

Update to the Board on VW's California ZEV Investment Commitment

December 8th 2016

The VW 2.0L Partial Consent Decree

- * Approved by judge on October 25, 2016
- * Applies to entire United States with CA special provisions
- * Consists of main body & Appendices A, B, C, and D
- * Applies to VW 2.0-liter diesel engines
- * Does not resolve claims for civil penalties
- * Does not resolve claims concerning 3.0-liter vehicles
- * Does not address any potential criminal liability

Consent Decree Appendices

- * Appendix A and B
 - Applies to VW 2.0-liter subject vehicles already sold
 - Specifies buyback, lease termination, and potential vehicle modification terms
- * **Appendix C - Today's topic**
 - **Specifies VW's ZEV Investment Commitment**
- * Appendix D
 - Specifies Mitigation Trust to address past and future excess emissions of NOx

Appendix D: Environmental Mitigation Trust

- * \$381 million allocated to California
- * Mitigate the total lifetime excess NOx emissions
 - replace older heavy-duty vehicles and equipment in California with cleaner vehicles and equipment
 - ✓ On-road trucks
 - ✓ Transit, shuttle, and school buses
 - ✓ Off-road freight equipment
 - ✓ Ferries/tugs
 - ✓ Ocean going vessels
 - fund light-duty electric vehicle infrastructure (max of 15%)

Appendix D: Environmental Mitigation Trust

- * Governor (for California as Beneficiary) will identify a Lead Agency to act on the State's behalf to
 - Develop Beneficiary Mitigation Plan through a public process
 - Implement the Beneficiary Mitigation Plan and its projects
 - Report to the Trustee semi-annually
- * Trust is expected to be effective in early 2017
- * Staff to return in 2017 with Appendix D Update

Appendix C:

ARB ZEV Initial Priorities

- * Support ZEV market growth
- * Increased availability of ZEV Infrastructure
- * Increased awareness of ZEVs
- * Increased access to ZEVs for all Californians
- * Guided by
 - Governor's ZEV Action Plan
 - SB 350 - Clean Energy and Pollution Reduction Act of 2015
 - SB 1275 - Charge Ahead California Initiative (2014)
 - SB 535 - California Global Warming Solutions Act: GHG Fund (2012) (now updated by SB 1550)

Appendix C: VW ZEV Investment

- * VW to spend \$2B nationally, \$800M in CA
- * 10-year spending period, four 30-month cycles
- * Third party review annually
- * Investment Goals
 - Support transportation electrification
 - Support the next generation of zero-emission vehicles
 - Grow the State's burgeoning ZEV market
 - Support access to ZEVs, including for low- and moderate-income consumers in disadvantaged communities

Appendix C: VW ZEV Investment

* Eligible ZEV Investments include:

- ZEV Infrastructure
- Brand-neutral education and public awareness campaigns
- ZEV access improvements for all California consumers
- A Green City initiative

Appendix C – Category 1: ZEV Infrastructure

- * Design/planning, construction/installation, operation, and maintenance of ZEV Infrastructure
- * Support and advance the use of ZEVs
- * May include installation of:
 - Level 2 chargers, DC Fast Chargers, next generation chargers
 - Heavy-duty ZEV fueling infrastructure (California)
 - ZEV fueling stations
- * Guidance exists (Readiness Plans) for siting

Appendix C – Category 2: Education and Outreach

- * Brand-neutral education or public outreach that builds or increases public awareness of ZEVs
 - Cannot feature or favor VW vehicles or services
 - May contain the statement, “sponsored by Volkswagen”

Appendix C – Category 3: ZEV Access

- * Increase public exposure and/or access to ZEVs
- * Makes consumer ZEV access possible without purchase or lease
- * Examples
 - Scrap and replace with ZEV programs (in California)
 - ZEVs in car-share services
 - ZEV rideshare or ride hailing services
 - ZEV autonomous vehicle services

Appendix C – Category 4: Green City

- * Demonstration in a concentrated fashion:
 - Operation of ZEV car sharing services
 - ZEV shuttle service/transit applications
 - ZEV freight transport projects

California's Initial Guiding Principles for VW ZEV Investments

First Investment Plan Priorities

- * California's highest priorities for investment in the first 30-month cycle are public **ZEV infrastructure and public awareness**
 - This complements the California ZEV Action Plan, which identifies these as high priorities for supporting the ZEV market
- * We urge VW to make **early, visible progress** in the beginning of the first 30-month cycle

Additional and Complementary Investment

- * The expenditures should be **complementary and additional** to investments being made by government and the private sector in California
- * ZEV Investments should **add to and increase overall market support** to accelerate ZEV sales growth

Transformation

- * To complement SB350's transportation electrification goals, California encourages pursuit of **“transformational” programs** in breakthrough e-mobility concepts that can catalyze widespread Transportation Electrification
- * While the CD requires VW to invest across a variety of geographic regions of the state, we recommend **creating transformation through focused implementation in a variety of community types, particularly disadvantaged communities**

Investment Where Most Needed

- * A significant percentage (25%) of the funds should be dedicated to ***investments in disadvantaged/low-income communities***, matching the goals of SB535/SB 1550

Hydrogen Investment

- * **Hydrogen** as a transportation fuel is important to California
 - Technology diversity
 - Scalable to larger vehicle categories
 - Refueling range and speed
 - Assists with meeting air quality and GHG goals
- * VW should be strongly encouraged to include hydrogen fueling investment

Data Collection

- * ***Data collection and reporting*** is very important to California
 - Transparency
 - Effectiveness of programs,
 - Implementation, durability and maintenance issues
 - Help inform funding programs and grid integration issues

Business Considerations

- * Investments should ***not interfere with or undermine established and emerging businesses*** in the marketplace
- * VW's investments should ***demonstrate corporate social responsibility and a full useful life sustainable business case***

California

Priorities & Examples

Infrastructure - Priorities

To Expand the Consumer Market for ZEVs:

1. **Multi-unit dwelling** charging solutions
2. **Workplace** charging, including Level 2 and Level 1

To Support Extended Travel Range:

3. **DC Fast Charge** stations, especially those that serve drivers with no home or workplace charging

To Fill Gaps in Public, Long Dwell Time Charging:

4. **Public Charging Stations**, especially at airports and medical facilities

Infrastructure – Priorities (cont'd.)

To Support all ZEV Technologies:

5. **Hydrogen refueling station investments:** new stations, market development projects, including station commissioning, standards demonstrations and testing

To Expand ZEV Technology across more transportation sectors:

6. Multi-sector type infrastructure capable of serving commercial (**medium- and heavy-duty**) and public vehicles

Infrastructure - Examples

1. *Workplace charging challenge*
2. *DC Fast Charge Plazas*
3. *Vehicle-grid Integration (VGI) cooperation*
4. *Plug-In Vehicle Garage*
5. *Curbside charging*
6. *Hydrogen station investment*
7. *Hydrogen station network support*

Public Awareness - Priorities

- * Work with existing stakeholders to consolidate and leverage efforts, expanding the reach of public awareness programs
- * Market ZEV attributes in a way that builds interest
- * Measurement metrics that include total reach by market and by media type
- * Include experiential marketing – ride and drive opportunities and displays
 - Driving ZEVs is shown to be most influential reason for deciding to buy a ZEV

Public Awareness - Examples

- * Fund a contractor to offer ride and drive opportunities at public events with multiple ZEV models
- * Offer challenge grants to bring other stakeholders into multi-stakeholder-funded outreach programs

Increasing ZEV Access - Priorities

- * Complementary to SB1275, increased access to ZEVs for a broad cross-section of California
 1. Vehicle Scrap and ZEV replacement programs particularly in disadvantaged communities
 2. Community-based car-share programs, especially those serving disadvantaged communities
 3. Zero Emission Shuttle Service/Transit
 4. Ride Hailing services, especially those serving disadvantaged communities
 5. Autonomous ZEV demonstrations

Green City - Priorities

- * Expected to be transformative
- * Selection criteria:
 - ARB recommends VW select a disadvantaged community using SB 535/SB 1550 definitions
 - Opportunities to improve transportation and vehicle emissions across multiple vehicle sectors
 - Leverages existing transportation plans and community efforts
 - Consideration of the level of impact that can be achieved

Recommended Green City Selection Criteria

- * City population
- * Air quality need
- * Disadvantaged communities
- * Economic viability of program
- * Geographic separation

Green City - Examples

- * A Green City project should include multiple types of investments, such as:
 - Zero emission transit
 - Zero emission freight vehicles
 - Car Sharing
 - Vehicle grid integration implementation
 - Incorporation of renewable energy with ZEV infrastructure

Summary of Workshop Comments

- * December 2 in Sacramento and webcast
- * Common Themes:
 - Strong support for electric vehicle infrastructure
 - ✓ Emphasis on DC fast chargers and multi-unit dwellings
 - ✓ Expressed desire that infrastructure use renewable energy
 - Infrastructure should both support, and create jobs in, disadvantage communities
 - Infrastructure should include Hydrogen refueling

Summary of Workshop Comments

* Common Themes (continued):

- No consensus on the value of outreach and education
 - ✓ Support for multi-stakeholder efforts
 - ✓ Others argued that the investment in infrastructure raises awareness of ZEVs
- Maintain level playing field with other infrastructure providers
- Maintain significant oversight
- Support medium- and heavy-duty ZEVs

Pre-VW Plan Submission Events

- * Partial Consent Decree approved October 25, 2016
- * Public Workshop December 2, 2016
- * Board Hearing December 8, 2016
- * VW National Outreach Public Input Process Launch December 9, 2016
- * ARB Public comment period ends December 16, 2016
- * Post, and transmit to VW, recommendations, priorities, and goals by early January

https://www.arb.ca.gov/msprog/vw_info/vsi/vw-zevinvest/vw-zevinvest.htm

VW ZEV Investment Plan Approval Process

- * VW submits to CARB a draft ZEV Investment Plan
 - Due by February 22, 2017
 - Includes proposed projects, estimated costs, timeline, and explanation of how each investment relates to identified goals
 - First 30-month period of \$200 million
- * CARB approves plan in whole or in part

Thank You

- * Workshop materials are available on the California ZEV Investments website https://www.arb.ca.gov/msprog/vw_info/vsi/vw-zevinvest/vw-zevinvest.htm.
- * ARB has established a new list serve to notify stakeholders of upcoming events related to the Volkswagen ZEV Investment Commitment. If you would like to be notified of future meetings and the availability of materials, please sign up for our California ZEV Investments list server at: https://www.arb.ca.gov/listserv/listserv_ind.php?listname=vw-zevinvest
- * Written comments by 12/16/16 to: https://www.arb.ca.gov/lispub/comm2/bcsubform.php?listname=vw-zevinvest-ws&comm_period=1