Partial Consent Decree on October 25, 2016 and the 3.0-liter Partial Consent Decree on May 17, 2017. The 2.0-liter Consent Decree contained four separate appendices describing the elements of the Decree:

- Appendices A and B apply to subject vehicles already sold, and describe the procedures that VW will use to offer its consumers the option of either: (1) a buyback or lease termination, or (2) an emissions modification in accordance with the technical specifications prescribed in Appendix B and approved by CARB and EPA.
- Appendix C, the subject of this analysis, requires VW to invest \$800 million in California over 10 years – in four consecutive \$200 million 30-month cycles – to support increased ZEV availability and use in the State. Appendix C outlines four areas of permissible investments: ZEV infrastructure (including the development and maintenance of ZEV charging stations), public awareness, increasing ZEV access, and the establishment of a “Green City” with emphasis on transportation electrification projects like car sharing, electric taxis, and zero-emission freight vehicles.
- Appendix D (the Environmental Mitigation Trust) is intended to fully mitigate all past and future excess NOx emissions from the subject vehicles and requires VW to pay money into a mitigation trust fund for states to use to replace dirtier vehicles with cleaner, less-polluting vehicles and equipment, including advanced zero- or near-zero-emission technologies. California will receive at least \$381 million of these funds.

The 3.0-liter Consent Decree requires VW to further mitigate its negative impacts on the zero-emission vehicle market by 1) paying more money into the NOx mitigation trust, about \$41 million of which will go to California to spend on cleaner equipment and vehicles; 2) completing two Green City initiatives in California as part of the ZEV investments required by Appendix C to the 2.0-liter Partial Consent Decree, with the second Green City required to be in a city with a population of approximately 500,000 that predominately consists of disadvantaged communities; 3) paying \$25 million to California for use on ZEV-related programs; and 4) selling three new models of battery electric vehicles in California from 2019-2025.

In addition to the two approved Partial Consent Decrees, in July 2017, California filed a third Partial Consent Decree with the court, addressing civil penalties, in the United States District Court for the Northern District of California. Under this Consent Decree,

California's Air Pollution Control Fund would receive \$153.8 million. Jointly, these three Partial Consent Decrees fully mitigate the environmental harm done by VW's 2.0- and 3.0-liter diesel cars.

Electrify America is responsible for developing and implementing four ZEV Investment Plans (Plan) for the 2.0-liter Consent Decree, one for each of the four \$200 million 30-month cycles. CARB must approve each Plan for the expenditures to be credible under the Consent Decree. On March 10, 2017, Electrify America submitted the first proposed Plan to CARB, and it was posted for public review and comment on March 14, 2017. The posting initiated a four-week public comment period that ran through April 10, 2017.

Board, Legislative, and public comments received during the public comment period and at a public Board meeting on March 24, 2017, and a comparison between the Consent Decree's requirements and the submitted Plan, identified deficiencies in the Electrify America Plan. In a May 24, 2017, Request for Supplement letter, CARB outlined those deficiencies, requiring Electrify America to submit a Plan supplement that more thoroughly characterized those components of the Plan that address disadvantaged communities, brand- and technology-neutral infrastructure and education, and a long term (10-year plan) investment planning vision. In response to the Request for Supplement letter, Electrify America submitted a supplement to the Plan (Supplement) on June 29, 2017.

Electrify America's proposed Plan and Supplement (hereinafter referred to in aggregate as the Final Plan) identified four investment areas – charging infrastructure, a Green City project, public education, and increased access – which in aggregate are designed both to demonstrate the utility of ZEVs and increase their use. The investment breakdown is as follows:

- \$120 million will fund approximately 400 charging stations with 2,000-3,000 chargers. Of the infrastructure investment, \$75 million would be for a high-speed highway network (primarily composed of 150-kilowatt fast chargers) and \$45 million would be for building out community charging in six metropolitan areas across the state: Fresno, Los Angeles, Sacramento, San Diego, San Jose, and San Francisco.
- \$44 million would be dedicated to building the first Green City, both to showcase the benefits of ZEVs, and grow ZEV access, in Sacramento. Electrify America has identified three potential Green City initiatives: ZEV car sharing, ZEV delivery fleet, and ZEV taxi fleet.
- The car share program envisioned in the Green city initiative is expected to provide increased access to ZEVs.
- \$20 million would be directed to public education initiatives designed to use various media to highlight ZEV benefits and overcome barriers to ZEV adoption. There would be synergy between the California and national campaigns.
- The remaining \$16 million would be allocated to Electrify America's operational costs.

The Final Plan seeks to address stakeholder concerns about disadvantaged community investment by reallocating resources within the existing Cycle 1 Community Charging budget to include the Fresno metropolitan area. Additionally, Electrify America's second Green City will be predominantly comprised of disadvantaged community census tracts. The Final Plan states that more than 35 percent of the 1,500 plus census tracts prioritized for community charging investments by Electrify America are expected to be in disadvantaged or low-income communities.

The Final Plan also provides Electrify America's 10-year vision. Electrify America states that Cycles 2-4 investments could likely include new routes to expand the breadth of the ZEV highway charging network, reduce spacing between stations, increase the charging density within existing metro areas and add new metro areas, expand education programming, and deploy successful access programs in a second Green City.

CARB staff have reviewed the Final Plan, and have determined that it meets the requirements of the Consent Decree, inclusive of the February 10, 2017, Guidance Document and May 24, 2017, Request for Supplement letter, and June 27, 2017, legislation. CARB staff recommends that the Board approve the Final Plan, allowing Electrify America to begin its California investments in ZEV refueling infrastructure, public awareness, and expanded access.

## Table of Contents

<b>I. BACKGROUND AND PUBLIC PROCESS</b> .....	<b>1</b>
<b>A. The Volkswagen Settlement</b> .....	<b>1</b>
<b>B. ZEV Investment Plan Public Process</b> .....	<b>3</b>
<b>II. ASSESSMENT OF THE FINAL PLAN</b> .....	<b>5</b>
<b>III. SUMMARY OF IMPACTS TO CALIFORNIA</b> .....	<b>11</b>
<b>A. EA’s Infrastructure Investment and California’s Infrastructure Gap</b> .....	<b>11</b>
<b>B. Final Plan Impact on ZEV Access</b> .....	<b>12</b>
<b>C. Final Plan Actions Align with California’s ZEV Action Plan Priorities.</b> .....	<b>13</b>
<b>IV. TRACKING PROGRESS</b> .....	<b>13</b>
<b>V. RECOMMENDATION</b> .....	<b>13</b>
<b>APPENDIX A - SUMMARY OF COMMENTS RECEIVED ON ZEV INVESTMENT PLAN</b> .....	<b>15</b>
<b>I. GENERAL SUPPORT</b> .....	<b>15</b>
<b>II. DISADVANTAGED COMMUNITIES</b> .....	<b>15</b>
<b>III. INCREASING ZEV ACCESS</b> .....	<b>15</b>
<b>IV. PUBLIC AWARENESS</b> .....	<b>16</b>
<b>V. ZEV INFRASTRUCTURE</b> .....	<b>16</b>
<b>VI. HYDROGEN AS A TRANSPORTATION FUEL</b> .....	<b>16</b>
<b>VII. SKILLED WORKFORCE</b> .....	<b>17</b>

<b>VIII. COMPETITIVE MARKETPLACE.....</b>	<b>17</b>
<b>IX. OVERSIGHT.....</b>	<b>17</b>
<b>X. GREEN CITY.....</b>	<b>17</b>
<b>APPENDIX B - SUMMARY OF COMMENTS RECEIVED ON THE SUPPLEMENT TO THE ZEV INVESTMENT PLAN .....</b>	<b>19</b>
<b>I. GENERAL SUPPORT .....</b>	<b>19</b>
<b>II. DISADVANTAGED COMMUNITIES .....</b>	<b>19</b>
<b>III. INCREASING ZEV ACCESS .....</b>	<b>20</b>
<b>IV. PUBLIC AWARENESS .....</b>	<b>20</b>
<b>V. ZEV INFRASTRUCTURE.....</b>	<b>20</b>
<b>VI. HYDROGEN AS A TRANSPORTATION FUEL.....</b>	<b>21</b>
<b>VII. SKILLED WORKFORCE.....</b>	<b>22</b>
<b>VIII. COMPETITIVE MARKETPLACE.....</b>	<b>22</b>
<b>IX. OVERSIGHT.....</b>	<b>23</b>
<b>X. GREEN CITY.....</b>	<b>23</b>
<b>XI. MISCELLANEOUS COMMENTS.....</b>	<b>24</b>

## Table of Acronyms

BEV .....	Battery Electric Vehicle
CARB .....	California Air Resources Board or the Board
CEC .....	California Energy Commission
CPUC .....	California Public Utilities Commission
EVSE .....	Electric Vehicle Service Equipment
EVSP .....	Electric Vehicle Service Provider
FCEV .....	Fuel Cell Electric Vehicle
NOx .....	Oxides of Nitrogen
PEV .....	Plug-in Electric Vehicle (includes BEVs and PHEVs)
PHEV .....	Plug-in Hybrid Electric Vehicle
U.S. EPA.....	United States Environmental Protection Agency
VW.....	Volkswagen
ZEV .....	Zero Emission Vehicle

## **I. Background and Public Process**

### **A. The Volkswagen Settlement**

In September 2015, following a CARB investigation, Volkswagen (VW) officials admitted to having secretly and deliberately installed software on nearly 600,000 VW and Audi branded 2.0-liter and 3.0-liter diesel vehicles sold to consumers in the United States designed to cheat State and federal emission tests, with about 85,000 located in California. The “defeat devices” resulted in oxides of nitrogen (NOx) emissions that were up to 40 times higher than allowed from each of the vehicles.

On October 25, 2016, the United States District Court for the Northern District of California approved the 2.0-liter Partial Consent Decree that partially resolves Clean Air Act and California claims against VW for the use of the defeat devices in their 2.0-liter diesel vehicles. There are four appendices to this initial Consent Decree:

- Appendices A and B apply to subject vehicles already sold, and describe the procedures that VW will use to offer its consumers the option of either: (1) a buyback or lease termination, or (2) an emissions modification in accordance with the technical specifications prescribed in Appendix B and approved by CARB and EPA.
- Appendix C, the subject of this analysis, requires VW to invest \$800 million in California over a 10-year period – in four consecutive \$200 million 30-month cycles – to support the increased use and availability of zero-emission vehicles (ZEV) in the State. VW will make these investments through a subsidiary – Electrify America – by implementing a separate ZEV Investment Plan (Plan), approved, in whole or in part, by the California Air Resources Board (CARB or the Board) for each of four \$200 million 30-month cycles. Appendix C outlines the four areas of qualified investments: ZEV infrastructure (including the development and maintenance of ZEV charging stations), public awareness, increasing ZEV access, and a Green City.
- Appendix D (the Environmental Mitigation Trust) is intended to fully mitigate all past and future excess NOx emissions from the subject vehicles and requires VW to pay money into a mitigation trust fund for states to use to replace dirtier vehicles with cleaner, less-polluting vehicles and equipment, including advanced zero- or near-zero-emission technologies. California will receive at least \$381 million of these funds.

On May 17, 2017, the United States District Court for the Northern District of California approved the 3.0-liter Partial Consent Decree, which requires VW to further mitigate its negative impacts on the zero-emission vehicle market by 1) paying more money into the NOx mitigation trust, about \$41 million of which will go to California to spend on cleaner equipment and vehicles; 2) completing two Green City initiatives in California as part of the ZEV investments required by Appendix C to the 2.0-liter Partial Consent Decree, with the second Green City required to be in a city with a population of approximately 500,000 that predominately consists of disadvantaged communities; 3) paying \$25 million to California for use on ZEV-related programs; and 4) selling three new BEV model vehicles in California from 2019-2025.

In July, California filed a third Partial Consent Decree, addressing civil penalties, in the United States District Court for the Northern District of California. Under this Consent Decree, California's Air Pollution Control Fund would receive \$153.8 million.

Jointly, these three Consent Decrees fully mitigate the environmental harm done by VW's 2.0- and 3.0-liter diesel cars. Table 1 summarizes each of the three Consent Decrees.

**Table 1**

**VW Settlement at a Glance: A Summary of Each Partial Consent Decree**

<b>Partial Consent Decrees and Court Status</b>	<b>Vehicle Types and Numbers (Diesel)</b>	<b>Money Paid to Trust for Mitigation</b>	<b>Penalties and Costs</b>	<b>Supplemental VW Investments in ZEV Market Support</b>
<b>First Partial Consent Decree Joint CARB/EPA</b> <i>(Court approved on October 25, 2016)</i>	2.0 Liter engine vehicles	Nationwide \$2.7B (\$900M for 3 years to court-established trust)	Limited costs to implement trust-approved projects can be deducted from total by trustee and by states, if approved.	Nationwide \$2B over 10 years.  <b>\$800M in CA over 10 years. To count, VW's investments must be approved by CARB in plan.</b>
	In US about 475,000 cars  In CA about 70,000 cars	CA's share is about \$381M		
<b>Second Partial Consent Decree Joint CARB/EPA</b> <i>(Court approved on May 17, 2017)</i>	3.0 Liter engine vehicles	Nationwide \$225M to court-established trust	Limited costs to implement trust-approved projects can be deducted from total by trustee and by states, if approved.	
	In US about 475,000 cars  In CA about 15,000 cars	CA's share is about \$41.8M		
<b>Second Partial Consent Decree California Only</b> <i>(Court approved on May 17, 2017)</i>	3.0 Liter engine vehicles  Same as above: in CA about 15,000 cars	\$25M to CA Air Pollution Control Fund (ZEV-related projects for low-income Californians)		Additional ZEV models to CA in 2019 and 2020. Also 5,000 ZEVs per year until 2025.
<b>Third Partial Consent Decree California Only</b> <i>(Pending Court Approval)</i>	Applies to both 2.0L and 3.0L engine vehicles (totaling about 85,000 cars)		\$153.8M to CA Air Pollution Control Fund: **\$93.8M civil penalties for deterrence **\$60M (\$10M annually for 6 years) future costs testing/implementation	

## **B. ZEV Investment Plan Public Process**

After the court approved the 2.0-liter Partial Consent Decree, CARB began the public process to solicit stakeholder input regarding Electrify America's first Plan. That process included a December workshop and Board meeting, February Guidance document, March Plan submittal and Board meeting, May Request for Supplement letter, June legislation, and June Supplement submittal, and will be completed with the summer Board meeting.

### December workshop and Board meeting

CARB staff conducted a public workshop on December 2, 2016, at CARB's Sacramento office to provide details on the Consent Decree and obtain input to help shape guidance consistent with the Consent Decree to Electrify America for use in crafting its first Plan; the workshop was also webcast. The announcement and materials for this workshop were posted<sup>1</sup> on ARB's website and distributed through a list serve that included over 1,000 subscribers. CARB also opened a public comment period for feedback, consistent with the Consent Decree, on its guidance; the comment period concluded on December 16, 2016.

Workshop attendees included automakers; electric vehicle service equipment (EVSE) manufacturers; electric vehicle service providers (EVSP); Hydrogen infrastructure providers; vehicle operators and associations; ZEV outreach providers; ZEV proponents; transit manufacturers, operators and associations; environmental activists; electrical contractors' association; electricians union; air pollution control/air quality management districts; universities and community colleges; utility companies; and municipalities.

At a public Board meeting on December 8, 2016, CARB staff updated the Board on the Consent Decree, describing the content and different functions of the Consent Decree's Appendices, identifying CARB's priorities for the first Plan, consistent with the Consent Decree, and providing examples of the types of infrastructure, public awareness, ZEV access, and Green City investments that would be compatible with the requirements of the Consent Decree. CARB staff then summarized common themes from the comments that were received at the December 2, 2016, workshop, highlighted the plan to transmit received comments to Electrify America, and outlined the Plan approval process. At the meeting, Board members expressed that Plan investments, to meet the terms and goals of the Consent Decree, must: (1) benefit disadvantaged communities, (2) be technology-neutral, thus supporting Hydrogen infrastructure, (3) be transparent and accountable (requiring strong data sharing and reporting), (4) be additional and complementary and not negatively impact competing EVSPs, (5) could build on existing CARB scrap and replace programs, (6) for outreach, be multi-cultural and multi-lingual, and (7) contain minimal VW branding.

---

<sup>1</sup> CARB, 2016. Volkswagen California ZEV Investment Commitment Public Input Workshop, California Air Resources Board, December 2, 2016. ([https://www.arb.ca.gov/msprog/vw\\_info/vsi/vw-zevinvest/meetings/120216\\_present.pdf](https://www.arb.ca.gov/msprog/vw_info/vsi/vw-zevinvest/meetings/120216_present.pdf))

### Guidance Document

On February 10, 2017, CARB transmitted information to Electrify America, in the form of a Guidance Document<sup>2</sup>, regarding ZEV investment opportunities consistent with the objectives and criteria set forth in Appendix C, to help inform Electrify America's development of the first Plan. The Guidance Document provides specific recommendations and example projects, and incorporates stakeholder feedback obtained through a public process. The Guidance Document also contains two appendices. The first appendix summarizes comments made by CARB Board members and stakeholders at two public meetings, and the second provides a summary of key elements of the Consent Decree. Concurrent with transmitting the Guidance Document to Electrify America, CARB staff posted it on its website.

### Plan submittal and Board meeting

On March 10, 2017, Electrify America submitted its first Draft ZEV Investment Plan (Plan) to CARB. On March 14, 2017, CARB posted the Plan<sup>3</sup> for a four-week public comment period (through April 10, 2017).

At a public Board meeting on March 24, 2017, CARB staff provided an overview of the Plan. During the meeting, Board members and stakeholders expressed concern that the Plan did not adequately respond to some of the requirements of the Consent Decree, including as expressed in CARB's February Guidance Document. At the meeting, Board members re-emphasized several of the concerns they first aired at the December 2016 Board meeting. Specifically, Board members expressed that: (1) 35 percent of Plan investments should benefit disadvantaged communities, (2) the needs of the San Joaquin Valley needed to be recognized, (3) VW should make a commitment to being "fuel-neutral," thus supporting fuel cells and hydrogen infrastructure, (4) investments should be additional and complementary, and (5) Electrify America should coordinate with the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC), in part, to ensure that the investments are complementary to those made or proposed by other public and private infrastructure investors. Subsequent to the hearing, several members of the California Legislature expressed similar concerns.

### Request for Supplement letter

Board, Legislative, and public comments received at the March 2017 Board meeting, and a comparison between the Consent Decree's requirements and the content of the submitted Plan, identified deficiencies in the Electrify America Plan. In a May 24, 2017,

---

<sup>2</sup> CARB, 2017a. California Air Resources Board's Guidance to Volkswagen on First 30 Month Electric Vehicle Infrastructure Investment Plan of the 2.0 Liter Diesel Engine Partial Consent Decree Settlement, February 10, 2017. ([https://www.arb.ca.gov/msprog/vw\\_info/vsi/vw-zevinvest/documents/carb\\_guidance\\_021017.pdf](https://www.arb.ca.gov/msprog/vw_info/vsi/vw-zevinvest/documents/carb_guidance_021017.pdf))

<sup>3</sup> Electrify America, 2017a. California ZEV Investment Plan: Cycle 1, March 8, 2017. ([https://www.arb.ca.gov/msprog/vw\\_info/vsi/vw-zevinvest/documents/vwinvestplan1\\_031317.pdf](https://www.arb.ca.gov/msprog/vw_info/vsi/vw-zevinvest/documents/vwinvestplan1_031317.pdf))

Request for Supplement letter,<sup>4</sup> CARB outlined those deficiencies, requiring Electrify America to submit a Plan supplement that more thoroughly characterized those components of the Plan that address disadvantaged communities, brand neutral infrastructure and education, and a long term (10-year plan) investment planning vision.

### June Supplement

On June 29, 2017, in response to CARB's information request, Electrify America submitted the Plan Supplement<sup>5</sup>. Staff posted the Supplement to the CARB website on June 29, 2017. The posting initiated a public comment period that extended through July 14, 2017.

### June legislation

In June 2017, the Legislature adopted Senate Bill (SB) 92.<sup>6</sup> In accordance with SB 92, CARB shall, prior to Plan approval, strive to ensure that Plan investments are aligned with the state's priorities and provide for public transparency. In approving each of the investment plans, CARB shall strive to ensure, to the maximum extent allowable under the Consent Decree, that: (1) at least 35 percent of funds for the investment plan benefit low-income or disadvantaged communities disproportionately affected by air pollution, and (2) Electrify America periodically submits progress reports to CARB on the implementation of the investment plan. Pursuant to Senate Bill 92, the Board will act on the Final Plan at a public Board hearing on July 27, 2017. At the hearing, CARB staff will summarize the Final Plan and will provide an assessment of how well it aligns with the requirements of the Consent Decree, inclusive of CARB's February 10, 2017, Guidance Document and May 24, 2017, Request for Supplement letter.

## **II. Assessment of the Final Plan**

Electrify America's Final Plan identified four investment areas – charging infrastructure, a Green City project, public education, and increased access – which, together, are designed both to demonstrate the utility of ZEVs and increase their use and availability. The estimated investment breakdown is as follows:

- \$120 million will fund approximately 400 charging stations with 2,000-3,000 chargers. Of the infrastructure investment, \$75 million would be for a high-speed highway network (primarily composed of 150-kilowatt fast chargers) and \$45 million would be for building out community charging in six metropolitan areas across the state: Fresno, Los Angeles, Sacramento, San Diego, San Jose, and San Francisco.
- \$44 million would be dedicated to building the first Green City, both to showcase the benefits of ZEVs, and grow ZEV access, in Sacramento. Electrify America has identified three potential Green City initiatives: ZEV car sharing, ZEV delivery fleet, and ZEV taxi fleet.

---

<sup>4</sup> CARB, 2017b. California ZEV Investment Plan – Request for Supplement Letter, May 24, 2017. ([https://www.arb.ca.gov/msprog/vw\\_info/vsi/vw-zevinvest/documents/zip\\_supplement\\_request\\_052417.pdf](https://www.arb.ca.gov/msprog/vw_info/vsi/vw-zevinvest/documents/zip_supplement_request_052417.pdf))

<sup>5</sup> Electrify America, 2017b. Supplement to the California ZEV Investment Plan: Cycle 1, June 29, 2017. ([https://www.arb.ca.gov/msprog/vw\\_info/vsi/vw-zevinvest/documents/california\\_zev\\_investment\\_plan\\_supplement\\_062917.pdf](https://www.arb.ca.gov/msprog/vw_info/vsi/vw-zevinvest/documents/california_zev_investment_plan_supplement_062917.pdf))

<sup>6</sup> Approved by Governor Brown on June 27, 2017, this is codified at Health and Safety Code section 39614.

- The car sharing demonstration in the first Green City, which is expected to be duplicated in a subsequent Green City, offers the greatest potential to increase vehicle access in disadvantaged communities while simultaneously improving air quality and public health.
- \$20 million would be directed to public education initiatives designed to use various media to highlight ZEV benefits and overcome barriers to ZEV adoption. There would be synergy between the California and national campaigns.
- The remaining \$16 million would be allocated to Electrify America's operational costs.

The Final Plan provides additional information to address key stakeholder concerns, as expressed in the May Request for Supplement letter, about disadvantaged community and Hydrogen investments, transparency and accountability, and Electrify America's 10-year vision.

#### Disadvantaged community investment

Electrify America has addressed concerns about disadvantaged community investment, and specifically the Legislature's desire that Electrify America strive to invest at least 35 percent of the Final Plan investments in disadvantaged communities, by reallocating resources within the existing Cycle 1 Community Charging budget to include the Fresno metropolitan area (a commitment of at least \$1 million, which is consistent with the results of their infrastructure gap analysis). They have further committed to reallocating \$2-3 million from the \$20 million awareness campaign to new partnerships with entities that have particular access and credibility within California's disadvantaged and low-income communities. Electrify America will explore, through these partnerships, a culturally appropriate awareness campaign that will include use of a language other than English based on demographic analysis and which may also include development of educational curricula for kindergarten through 12th grade students. Finally, the Final Plan states that more than 35 percent of the 1,500 plus census tracts prioritized for community charging investments by Electrify America are identified as disadvantaged or low-income communities. Electrify America's second Green City also will be predominantly comprised of disadvantaged community census tracts.

#### Hydrogen investment

In the May Request for Supplement letter, CARB urged Electrify America to include fuel cell electric vehicles (FCEV) in ZEV public education and awareness campaigns, provide a discussion of Hydrogen fueling investments over the ten-year period, including consideration of heavy-duty Hydrogen applications in future Cycles, and consider EV charger sites that can also be permitted for Hydrogen fueling.

The Supplement states that "Electrify America plans to incorporate information on attributes of EVs powered by both batteries and Hydrogen fuel cells in its Cycle 1 California-specific brand-neutral public education and outreach activities." Electrify America also commits to a willingness to engage with any Hydrogen fueling station to collocate EV chargers. However, fuel cell infrastructure footprint requirements will generally not be amenable to collocation with EV chargers.

### Transparency and accountability

The May Request for Supplement letter asked for specific information on key decisions and planning processes, including the charger gap analysis and the Green City selection. Electrify America provided this information in the Supplement. Electrify America estimates that Cycle 1 investments will address only four to eight percent of the projected 2020 charging infrastructure gap. With respect to the Green City selection, Electrify America provided information on commute flow patterns and identified connected centers of high transportation flows within the given metropolitan areas.

The May Request for Supplement letter also asked for acknowledgment of public, Board, and stakeholder input. Electrify America commits to providing six-month updates that can be publicly posted. They will also be providing annual reports. A third party auditor will also submit annual reports evaluating Electrify America's spending for compliance with both the Consent Decree and the approved Plan. And CARB staff will provide routine updates to the Board.

### 10-year vision

The Final Plan also provides Electrify America's 10-year vision. Electrify America states that Cycles 2-4 investments likely could include the addition of new routes to expand the breadth of the ZEV highway charging network, the reduction of spacing between stations, an increase in the charging density within existing metro areas and the addition of new metro areas, the expansion of education programming, and the deployment of successful access programs in a second Green City.

Table 2 below assesses the Final Plan's responsiveness to the 2.0-liter Consent Decree, including as expressed in the February 10, 2017, Guidance Document and the May 24, 2017, CARB Request for Supplement letter.

**Table 2**

**Final Plan Alignment with the Requirements of the 2.0-liter Consent Decree, Guidance Document, and May 24, 2017 Request for Supplement Letter**

Requirement	Comments
<p>Plan includes description of all investments App C, § 3.3.2.1</p>	<p>Plan meets requirement</p> <p>Level of detail in first plan is acceptable based on best information. In future cycles, more detail will be available and must be included in future draft Plans.</p>
<p>Include description of how each investment makes progress toward and/or meets one or more of the goals identified App C, § 3.3.2.2</p>	<p>Plan + Supplement meets requirement</p> <p>Investments are organized by goal category, but the intent of this section was that VW be able to tie each of its proposed projects back to how it will expand ZEV access and the ZEV market, not just how it fits into an eligible investment category.</p> <p>The Supplement's ten-year Vision completes this item.</p>
<p>Early and Visible Progress Guidance Document</p>	<p>Plan meets requirement</p> <p>Initial focus on Awareness and EV Charging</p>
<p>That ZEV Awareness programs be automobile brand neutral App C, § 3.3.2.6 &amp; 2.5.6</p>	<p>Plan meets requirement</p>
<p>Complementary and Additional: Investments should not duplicate efforts by others already in the works App C, § preamble, 1.10.1, 3.3.2.2</p>	<p>Plan + Supplement meets requirement</p> <ul style="list-style-type: none"> <li>• Efforts to innovate beyond current and planned installations</li> <li>• Plan incorporates current infrastructure when choosing locations/performing gap analysis</li> <li>• Listed organizations consulted for Plan development <ul style="list-style-type: none"> <li>○ US DOT, US DOE (Smart City, Fast Act), most vehicle manufacturers, CARB, CEC, CPUC, Go Biz, CalTrans, CalETC, NRDC, and the Greenlining Institute</li> <li>○ Will maintain coordination throughout ten year period to ensure continuity and value for CA</li> </ul> </li> <li>• Awareness campaigns are new</li> </ul>

Requirement	Comments
<p>Business Competition and Conduct Considerations – Includes Self-sustaining Model App C, §§ 3.3.2., 3.3.2.11., preamble, 1.10.1, 3.3.2.2</p>	<p>Plan meets requirement</p> <ul style="list-style-type: none"> <li>• Electrify America estimates that the investment represents 4-8% of California’s 2020 infrastructure needs.</li> <li>• Electrify America is contracting with many existing EV Charging businesses, and prioritizing decisions to ensure investments are sustained beyond the 10-year Consent Decree obligation.</li> </ul>
<p>EV Infra should include MUD, Workplace, Public Areas, and Long-range, and be interoperable App C, § 3.3.2.5.</p>	<p>Plan meets requirement</p>
<p>Transformational App C, §§ preamble, 1.10.1, 3.3.2.2</p>	<p>Plan meets requirement</p> <p>Investments are focused in chosen metropolitan areas, not scattered, and will enable EV adoption.</p>
<p>Prioritize Underserved communities, including Disadvantaged, Low-income, and Disproportionally Impacted Communities App C, §§ 3.3.2.1, 3.3.2.5, 1.10.3, 3.3.2.11, 1.10.1, 3.3.2.2</p>	<p>Supplement meets requirement</p> <ul style="list-style-type: none"> <li>• Of the census tracts prioritized for investment, more than 35 percent are in disadvantaged or low-income communities.</li> <li>• \$2-3 million from Awareness campaign is being invested in new partnerships with entities that have access to, and credibility with, disadvantaged and low-income communities. Outreach will be in languages other than English where appropriate.</li> <li>• Fresno is being added as a sixth metropolitan area, with a minimum community EV charger investment of \$1 million, which is consistent with the gap analysis.</li> <li>• Electrify America intends to extend EV Network access programs to other automakers’ customers, and will consider the inclusion of used ZEVs to foster ZEV adoption in disadvantaged communities.</li> <li>• Electrify America will outreach to minority-, women-, veteran-owned businesses to be contractors and suppliers, and will monitor and report to CARB on their participation.</li> </ul>

Requirement	Comments
<p>Hydrogen Refueling Infrastructure App C, §§ 1.9, 1.10.2.</p>	<p>Supplement meets requirement</p> <ul style="list-style-type: none"> <li>• Electrify America plans to incorporate information on the attributes of ZEVs powered by both batteries and Hydrogen fuel cells in its Cycle 1 California-specific brand-neutral public education and outreach activities.</li> <li>• Electrify America will revisit Hydrogen infrastructure investments going forward, and will engage in dialogue with heavy-duty Hydrogen industry members to explore ongoing opportunities</li> <li>• Electrify America has expressed a willingness to install PEV chargers at any Hydrogen fueling station, but cautions that footprint constraints limit its ability to install Hydrogen stations at EV charging stations.</li> </ul>
<p>Include estimated schedule for implementing each investment, in 6-month intervals App C, § 3.3.2.3</p>	<p>Plan + Supplement meets requirement</p> <p>Level of detail in first plan is acceptable based on best information. In future cycles, more detail will be available and must be included in future draft Plans.</p>
<p>Include a projection of anticipated Creditable Costs associated with each investment, on an itemized basis, with costs broken down into at least 12 categories App C, § 3.3.2.4</p>	<p>Plan + Supplement meets requirement</p> <p>Level of detail in first plan is acceptable based on best information. In future cycles, more detail will be available and must be included in future draft Plans.</p>
<p>Include EV Chargers' estimated geographic regions and types (which must include a variety of cities, metro-areas, types of locations), quantities of sites and chargers, costs per site, types of connectors, date of completion, operating model and utilization stats to be collected App C, § 3.3.2.5</p>	<p>Plan + Supplement meets requirement</p> <p>Level of detail in first plan is acceptable based on best information. In future cycles, more detail will be available and must be included in future draft Plans.</p>
<p>Plan to address EV Charging maintenance, toll-free number marked with live operator under VW control App C, § 3.3.2.5</p>	<p>Plan meets requirement</p> <p>Level of detail in first plan is acceptable based on best information. In future cycles, more detail will be available and must be included in future draft Plans.</p>

Requirement	Comments
All EV Infrastructure should be able to service all non-proprietary connectors, may have to use multiple connectors or charging protocols and approaches that anticipate evolving standards and technologies. App C, § 3.3.2.5	Plan meets requirement
A certification ensuring generally that none of the investments are otherwise already VWs plan App C, § 3.3.2.7	Plan meets requirement
An explanation that all the ZEV investments are not concentrated in one area App C, § 3.3.2.8	Plan meets requirement  Investments span most of the State, with community investment in six major metropolitan areas across the State.
ZEV investments should not include research or development App C, § 3.3.2.9	Plan meets requirement
Description of how VW will monitor and maintain each ZEV investment App C, § 3.3.2.10	Plan + Supplement meets requirement  Level of detail in first plan is acceptable based on best information. In future cycles, more detail will be available and must be included in future draft Plans.

### III. Summary of Impacts to California

Electrify America’s Final Plan, properly implemented as approved, will enable the expanded deployment of ZEVs, toward the State’s 2020 and 2025 ZEV goals of 1.0 and 1.5 million ZEVs, respectively. The following sections go beyond the analysis of how the Plan meets the Consent Decree to: (1) assess the extent to which Electrify America’s infrastructure investments will contribute to California’s ZEV infrastructure goals, (2) evaluate the Plan’s positive impact on ZEV Access, and (3) measure how well the Plan’s actions align with those actions identified in California’s ZEV Action Plan<sup>7</sup>.

#### A. EA’s Infrastructure Investment and California’s Infrastructure Gap

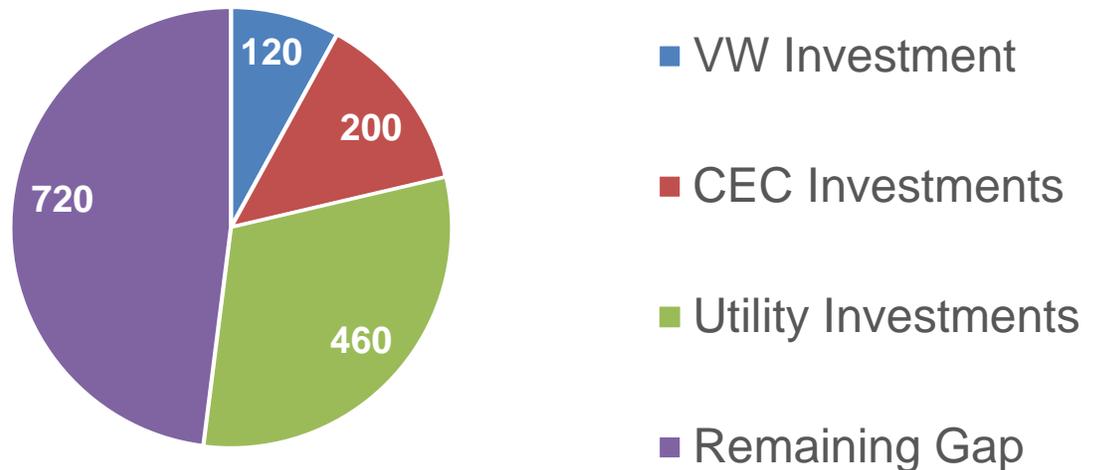
Governor Brown’s Executive Order B-16-2012 establishes a goal of providing charging infrastructure for one million ZEVs by 2020. That goal is also reflected in the State’s 2013 and 2016 ZEV Action Plans. Electrify America’s analysis implies that the remaining light-duty infrastructure necessary to support this 2020 goal will cost about

<sup>7</sup> [https://www.gov.ca.gov/docs/2016\\_ZEV\\_Action\\_Plan.pdf](https://www.gov.ca.gov/docs/2016_ZEV_Action_Plan.pdf)

\$1.5 billion. Electrify America estimates that their \$120 million infrastructure investment in the State over the next 30 months will account for 4-8 percent of the needed infrastructure. The California Energy Commission recently announced a new \$200 million ZEV Infrastructure funding program. And, as part of SB 350 and prior light-duty vehicle charging infrastructure pilot programs, investor owned utilities (PG&E, SCE, and SDG&E) hope to be investing \$460 million in the next five years. Together, these investments go a long way toward filling the estimated infrastructure gap, but other public and private investments are still necessary to achieve the State’s goals, especially since California’s PEV population is expected to grow by about 200,000 vehicles per year after 2020. Figure 1 provides a visual representation of this investment gap.

**Figure 1**

**Planned Electrify America Investment (\$ millions)  
as a Proportion of 2020 Estimated Remaining EV Investment Need**



**B. Final Plan Impact on ZEV Access**

Two of the greatest limitations to ZEV access are financial and logistical – the ability to afford a ZEV, and the ability to refuel it at home. Electrify America’s Green City pilot, with its ZEV car share project, offers a means of extending ZEV mobility to disadvantaged community members without the means to afford a ZEV. Electrify America expects to learn from its Cycle 1 Green City investment and reflect those lessons in its second Green City development and rollout. Moving forward, ZEV car share, and potentially taxis and delivery fleets, will advance disadvantaged community access while reducing air quality and health impacts.

For those disadvantaged community members that can afford a ZEV, the next hurdle is refueling. Electrify America's network of community chargers and, in particular, corridor and community high-power fast chargers, when partnered with the new family of longer-range EVs, will promote EV adoption. High-power fast chargers will allow those living in multi-unit dwellings to fuel up more quickly and less frequently, likely at a charging plaza, grocery store or other short-duration destination, providing those in multi-unit dwellings, even those without access to home charging, the capability to operate a PEV.

In addition to the car share and infrastructure projects that will make the vehicles available and refillable, Electrify America will be using \$2-3 million of its awareness campaign funding to invest in new partnerships with entities that have access to, and credibility with, disadvantaged and low-income communities. Outreach will be in languages other than English where appropriate. This outreach will help communicate the economic appeal of adopting ZEV technology in low-income California communities as a result of current ZEV incentives, which, in some cases, make ZEVs the most affordable new cars available for low- and moderate-income California consumers.

### **C. Final Plan Actions Align with California's ZEV Action Plan Priorities.**

The California 2016 ZEV Action Plan identifies specific actions State government will take to meet the milestones of Executive Order B-16-2012. Priorities highlighted in the 2016 ZEV Action Plan include ensuring ZEVs are accessible to a broad range of Californians and infrastructure is available to refuel those ZEVs, and raising consumer awareness and education about ZEVs. The Final Plan supports these priorities through significant investment in public education, charging infrastructure, and ZEV access, with specific support in disadvantaged communities.

## **IV. Tracking Progress**

Going forward, Electrify America must provide CARB a semi-annual project status update and an annual report. A third party auditor will also submit annual reports evaluating Electrify America's spending for compliance with both the Consent Decree and the approved Plan. The updates and reports will be made public, except for limited confidential business information. CARB staff will continue to work with Electrify America and stakeholders on an ongoing basis to grow stakeholder engagement, assist with identifying projects, and coordinate efforts. CARB staff also will provide routine updates to the Board.

## **V. Recommendation**

The Final Plan, comprised of the original ZEV Investment Plan and the Plan Supplement together, forms one complete package of investment commitments for the first 30-month investment cycle under Appendix C of the 2.0-liter Consent Decree. The Final Plan describes appropriate investments in the four investment areas – charging infrastructure, a Green City project, public education, and increased access – designed both to demonstrate the utility of ZEVs and increase their use. It funds approximately

400 charging stations (2,000-3,000 chargers), both in six metropolitan areas and as part of a high-speed highway network. It establishes Sacramento as a Green City, both to showcase the benefits of ZEVs, and to grow ZEV access, primarily via ZEV car sharing, but with subsequent looks at ZEV delivery fleets and ZEV taxi fleets. It increases ZEV access in disadvantaged communities while simultaneously improving air quality and public health. And it funds public education initiatives like ride-and-drive events and media to highlight ZEV benefits and overcome barriers to ZEV adoption.

CARB staff find that the Final Plan is responsive to the requirements of the Consent Decree, inclusive of CARB's February 10, 2017, Guidance Document and May 24, 2017, Request for Supplement letter, and June 27, 2017 legislation. This Final Plan, when fully and properly implemented, is expected to grow California's ZEV refueling infrastructure, contribute to improved air quality and public health, and transform California's ZEV market. These benefits extend to all corners of California, including disadvantaged and underserved communities.

CARB staff recommends that the Board approve the Final Plan, comprised of the originally proposed ZEV Investment Plan submitted on March 8, 2017, and the draft Supplement submitted on June 29, 2017. As stated in Section IV above, CARB staff will continue to monitor plan implementation and will make Electrify America's semi-annual updates and annual reports available to the public and, pursuant to SB 92, will provide the California Legislature an annual report.

Looking to subsequent cycles of the investment plan, CARB staff would like to see: (1) an increase in community charging infrastructure density within some metropolitan areas of the State and expansion into others, with an appropriate emphasis on disadvantaged and underserved communities, (2) new Green City pilots such as zero-emission taxis or freight delivery vehicles, and the establishment of a second Green City comprised primarily of disadvantaged and underserved communities, (3) expansion into the heavy-duty arena, which could include transit or terminal tractors and could be fuel cell powered, (4) expanded educational programming, (5) even greater public engagement in plan development, and (6) greater administrative detail on business plans/partners, cost estimates/allocations, and timelines.

## **Appendix A - Summary of Comments Received on ZEV Investment Plan**

This section summarizes the comments most often heard either at the March 24, 2017, public Board hearing or electronically via the public comment period that commenced with the March 14, 2017, public workshop notice and ended on April 10, 2017.

### **I. General support**

Approximately half of all comments received were supportive of the Plan. The vast majority of these comments were from entities supporting the selection of Sacramento as the first Green City. Several other comments were from either EVSE manufacturers, EVSPs, or organizations advocating EV adoption. Supporters identified benefits, including benefits in and to disadvantaged communities, such as growth toward the State's 2020 and 2025 ZEV goals, concomitant improvements in air quality and public health, and job and skilled workforce creation. Several supporters recommended that the Plan be implemented without delay.

### **II. Disadvantaged communities**

State Senate Bill (SB) 535 dictates that at least 35 percent of public funds be invested in disadvantaged communities and Board members asked Electrify America how their Plan would address the 35 percent policy. Other commenters speaking to this topic were all supportive of providing additional incentives for consumers in disadvantaged communities, and some suggested that CARB set: (1) a minimum percentage goal (35 percent or greater) for placement of charging stations in disadvantaged communities, and (2) clear guidelines for defining projects that would meet this goal, including what it means to "serve" disadvantaged communities rather than simply "locate" charging stations in these areas. Several commenters requested that corridor chargers be placed where members of the disadvantaged communities could easily access them, and not just along freeways in "drive through" or "drive by" locations. Other commenters expressed that disadvantaged community investments should also create family-sustaining jobs with good wages and benefits within those communities.

### **III. Increasing ZEV Access**

Commenters made several suggestions to improve ZEV access, primarily for low-income households, with most ideas centered on alternatives to vehicle ownership like zero emission car share programs like BlueLA in Los Angeles, rideshare, ride hailing, vanpooling, and bike sharing be included in all four 30-month plans. Others promoted ZEV transit buses.

#### **IV. Public Awareness**

Commenters asked that VW make significant investments in ZEV public awareness to accelerate deployment of both PEVs and FCEVs. They additionally asked that education and outreach campaigns address both PEV and FCEV refueling infrastructure. They further requested that Electrify America coordinate its education and outreach activities with other entities working in the same arena, and that outreach and education materials be multi-cultural and multi-lingual.

#### **V. ZEV Infrastructure**

Commenters addressed the extensive need for PEV and hydrogen fueling infrastructure and the desire that EVSEs not be placed where their benefit to local, and especially disadvantaged, communities is limited (so called “drive by” chargers). Drive-by chargers are also discussed in Section II above. Other commenters emphasized that California should support ZEV technology neutrality by requiring both PEV and FCEV refueling infrastructure (see Section VI below). Many electric vehicle supply providers and others identified that the Electrify America investment was an important part of the effort to decrease the infrastructure gap, but emphasized that a significant opportunity still remains for others to participate.

Other representative comments:

- Infrastructure should be powered using renewable energy.
- The Central Valley has the most polluted cities in the nation and the most disadvantaged communities in the State and thus, should get 35 percent of the budget designated for community chargers.

#### **VI. Hydrogen as a transportation fuel**

CARB believes that Hydrogen is an important transportation fuel to California because it promotes technology diversity, is scalable to medium- and heavy-duty vehicles, and has refueling ranges and speeds commensurate with other liquid fuels like gasoline and diesel. Many commenters, including fuel cell electric vehicle (FCEV) drivers, fuel providers, station developers, associations, and others, expressed concern and displeasure that the ZEV Investment Plan did not commit to investing in Hydrogen refueling infrastructure. They identified the extended timelines necessary for infrastructure buildout, and they suggested that CARB work with Electrify America to include hydrogen infrastructure in this and subsequent Plans and that the Plan not be approved absent a commitment to hydrogen infrastructure.

One commenter suggested that the State of California identify another funding source for Hydrogen infrastructure absent funding from the Plan.

## **VII. Skilled workforce**

Commenters on this topic expressed an interest in VW funding and increasing access to skills-development programs aimed at training and certifying technicians<sup>8</sup>, especially those from disadvantaged and underserved communities (particularly those with barriers to employment). These trained technicians would then be able to fill emerging jobs (with good wages and benefits) maintaining battery electric and fuel cell vehicles and installing/maintaining electric and Hydrogen refueling infrastructure.

## **VIII. Competitive marketplace**

ARB, in its guiding principles, expressed that VW's investments be complementary and additional, not interfering with or undermining established and emerging businesses. Most EVSPs and investor-owned utilities shared the belief that Electrify America's investments will be complementary and will allow ample space for investments by other public and private investors. ChargePoint asked that Electrify America follow CARB guidance and invest in disadvantaged communities and offer grants or rebates to site hosts to let them, and not Electrify America, choose the equipment that they want, the business models they want, and the technology they need to grow California's infrastructure beyond Electrify America's investment.

## **IX. Oversight**

Staff emphasized the importance of transparency and accountability. Several commenters requested that CARB maintain vigilant oversight to ensure that funds equitably serve the public interest, create high-quality jobs, and are spent in accordance with state law. They also asked that CARB work with Electrify America to improve information sharing (for example, by hosting more workshops) in subsequent plan development. It was suggested that CARB collect data and measure program effectiveness. It was also suggested that data reporting frequency be increased to quarterly instead of semi-annually. Finally, one commenter suggested that Electrify America use service level agreements with its infrastructure vendors to ensure guaranteed EVSE uptime.

## **X. Green City**

Several dozen commenters wrote to express their support for Sacramento as the first Green City. Most discussed the established working groups in place and ongoing activities to grow infrastructure and access and to participate collaboratively to make the Electrify America investments a success. An almost equal number of commenters

---

<sup>8</sup> One such program is the Electric Vehicle Infrastructure Training Program, which emphasizes infrastructure site selection and load calculations when siting EVSE.

advocated for Los Angeles to be a Green City, with an emphasis on poor air quality and diesel pollution burden, partnerships and established working groups, existing and proposed “shovel-ready” projects like the BlueLA car share project, and the community benefits that would derive from the selection (for example, filling mobility gaps in L.A.’s poorest and most polluted communities). Other commenters requested Green City emphasis in the San Joaquin Valley, and if a Green City were not designated there, they then requested that a San Joaquin Valley metropolitan area be included in the infrastructure component of the first Plan.

## **Appendix B - Summary of Comments Received on the Supplement to the ZEV Investment Plan**

This section summarizes comments that were received during the public comment period that commenced with the June 29, 2017, public notice of Supplement availability and ended on July 14, 2017

### **I. General support**

Of those comments submitted expressing a support or oppose opinion, approximately 90 percent were supportive of the Plan. Most of the supportive comments came from proponents of: (1) the Charge Bliss project in Carson, California; (2) Sacramento as a Green City; and (3) greater funding for Los Angeles. Others came from EVSE manufacturers, EVSPs, or organizations advocating EV adoption. Supporters identified benefits, including benefits in and to disadvantaged communities, such as growth toward the State's 2020 and 2025 ZEV goals, concomitant improvements in air quality and public health, and job and skilled workforce creation.

Representative comments:

- The Plan should additionally support the Charge Bliss zero net energy community project in Carson, California.
- The Plan should additionally ensure that Los Angeles receives a significant share of the funding.
- Commenters support Sacramento as a Green City.
- "We need charging stations."
- Investment encourages growth in EV marketplace by removing infrastructure barriers.
- This is a valuable opportunity to advance overall the EV industry and accelerate market growth.
- Approve as soon as possible; implement without delay.

### **II. Disadvantaged communities**

State Senate Bill (SB) 535 dictates that at least 35 percent of public funds be invested in disadvantaged communities and Board members asked Electrify America how their Plan would address the 35 percent policy. Other commenters speaking to this topic were all supportive of providing additional incentives for consumers in disadvantaged communities, and some suggested that CARB set: (1) a minimum percentage goal (35 percent or greater) for placement of charging stations in disadvantaged communities, and (2) clear guidelines for defining projects that would meet this goal, including what it means to "serve" disadvantaged communities rather than simply "locate" charging stations in these areas. Several commenters requested that corridor chargers be placed where members of the disadvantaged communities could easily

access them, and not just along freeways in “drive through” or “drive by” locations. Other commenters expressed that disadvantaged community investments should also create family-sustaining jobs with good wages and benefits within those communities.

Representative comments:

- The City of Sacramento appreciates the increased emphasis on disadvantaged community investment.
- Would like to see additional detail on prioritizing disadvantaged communities.
- Plan needs to incorporate recommendations from within CARB’s Senate Bill (SB) 350 Barrier Study.
- More details are needed on disadvantaged communities spending. For example, identify the census tracts through a public and transparent process and don’t count fast chargers in the 35 percent threshold.
- Shift funding from highway projects as necessary to increase investment in Fresno and other disadvantaged communities.

### **III. Increasing ZEV Access**

Commenters made several suggestions to improve ZEV access, primarily for low-income households, with most ideas centered on alternatives to vehicle ownership like zero emission car share programs like BlueLA in Los Angeles, rideshare, ride hailing, vanpooling, and bike sharing be included in all four 30-month plans. Others promoted ZEV transit buses.

### **IV. Public Awareness**

Commenters asked that VW make significant investments in ZEV public awareness to accelerate deployment of both PEVs and FCEVs. They additionally asked that education and outreach campaigns address both PEV and FCEV refueling infrastructure. They further requested that Electrify America coordinate its education and outreach activities with other entities working in the same arena, and that outreach and education materials be multi-cultural and multi-lingual.

### **V. ZEV Infrastructure**

Commenters addressed the extensive need for PEV and hydrogen fueling infrastructure and the desire that EVSEs not be placed where their benefit to local, and especially disadvantaged, communities is limited (so called “drive by” chargers). Drive-by chargers are also discussed in Section II above. As brought up in the comments on the ZEV Investment Plan, there was a call for contractor training and certification. Other commenters emphasized that California should support ZEV technology neutrality by requiring both PEV and FCEV refueling infrastructure (see Section VI below). Many electric vehicle supply providers and others identified that the Electrify America

investment was an important part of the effort to decrease the infrastructure gap, but emphasized that a significant opportunity still remains for others to participate.

Representative comments:

- Don't approve Plan until Electrify America commits to (1) safely install and maintain infrastructure with qualified personnel and (2) require the International Brotherhood of Electrical Workers' Electric Vehicle Infrastructure Training Program (EVITP) certification for electricians and contractors.
- The San Joaquin Valley Air Pollution Control District and the Bay Area Air Quality Management District urge reconsideration of their joint district-specific proposal (Electrify America has not responded to meeting requests).
- Ongoing collaboration with community-based organizations is needed.
- EV infrastructure is likely biggest barrier to CA meeting 1.5M ZEV goal.
- Supports inclusion of Fresno Metro area as sixth beachhead for community charging.
- Urban areas should not be the sole focus of investments.
- Investment encourages growth in EV marketplace by removing infrastructure barriers.
- Any and all additional funding for fast charging is welcome and important for consumer adoption.
- Several commenters supportive of Fresno charging infrastructure investments.
- Charging stations should have redundant chargers and local contractors should have a supply of spare parts.
- Electrify America should place staff in each metropolitan area for consistent contact with local agencies.

## **VI. Hydrogen as a transportation fuel**

CARB believes that Hydrogen is an important transportation fuel to California because it promotes technology diversity, is scalable to medium- and heavy-duty vehicles, and has refueling ranges and speeds commensurate with other liquid fuels like gasoline and diesel. Several commenters, including a consultant, an automaker, a fuel cell manufacturer, two environmental groups, two associations, a council, a coalition, and a fuel cell electric vehicle (FCEV) driver, wanted to see a commitment to investing in Hydrogen refueling infrastructure. Some suggested that the investment happen in subsequent investment cycles; others were adamant that it needed to occur in this Plan.

Representative comments:

- Support technology neutral solutions.
- Prioritize renewable hydrogen production.
- Plan creates inequity among ZEV technologies by exclusively investing in recharging infrastructure.
- Commenters disagree with Electrify America's interpretation of "brand neutral."

- Commenters disagree with Electrify America’s analysis of supply-demand gap as a rationale for not investing in hydrogen infrastructure.
- CARB should require Electrify America to use an objective metric to determine that all electric drive technologies are promoted in a similar manner.
- CARB should require Electrify America to amend the Cycle 1 investment plan by making meaningful commitments towards hydrogen fueling infrastructure investments
- Postpone approval of supplement and amend supplement to include hydrogen refueling stations.
- Commenter suggests that if requiring a Plan revision is detrimental to California’s interests, then State investments should compensate for lack of hydrogen investment in the Plan.
- CARB should require Electrify America and VW to coordinate with stakeholders in the hydrogen fuel cell industry to close the knowledge gap.
- Supplement should include fuel cell vehicles in education and awareness activities in Cycle 1 Plan; supplement should include criteria to be used to determine appropriateness of incorporating fuel cell technology in education and outreach activities.
- Counting on VW settlement for hydrogen infrastructure in Fresno following not receiving State grant.
- Support inclusion of hydrogen infrastructure investments in subsequent Plan cycles.

## **VII. Skilled workforce**

Commenters on this topic expressed an interest in VW funding and increasing access to skills-development programs aimed at training and certifying technicians<sup>9</sup>, especially those from disadvantaged and underserved communities (particularly those with barriers to employment). These trained technicians would then be able to fill emerging jobs (with good wages and benefits) maintaining battery electric and fuel cell vehicles and installing/maintaining electric and Hydrogen refueling infrastructure.

## **VIII. Competitive marketplace**

ARB, in its guiding principles, expressed that VW’s investments be complementary and additional, not interfering with or undermining established and emerging businesses. Most EVSPs and investor-owned utilities shared the belief that Electrify America’s investments will be complementary and will allow ample space for investments by other public and private investors.

Representative comments:

---

<sup>9</sup> One such program is the Electric Vehicle Infrastructure Training Program, which emphasizes infrastructure site selection and load calculations when siting EVSE.

- Electrify America should follow CARB guidance and invest in disadvantaged communities and offer grants or rebates to site hosts to let them, and not Electrify America, choose the equipment that they want, the business models they want, and the technology they need to grow California's infrastructure beyond Electrify America's investment.
- Supplement does not provide guidance on how siting for charging stations will be realized and controlled to ensure infrastructure will drive EV adoption; Supplement does not specify which channels will be used for awareness campaign.
- Imperative for OEMs to protect customers' data, experience, and support in a manner that ensures the Plan does not allow an undue competitive advantage for VW.
- Plan does not address how investments will not duplicate actions by local utilities.

## **IX. Oversight**

Staff emphasized the importance of transparency and accountability. Several commenters requested that CARB maintain vigilant oversight to ensure that funds equitably serve the public interest, create high-quality jobs, and are spent in accordance with state law. They also asked that CARB work with Electrify America to improve information sharing (for example, by hosting more workshops) in subsequent plan development. It was suggested that CARB collect data and measure program effectiveness. It was also suggested that data reporting frequency be increased to quarterly instead of semi-annually. Finally, one commenter suggested that Electrify America use service level agreements with its infrastructure vendors to ensure guaranteed EVSE uptime.

Representative comments:

- Support firewall in place between VW and Electrify America to address data privacy and competitiveness issues.
- Infrastructure pricing structure must be transparent.
- There is insufficient detail on coordination with agencies and EVSPs to ensure investments are complementary and additional.

## **X. Green City**

Several dozen commenters wrote to express their support for Sacramento as the first Green City. Most discussed the established working groups in place and ongoing activities to grow infrastructure and access and to participate collaboratively to make the Electrify America investments a success. An almost equal number of commenters advocated for Los Angeles to be a Green City, with an emphasis on poor air quality and diesel pollution burden, partnerships and established working groups, existing and proposed "shovel-ready" projects like the BlueLA car share project, and the community benefits that would derive from the selection (for example, filling mobility gaps in L.A.'s

poorest and most polluted communities). Other commenters requested Green City emphasis in the San Joaquin Valley, and if a Green City were not designated there, they then requested that a San Joaquin Valley metropolitan area be included in the infrastructure component of the first Plan.

## **XI. Miscellaneous Comments**

- VW should add more money to California's ZEV rebate program and reduce the cost of eGolfs for low income folks.
- CO2 emissions globally are increasing faster than projected (no comment on Plan).
- One commenter, who did not identify an affiliation, suggests that CARB not approve Do not approve "this self-dealing, anti-competitive settlement" and questions mitigation and the supplemental environmental project. The commenter proceeds to state that the Plan is "inequitable, unfair, unjust, and straight up lies and deceit coming from a company that has repeatedly shown its proclivity and preference for fraud and anti-competitive behavior."
- Need prioritized investments in medium- and heavy-duty ZEVs.