

2012 Progress Report For Reducing or Displacing the Consumption of Petroleum Products by the State Fleet



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Executive Summary

Assembly Bill (AB) 236 (Lieu , Chapter 593, Statutes of 2007) added Public Resources Code §25722.8 (a) establishing the goal of reducing or displacing the consumption of petroleum products by the State fleet when compared to the 2003 consumption levels based on the following schedule:

1. By January 1, 2012, a 10-percent reduction or displacement.
2. By January 1, 2020, a 20-percent reduction or displacement.

To date, the State fleet has reduced its petroleum consumption by 13-percent and is on its way to meeting the 2020 goal of a 20-percent overall reduction.

Key to the success of this public policy was the development and implementation of a plan that has improved the State fleet's overall use of alternative fuels, the reduction of unneeded fleet vehicles, and reducing unnecessary vehicle miles traveled. The *California Action Plan for Reducing or Displacing the Consumption of Petroleum Products by the State Fleet* (Plan) was submitted to the Legislature and the Governor in 2010 as a crucial step in meeting the Legislature's goals to reduce petroleum consumption by the State fleet. The Plan and all follow up progress reports are available to the public on the DGS Office of Fleet and Asset Management (OFAM) web site.¹

To develop the Plan, the State and Consumer Services Agency created a task force known as the State Fleet Petroleum Reduction Advisory Committee (Committee) to advise the Administration on cost effective methods to meet the target petroleum reduction goals. Fleet experts from across ten State agencies developed a project charter and held public meetings over a six month period to gather and share information, research best practices from across the country, and hear public comments. The Committee established its own web page to maintain a transparent process and keep the public informed of the Committee's progress.² The Committee sought cost-effective solutions to reduce or displace the consumption of petroleum and looked for best practices throughout the nation's fleet community. The Plan provides guidance so that State agencies can better manage their respective fleets and reduce their petroleum consumption. Mindful of the State budget shortfall the Committee set out to identify as many low-cost actions that State agencies could take in the near term to reduce their petroleum consumption. Many of these actions have been taken along with other administrative actions that have resulted in petroleum reductions, for example:

- In 2009, the State fleet began to modernization with the elimination of 3,397 of the State's oldest and most fuel inefficient passenger vehicles. It

¹ <http://www.dgs.ca.gov/ofam/Resources/PetrolReduc.aspx>

² <http://www.dgs.ca.gov/ofam/Resources/Archive.aspx>

is estimated that this action has increased the State fleet's corporate fuel economy average by approximately 15-percent overall.³

- In 2009, the State fleet began reducing vehicle miles traveled (VMT) with the elimination of 2,121 vehicle home storage permits. It is estimated that this action will save the State 141,400 to 517,524 gallons of petroleum and approximately \$424,200 to \$1.55 million per year, simply by eliminating non-mission critical VMT.⁴
- In 2009, the DGS began requiring State agencies to utilize the Fleet Asset Management System (FAMS) that DGS developed to collect vital fleet metrics. This data warehouse is available online for State agencies to import their vehicle inventories, utilization and fuel usage for trend analysis and required State and federal reports.
- In 2010, the DGS restructured the lease rate of its rental fleet by separately billing State agencies for their fuel. This affords the State a better opportunity to manage fuel consumption and control costs. Each State agency leasing vehicles from DGS is now able to see how much fuel their leased vehicles are using because it is unbundled from their monthly rate, thereby enabling them to reduce costs by actively managing their fuel usage internally.
- In 2010, the DGS partnered with Propel Fuels on a State and Federal grant opportunity to build 75 E85 alternative fuel stations throughout California. To date, sixteen publically accessible E85 stations have opened.
- In 2011, the DGS launched a YouTube video educating State drivers about the attributes and availability of alternative fuel vehicles.⁵ And, provided State drivers with tools to easily access the locations of alternative fuel stations (E85, CNG, Electric, etc.) that can support their alternative fuel vehicles and supplant petroleum usage.⁶
- In 2011, the DGS established the baseline of the State fleet's 2003 petroleum consumption levels after surveying State agencies for their 2003 bulk fuel records and using the 2003 State fuel card (Voyager) fuel data.

³ <http://www.documents.dgs.ca.gov/dgs/PIO/Releases/2009-2010/Attachments/EO%20S-14-09%20final%20rpt.pdf#search=EO%20S-14-09&view=FitH&pagemode=none>

⁴ <http://www.documents.dgs.ca.gov/ofa/EOS1409AttachmentIII.pdf#search=EO%20s-14-09&view=FitH&pagemode=none>

⁵ http://www.youtube.com/watch?v=pNowTb_ylMg&list=UUPnuF8uRvdv1081rGAUCdrQ&index=8&feature=plcp

⁶ <http://www.dgs.ca.gov/ofam/Programs/FARS/AFVP.aspx>

- In 2011, the DGS partnered with Coulomb Technologies on their State and federal grants to install 24 Level 2 electric charging stations at five DGS parking facilities in the Sacramento area. As of March 2012, all 24 electric charging stations have been installed and are in service.
- In 2011, Governor Brown issued Executive Order B-2-11⁷ ordering State agencies to justify every fleet asset and home storage permit, and eliminate those that are not essential or cost effective. This new round of vehicle and home storage permit reductions are lowering the State fleet's petroleum consumption even more. The DGS is currently implementing the Governor's Executive Order and expects to see continued reductions in petroleum as a result of further reductions of older vehicles from the State fleet and fewer miles being traveled from the storage of vehicles at employees' homes.
- In 2012, the DGS applied for a California Energy Commission grant for AB 118 funds to support the installation of nine (9) Level 2 electric charging stations at the DGS Sacramento State Garage. These stations would provide support for electric vehicles the DGS is acquiring for its Sacramento daily rental pool. By renting electric vehicles to other State agencies and their employees, they will have the opportunity to experience how the new zero emission vehicle technology can perform in serving their business needs.
- In 2012, Governor Brown issued Executive Order B-16-12⁸ ordering that California's state vehicle fleet increase the number of its zero-emission vehicles through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles be zero-emission by 2015 and at least 25 percent of fleet purchases of light-duty vehicles be zero-emission by 2020. This Executive Order will have a profound impact on the State fleet's petroleum consumption as the fleet shifts from internal combustion engines to all electric power.
- In 2012, the DGS issued Management Memo 12-03⁹, directing State agencies to order solar reflective colors when they acquire new light-duty vehicles. Solar reflective colors (white, metallic gold and metallic silver) enable an engine's air condition system to work less, thereby reducing fuel consumption and associated GHG emissions.
- DGS is currently working with the State's Equipment Council on a variety of new policies that are intended to:

⁷ <http://gov.ca.gov/news.php?id=16888>

⁸ <http://gov.ca.gov/news.php?id=17472>

⁹ http://www.documents.dgs.ca.gov/osp/sam/memos/MM12_03.pdf#search=management%20memo%2012-03&view=FitH&pagemode=none

- provide better controls over the State fleet
- optimize the use of publically accessible alternative fuel stations
- develop a network of electric charging stations to support the electric vehicles entering the State fleet
- provide more accurate and timely reporting of State fleet metrics

2003/2010 Fuel Usage Comparison

The table below illustrates the fuel usage by the State fleet in 2003 and 2010 as reported by the Executive Branch agencies. The only alternative fuel used in 2003 was compressed natural gas and propane which are combined for reporting purposes. Gasoline and diesel fuel dominated the State's fuel usage in 2003. By 2007, bio-fuels had begun to emerge on California's fuel landscape and by 2010 they had begun to significantly displace petroleum use in the State fleet. With the advent of bio-fuels, the State fleet increased its use of alternative fuels by 2,382 percent between 2003 and 2010. Consequently, the State fleet has reduced its use of petroleum fuel by 13-percent overall (see table below).

Fuel Type	2003 Alt Fuel	2003 Petroleum	2010 Alt Fuel	2010 Petroleum
Gasoline		30,017,477		28,198,296
Diesel		8,542,238		5,310,884
Compressed Natural Gas & Propane ⁹	159,304		281,619	
E85 Ethanol			216,723	
Electricity ⁹			42,014	
Biodiesel			3,253,548	
Total Gallons	159,304	38,559,715	3,793,904	33,509,180
Percentage of Alternative Fuel Increase from 2003 Level			2382%	
Percentage of Petroleum Reduction from 2003 Level				13%
*Source: Voyager and state agencies' bulk fuel as reported to OFAM	**2011 fuel data currently being collected by OFAM	⁹ Gas Gallon Equivalent		

Benchmarking and Data Issues

To benchmark State fleet petroleum consumption for 2003, DGS surveyed all Executive Branch agencies for their bulk fuel and natural gas procurements. Many agencies had records that went as far back as 2003 but some did not. In those instances where 2003 records were unavailable, DGS asked agencies to provide their fuel numbers for the years nearest 2003, and then extrapolated the approximate fuel usage for 2003 using a straight line assumption from the closest known fuel records. The strongest source of fuel data came from the State's fuel card provider, U.S. Bank/Voyager. Voyager's historical archives were utilized to isolate retail fuel sales from 2003.

Inaccurate Vendor Codes

Inaccurate fuel product coding by retail merchants supplying fuel to State agencies and/or credit card companies that process the sales, inhibits the State's ability to capture accurate data about E85 fuel being used by the State fleet. The DGS has converted known anomalies to the correct E85 code whenever possible. As an example, for E85 fuel currently being miscoded as M85 (methanol¹⁰), DGS transferred the miscoded fuel to the E85 category where it belongs. DGS has developed new specifications for the next State fuel card provider contract that will require the vendor to reconcile improper fuel product codes with the merchants prior to sending the State its fuel usage reports.

Collect Fuel Data and Report Petroleum Consumption

To gain visibility into the petroleum consumption of the State fleet, the DGS needed access to critical information about California's State fleet inventory. The DGS deployed the FAMS data warehouse and starting in 2009, began requiring all State agencies to report their vehicle fleet asset and utilization data, which includes fuel consumption by fuel type. Statewide fleet reporting can only be as complete and accurate as the data that DGS receives from other agencies. Using accurate data from the FAMS will be the linchpin of measuring petroleum reduction. Every State agency is now able to go online and enter their fleet data into FAMS. If State agencies are diligent and consistent in updating FAMS, DGS can analyze and report on their respective progress in meeting petroleum reduction goals, as well as other fleet related mandates. The accuracy of the data being entered by State agencies is critical to DGS being able to accurately analyze the State fleet's progress and forecast petroleum consumption trends.

It should be noted that, as of April 2012, not all State agencies had completed inputting their 2011 calendar year fuel data into the FAMS database. Therefore, DGS relied on the last complete reporting year (2010) for its calculations on the State fleet's petroleum reduction. Additionally, as DGS was preparing this report, Caltrans notified DGS that their 2010 FAMS fuel numbers were inaccurate

¹⁰ M85 Methanol is no longer sold in California and DGS verified that merchants with outdated equipment were using the incorrect code when dispensing E85 fuel.

and provided DGS with updated 2010 fuel numbers. DGS is using the newest fuel numbers from Caltrans for this report and will have Caltrans update the official FAMS records accordingly.

The other challenge for FAMS is receiving bulk fuel data through electronic feeds from State agencies. Most State operated fuel pumps do not have electronic card readers and rely on manual systems to purchase, dispense and account for bulk fuel use. These older systems need updating to incorporate card reading fuel management solutions that can automatically feed the FAMS data warehouse. This upgrade would eliminate many of the issues associated with receiving accurate and timely bulk fuel data from State agencies. This solution would be costly to implement and would require significant financial investment by State agencies that procure and dispense bulk fuel.

CONCLUSION

Several factors have contributed to the State's success in meeting the 10% petroleum reduction/displacement target of AB 236. The implementation of the DGS FAMS database, and the requirement that State agencies regularly report into FAMS, has given the State far greater capabilities to track and analyze its fleet and petroleum consumption. Additionally, the State's recent budgetary crises have required State agencies to focus on cutting fleet expenses and right-sizing their vehicle fleets. This effort has led to immediate reductions in petroleum use through the retirement of the State's oldest most fuel inefficient vehicles. Combined with the increased use of alternative fuels between 2003 and 2010 the State fleet has decreased its consumption of petroleum by 13-percent thus far. And, if State agencies continue to reduce/displace petroleum at their current rate, the State fleet is on a trajectory to meet or exceed the 20-percent petroleum reduction goal by 2020. However, the need for additional, alternative fueling infrastructure will continue to play a significant role to reducing the State's petroleum consumption going forward, as will driver education. Further efforts such as Executive Order B-16-12 will also build on this momentum and accelerate petroleum reduction as electric vehicles become a major segment of the State fleet's portfolio in future years.

ADDENDUM

Our research indicates that there is no clear industry standard for reporting petroleum displacement and various entities use differing methods to report their achievements. According to the U.S. General Services Administration, the most common way to measure petroleum displacement is to compare gasoline gallon equivalents (GGEs) of each fuel to take into account their different energy densities. The amounts reported in the fuel usage comparison on page five of this report represent GGEs for each fuel listed. In keeping with the intent of Assembly Bill 236 (Chapter 593, Statutes of 2007 – Lieu) to "improve the overall state fleet's use of alternative fuels," the methodology used in this report is focused on comparing the full GGE amount of alternative fuels used to the amount of gasoline and diesel used.