

## Natural Gas Conversions Light- and Medium-Duty Vehicles

**Clean Fuels Program Advisory Group** 

September 3, 2009

#### **CNG Vehicles**

- Cleaner than Gasoline/Diesel Fueled Vehicles
- Reduce Greenhouse Gas Emissions
- Only One OEM Model Currently Available in U.S. → Honda Civic GX



- Several Small Volume Manufacturers
  Filling the Void
- AQMD Has Funded SULEV or Cleaner

## **CNG Upfitters**





- AQMD Sponsored Conversions
  - Conversion Prices Kept in Check
- Upfitters Certifying in California
  - BAF Technologies Presently
  - Baytech Corporation Presently
  - NaturalDrive Partners In Progress

#### **Challenges to Upfitters**

- CARB Certification
  - Especially onboard diagnostics
  - Timely and costly



- Not a Guaranteed Market
  - Primarily a function of gasoline sales prices

# **BAF Technologies**

- AQMD Co-Funded CNG Conversions
  - **2004** 
    - Ford Crown Victoria & E-450 Van
    - \$300,000 of \$1,227,600 Project Cost



- **2007** 
  - Ford F-150, F-250 Pick-Up Trucks
  - \$250,000 of \$675,000 Project Cost



- Presently Available Conversions
  - Ford: Crown Victoria, F-150, -250, & -350 Pick-Up Trucks, E-350 Van, Expedition
  - Lincoln: Town Car, Navigator, Mark LT
  - Mercury Marquis

# **Baytech Corporation**

- AQMD Co-Funded Conversions
  - > <u>2001</u>
    - Chevy S-10 Pick-Up
    - \$186,211 of \$398,728 Project Cost

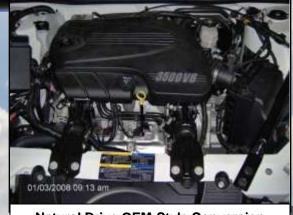


- <u> 2005</u>
  - OBD Systems Full-Sized & Cutaway Vans
  - \$319,615 of \$774,896 Project Cost
- Presently Available Conversions
  - Chevy: Silverado, Cargo Van, Express Pass, W3500
  - GMC: Sierra, Savana
  - Workhorse Custom Chassis P30 & Isuzu NPR

#### **Natural Drive Partners**

- Chevrolet Impala which Has EPA Certification
- Board-Approved 2009
  Co-Funding for
  CARB Certification
- Derived from Gasoline-Powered/E85-Compatible
- Competitively Priced
  - Use of Existing Wiring System
  - Long Refueling Range (250~390 Miles)
- AQMD \$81,388 of \$234,388 Cost (Including In-Kind Contributions)





**Natural Drive OEM-Style Conversion** 

# **Additional Projects**

- CNG Taxicab & Shuttle Incentive Buydown
  - Co-Funding Since 2001
  - Deployment for Commercial Airport Service
    - 631 CNG Taxis & 20 CNG Shuttle Vans
- CNG Home Refueling Unit Buydown Program
- CNG Powered Ambulances
- Police Vehicles CNG Conversion & Demo
  - City of Redlands in 2009
  - LA County Sheriff's Dept Proposal to the Board
    - Evaluate vehicle through Dept's nationally recognized police vehicle testing program