

# CLIMATE ACTION TEAM

## State Operations Working Group

### *Strategy 3: State Vehicle Fleet Efficiency Measures*

#### Near-Term Implementation Plan

**CAT Working Group Overview:** The State Operations subgroup of the Climate Action Team is developing discrete measures aimed at reducing the greenhouse gas (GHG) emissions from operations of the State of California, based on parameters developed in the AB 32 Scoping Plan.

**Working Group Agencies:** State Agencies (Departments, Boards, Offices, etc.) participating in this group include: Cal/EPA, Department of General Services, Air Resources Board, Department of Toxic Substances Control, Department of Water Resources, Office of the Chief Information Officer, California Energy Commission, Department of Transportation, CalRecycle, and the Department of Finance.

Additionally, the Department of General Services (DGS) received technical advice from the State Mobile Equipment Council—a variety of agencies that own and/or operate state vehicles—to develop the State Petroleum Reduction Plan.<sup>1</sup> The following state agencies assisted DGS: California Energy Commission; California Air Resources Board; Department of Toxic Substances Control; Department of Transportation; Department of Corrections and Rehabilitation; Department of Motor Vehicles; Department of Parks and Recreation; Department of Fish and Game; and, the California State University system.

#### **Measure / Strategy**

A) Description: Better manage the state fleet to reduce petroleum consumption and lower Green House Gas (GHG) emissions. For example, measures such as: reduce the overall vehicle miles traveled (VMT); accelerate modernizing the state fleet; increase the use of low carbon alternative fuels; and, introduce “best practices” in managing and operating the state fleet.

A key measure is the statewide fleet reduction that has targeted more than 3,200 light-duty non-emergency response vehicles for elimination and directed each agency to identify the oldest most fuel inefficient vehicles for disposal.<sup>2</sup> It is estimated that the vehicles being removed from daily operation can reduce as much as 1.9 million gallons of gasoline and 17,146 Tonnes (CO<sub>2</sub>) annually.<sup>3</sup>

Additionally, the unwarranted driving of state vehicles home by employees contributes to unnecessary petroleum consumption and GHG emissions. Tightening the process and including better oversight will prevent the unnecessary use of state vehicles thereby reducing petroleum consumption and GHG emissions. The DGS has implemented a new process requiring each agency

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<sup>1</sup> <http://www.ofa.dgs.ca.gov/AB236/default.htm>

<sup>2</sup> <http://www.documents.dgs.ca.gov/ofa/eos-14-09.pdf>

<sup>3</sup> (Estimated Total Gallons Not Consumed) x (8.81 Kg CO<sub>2</sub> per Gallon) = (Kg CO<sub>2</sub> displaced) ÷ 1,000 = Tonnes CO<sub>2</sub> Displaced

head to certify that the home storage permits they have issued are mission critical and in compliance with state law. By targeting more than 1,600 Home Storage Permits the state can reduce as much as 442,372 gallons of gasoline and 3,897 Tonnes (CO<sub>2</sub>) annually.

B) Agencies Involved: This measure is being implemented by all Executive Branch state agencies under the Governor's direct authority that own or operate vehicles to conduct state business.

C) Scoping Plan/Adaptation Plan Reference: "State Government Operations" was included in the scoping plan recommendations as an "Other Recommended Measure."

D) Metrics: Assembly Bill (AB) 236 (Chapter 593, Statutes of 2007) (Lieu) added Public Resources Code (PRC) Section 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: 10 percent by January 1, 2012, and 20 percent by January 1, 2020.<sup>4</sup> This planned reduction in the use of petroleum simultaneously lowers GHG emissions and will be used as the key metric to measure GHG reductions. In 2009, DGS published the first of its kind report on the state fleet's fuel consumption.<sup>5</sup> DGS continues to refine the fuel data inputs to ensure the most accurate, comprehensive accounting of state fleet fuel consumption is available annually.

E) Crosscutting Issues: N/A

F) Tasks and Deliverables:

**Task 1:**

1. Description: Evaluate the state fleet and identify the most polluting vehicles for elimination, modernize the fleet, and improve coordination and efficient use of fleet assets.
2. Deliverables: DGS to develop a fleet asset management system to track and measure key state fleet metrics, such as: composition of the state fleet, average MPG, miles driven, types and quantities of fuels consumed. State agencies to reduce 15 percent of their light-duty non-emergency vehicle fleet and reduce the number of state vehicles taken home by employees by 20 percent. This deliverable will immediately begin paying dividends by simultaneously reducing petroleum consumption and lowering the GHG emissions produced by the state fleet. The vehicles identified for reduction are considered excess and offer a tangible reduction in GHG emissions through the elimination of non-mission critical VMTs. Further, by targeting the oldest most fuel inefficient vehicles for removal from the fleet, the newer more fuel efficient vehicles

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<sup>4</sup> <http://www.leginfo.ca.gov/cgi-bin/waisgate?WAISdocID=69048111769+0+0+0&WAIAction=retrieve>

<sup>5</sup> <http://www.dgs.ca.gov/FuelPurchases0708.htm>

will remain in use thereby increasing the state fleet's overall fuel efficiency. This action benefits the reduction of GHG emissions and particulate emissions that the older fleet contributes.

3. Agency Roles: DGS develops a fleet asset management system to provide policy makers and agency heads with better visibility into the state fleet, including: fleet size and make-up, utilization, and fuel consumption by fuel type; DGS also develops policy direction to Executive Branch agencies. Executive Branch agencies provide their fleet metrics to DGS and implement statewide fleet reduction and fleet best practices.
4. Timeline: July 2009, Governor issued Executive Order S-14-09 reducing the State fleet by 15 percent and reducing vehicle home storage permits by 20 percent.<sup>6</sup> Reduction completion scheduled for July 2010. January 2010, DGS completed implementation of a fleet asset management system that is now receiving state agencies fleet metric inputs.

**Task 2:**

1. Description: Increase the availability and use of low carbon alternative fuels in the state fleet.

2. Deliverables: DGS has added low carbon alternative fuels to state fleet bulk fuel contract.<sup>7</sup> DGS has provided a web based link available on Blackberry devices for state employees to locate the nearest alternative fuel facility to their locations anywhere in California.<sup>8</sup> DGS is developing a partnership with Propel Fuels to increase the commercial availability of low carbon alternative fuels (E85 and B5). DGS and Propel have partnered on state and federal grant opportunities to add 70 new commercial alternative fueling sites in California expanding the refueling capability for the state fleet.

3. Agency Roles: DGS to develop specifications and procure low carbon alternative fuel contracts for the state's bulk fuel infrastructure. State agencies with bulk fuel resources to procure low carbon fuels. DGS to develop public/private partnerships with low carbon alternative fuel distributors to expand commercial access of alternative fuels for the state fleet.

4. Timeline: January 2009, DGS develops low carbon alternative fuel contracts (E85, B5 and B20). July 2009, DGS develops an on-line alternative fuel locator link for state employees. July 2010, DGS assists commercial sector expand low carbon alternative fuel stations throughout California.

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<sup>6</sup> <http://www.documents.dgs.ca.gov/ofa/eos-14-09.pdf>

<sup>7</sup> <http://www.documents.dgs.ca.gov/pd/contracts/contractindexlisting.htm>

<sup>8</sup> <http://www.cleancarmaps.com/home> <http://www.afdc.energy.gov/afdc/locator/stations/>

**Task 3:**

1. Description: Develop and adopt “fleet best practices” for state agencies. These would include but not be limited to: procuring of vehicles; preventative maintenance schedules; tire pressure maintenance and monitoring.
2. Deliverables: Guidelines for the acquisition, lifecycle and disposition of state fleet assets. DGS has issued the following policy guidelines that will better manage the state fleet and help reduce GHG emissions:
  - State Fleet Handbook to advise state agencies and employees of fleet operational guidelines.<sup>9</sup>
  - Increased the minimum fuel economy standard for state vehicle acquisitions.<sup>10</sup>
  - Vehicle purchase and lease policy to minimize environmental impact.<sup>11</sup>
  - DGS has also developed an online tool for state agencies to use when deciding what vehicle to acquire, thus ensuring the most fuel efficient or alternative fuel compatible vehicle is prioritized first.
  - DGS has developed an enhanced efficiency factor methodology for the procurement of motor vehicles that goes beyond low bid and now accounts for fuel economy and emissions in determining the best value vehicles to award on state contract.<sup>12</sup> This new methodology is being further enhanced to account for the wells-to-wheels environmental factors of vehicle fuel types.
  - DGS has developed a Fleet Asset Management System (FAMS) to collect fleet metrics from state agencies.<sup>13</sup>
3. Agency Roles: DGS to develop and publish new state fleet asset management policies; state agencies to acquire the most fuel efficient vehicles on state contract, use the “best practices” guidelines for maintaining and managing their fleets throughout their life cycle.
4. Timeline: July 2010, DGS updates fleet asset management policies.

**G) SUMMARY TABLE:**

Deliverable	Agencies	Deadline
Develop a fleet Asset management system to track and measure the state fleet	DGS	January 2010
Reduce 15 percent of the state’s light-duty vehicle fleet and reduce the number of	Executive Branch Agencies	July 2010

<sup>9</sup> <http://www.documents.dgs.ca.gov/ofa/handbook.pdf>

<sup>10</sup> [http://www.documents.dgs.ca.gov/osp/sam/memos/MM08\\_04.pdf](http://www.documents.dgs.ca.gov/osp/sam/memos/MM08_04.pdf)

<sup>11</sup> [http://www.documents.dgs.ca.gov/osp/sam/memos/MM06\\_03.pdf](http://www.documents.dgs.ca.gov/osp/sam/memos/MM06_03.pdf)

<sup>12</sup> <http://www.ofa.dgs.ca.gov/AFVP/EEFCM11.htm>

<sup>13</sup> <http://www.ofa.dgs.ca.gov/FAMS/default.htm>

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state vehicles taken home by state employees by 20 percent		
Develop specifications and procure low carbon alternative fuel contracts (E85, B5, B20). State agencies with bulk fuel resources procure low carbon fuel.	DGS and state agencies with bulk fuel dispensers	July 2009
Develop public/private partnership with low carbon alternative fuel distributor to expand commercial access of fuels to the state fleet.	DGS	July 2010
Revise and update state fleet asset management policies that address the Petroleum Reduction Plan and new methodology for statewide fleet management.	DGS	July 2010

Table 2 below quantifies the impact to petroleum consumption if both the vehicles and miles driven on those vehicles are eliminated.

**Table 2 Potential Petroleum Reduction From 15 Percent Fleet Reduction**

Three Typical Vehicle Types Targeted for Fleet Reduction <sup>14</sup>	MPG Rating <sup>15</sup>	Average MPG <sup>16</sup>	Annual VMT <sup>17</sup>	Annual Petroleum Consumption <sup>18</sup>	Potential Petroleum Reduction from Fleet Reduction <sup>19</sup> and GHG emissions reduction <sup>20</sup> (Annually)
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<sup>14</sup> Older vehicles currently in the State fleet and identified for reduction

<sup>15</sup> EPA combined city/highway ratings

<sup>16</sup>  $22 + 19 + 14 = 55/3 = 18.3$

<sup>17</sup> State Minimum Utilization Policy is 6,000 miles or used at least 80 percent of available work days in a six month period (12,000 miles annually) [http://www.documents.dgs.ca.gov/osp/sam/memos/MM06\\_06.pdf](http://www.documents.dgs.ca.gov/osp/sam/memos/MM06_06.pdf)

<sup>18</sup>  $12,000 \text{ miles} / 18.3 \text{ MPG (combined average MPG)} = 656 \text{ gallons annually}$

<sup>19</sup> Based on 2,968 vehicles. Fleet reduction target is 3,298 light-duty non-emergency vehicles less 10 percent that are presumed disabled and not currently being driven 12,000 miles annually.

<sup>20</sup>  $(\text{Estimated Total Gallons Not Consumed}) \times (8.81 \text{ Kg CO}_2 \text{ per Gallon}) = (\text{Kg CO}_2 \text{ displaced}) \div 1,000 = \text{Tonnes CO}_2 \text{ Displaced}$

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1999 Chevrolet Cavalier	22 MPG	18.3 MPG	12,000	656 Gallons	1.9 million gallons gasoline/17,146 Tonnes CO <sub>2</sub>
1998 Ford Taurus	19 MPG				
1999 Dodge Ram 1500	14 MPG				

**Table 3 Potential Petroleum Reduction Putting Mileage on Newer Vehicles**

Model	MPG Rating	Annual VMT	Annual Fuel Consumption
1999 Chevrolet Cavalier	22	12,000	545.45
2007 Ford Focus	26	12,000	461.54
Number Change	4	0	(83.92)
Percentage Change	18.20%	0	(15.40%)

Table 3 above notes that the vehicle reduction executed pursuant to the Governor’s Executive Order S-14-09 provides an opportunity to achieve a 15 percent reduction in petroleum use per mile driven. The reduction will be achieved through right-sizing the fleet and putting business miles on newer, more efficient vehicles.

**Table 4 Potential Petroleum Reduction From 20 Percent Home Storage Permit Reduction**

Three Typical Vehicle Types Remaining in State Fleet <sup>21</sup>	MPG Rating <sup>22</sup>	Average MPG <sup>23</sup>	Annual Take Home VMT <sup>24</sup>	Annual Petroleum Consumption <sup>25</sup>	Potential Petroleum Reduction from Home Storage Permit Reduction <sup>26</sup> and GHG emissions reduction <sup>27</sup> (Annually)
2007 Ford Focus	26 MPG	21.6 MPG	5,280	244 Gallons	442,372 gallons gasoline/3,897 Tonnes CO <sub>2</sub>
2008 Chevrolet Impala	22 MPG				
2007 Chevrolet Silverado	17 MPG				

By adopting other actions, including improved operating policies and procedures, the State could reduce vehicle trips of its employees, thereby reducing petroleum consumption and ensuring the most efficient transportation choices for State business. Flexible work options such as telecommuting, teleconferencing, and videoconferencing will reduce petroleum consumption. Telecommuting and other types of electronic communications have the potential to reduce State fleet VMT to the extent that a trip involves State vehicles.<sup>28</sup>

<sup>21</sup> Newer vehicles currently in State fleet and not targeted for fleet reduction

<sup>22</sup> EPA combined city/highway ratings

<sup>23</sup>  $26 + 22 + 17 = 65/3 = 21.6$

<sup>24</sup> Estimated mileage associated with taking State vehicle home: 20 round trip miles per day x 22 working days per month x 12 months = 5,280 miles per vehicle

<sup>25</sup>  $5,280 \text{ miles}/21.6 \text{ (combined average MPG)} = 244 \text{ gallons annually}$

<sup>26</sup> Based on 1,813 non-mission critical Home Storage Permits eliminated as of April, 2010

<sup>27</sup>  $(\text{Estimated Total Gallons Not Consumed}) \times (8.81 \text{ Kg CO}_2 \text{ per Gallon}) = (\text{Kg CO}_2 \text{ displaced}) \div 1,000 = \text{Tonnes CO}_2 \text{ Displaced}$

<sup>28</sup> California State Vehicle Fleet Fuel Efficiency Report: Volume 1, 2003