



**General Administration**  
STATE OF WASHINGTON

# **Biodiesel Use by Washington State Agencies**

**July through December 2010**

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## **REPORT HIGHLIGHTS**

State agencies continue to make progress toward meeting their biodiesel use mandates.

- Washington State Ferries (WSF), by far the state's largest consumer of diesel fuel, met its adjusted mandate during this six-month period as its biodiesel purchases increased to 119,530 gallons. This is a 17 percent increase over the 101,840 gallons purchased in the previous six-month period.
- Biodiesel purchased by state agencies other than WSF increased from 8.7 percent to 9.9 percent of total diesel purchased in the second half of 2010, and totaled 165,546 gallons.
- Biodiesel purchased by the Washington State Department of Transportation (WSDOT) in Western Washington reached 20.1 percent of total diesel purchased during this reporting period. Due to continued availability issues, biodiesel made up only 1.9 percent of the total diesel purchased in Eastern Washington. WSDOT provides diesel fuel to the majority of state agencies through its statewide network of fueling stations.
- All testing and reports continued to show no significant quality or performance issues related to biodiesel use by state agencies.
- Efforts intensified during the period to resolve biodiesel availability issues, with federal stimulus money invested to provide in-line blended biodiesel fuel to ferries and with the state's preparation to rebid the state fuel contract.

## **BACKGROUND**

As a part of the state's efforts to reduce its dependence on foreign oil, reduce emissions and stimulate local production and use of biodiesel, state agencies are required to use a minimum of 20 percent biodiesel by total volume for operating diesel-powered vehicles and construction equipment. Legislation establishing this mandate (ESSB 6508), effective June 1, 2009, was enacted in 2006.

Due to serious infrastructure and budgetary constraints, the Legislature adjusted the original 20 percent biodiesel requirement for the state ferry system in the 2009 and 2010 transportation budgets. The revised mandate states that for the 2009-11 biennium, all fuel purchased at the Harbor Island truck terminal in Seattle must be a minimum of 5 percent biodiesel so long as the price does not exceed the price of diesel by more than 5 percent.

The Department of General Administration (GA) is charged with compiling agency biodiesel usage data and reporting findings and recommendations to the Governor and the Legislature on a biannual basis. To further advance biodiesel purchasing and to more effectively fulfill reporting requirements, GA formed a biodiesel leadership team of key state agency stakeholders in the spring of 2009. This report incorporates the broader input of the team members, especially with respect to their areas of expertise and involvement.

This report covers the period of July 1 through December 31, 2010 and represents bulk fuel purchased through state fuel-delivery contracts. The use of the term "biodiesel" in this report means pure biodiesel (B100) unless otherwise designated.

# Biodiesel Use by Washington State Agencies

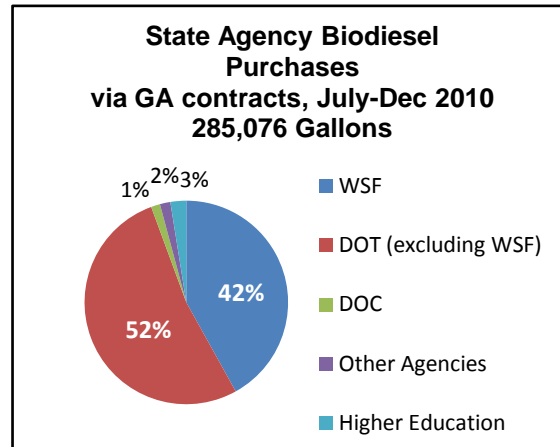
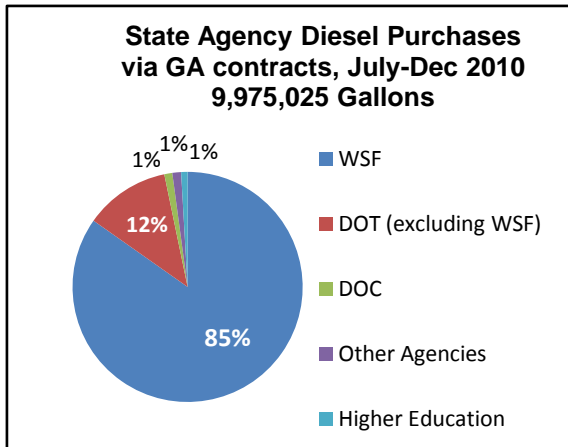
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## STATE BIODIESEL USE

From July 1 to December 31, 2010, state agencies and institutions of higher education purchased just under 10 million gallons of diesel through state fuel contracts. A total of 285,076 gallons of biodiesel were purchased, an increase of 29 percent from the 220,771 gallons purchased in the first six months of 2010.

State ferries purchases made up 85 percent of all diesel purchased during the period and 42 percent of the biodiesel purchased. Total biodiesel use by state ferries increased 17 percent, as a B5 biodiesel blend continued to be the standard fuel for six vessels in the fleet. Biodiesel purchases by state agencies for use in vehicles and equipment increased 39 percent over the previous six months, primarily due to higher blends becoming available at WSDOT fueling stations.

Biodiesel purchases by institutions of higher education are included in the data. However, since the institutions are not required to use the state fuel contract, this report does not fully capture all fuel they may have purchased from other distributors.



## MARINE SECTOR

- WSF met its adjusted biodiesel use mandate during this six-month period with purchases of 119,530 gallons of biodiesel. This is a 17 percent increase from the 101,840 gallons purchased in the first six months of 2010.
- During this period, WSF continued to use in-line blended B5 biodiesel for all vessels fueling by truck from the Harbor Island truck facility in Seattle. This facility is one of three locations where WSF receives fuel, and accounts for about 25 percent of the total fuel used by WSF.
- Efforts intensified during the period to address infrastructure and availability issues. Ultimately, federal stimulus funding was provided by the Department of Commerce for needed facility upgrades to make in-line blended biodiesel available to the rest of the state ferries fleet. With completion of infrastructure upgrades, WSF will begin using B5 for ferries fueling out of Anacortes in January 2011. The capital improvement project underway at the Seattle fuel pier is expected to be operational during the summer of 2011. Once it is completed, WSF will have full access to biodiesel at all three of its fueling locations.

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- The 5 percent price differential limitation placed on WSF in the state Transportation Budget has not been a factor. The daily average difference between petroleum diesel and a B5 biodiesel blend during the period has been below the 5 percent threshold.
- WSF had no biodiesel-related quality or performance issues during the period.

### Washington State Ferries Biodiesel Use: July 2009 to December 2010

Time Period	Diesel Gallons	Biodiesel Gallons	Total Gallons	Biodiesel %
Jul-Dec 2010	8,455,444	119,530	8,574,974	1.4%
Jan-Jun 2010	8,460,112	101,840	8,561,952	1.2%
Jul-Dec 2009	8,463,792	71,224	8,535,016	0.8%

### LAND SECTOR

State agency purchases of biodiesel for use in vehicles and equipment increased from 118,931 gallons in the first six months of 2010 to 165,546 gallons in the last six months of the year. On a percentage basis, overall state agency biodiesel purchases increased from 8.7 percent to 9.9 percent of total diesel purchased.

WSDOT is the largest single purchaser of diesel in the land sector under the state fuel contract, accounting for 79 percent of all diesel purchased. WSDOT maintains a comprehensive, statewide network of fueling stations that serves the majority of the state's diesel-powered equipment and vehicles. During this reporting period, biodiesel purchases by WSDOT in Western Washington reached 20.1 percent of total diesel purchased. However, because biodiesel has not been readily or consistently available in Eastern Washington, biodiesel made up only 1.9 percent of the diesel fuel purchased in this area during the period.

Only seven other agencies purchased more than 1,000 gallons of bulk diesel fuel under the state contract during the period, with the Department of Corrections (DOC) the largest purchaser in this group. With respect to biodiesel purchases, the Department of General Administration led this group in percent of total bulk fuel delivered, purchasing 14.8 percent biodiesel.

Among the 12 higher education institutions purchasing off the state contract this period, the University of Washington led the way with biodiesel making up 15.5 percent of diesel fuel purchased.

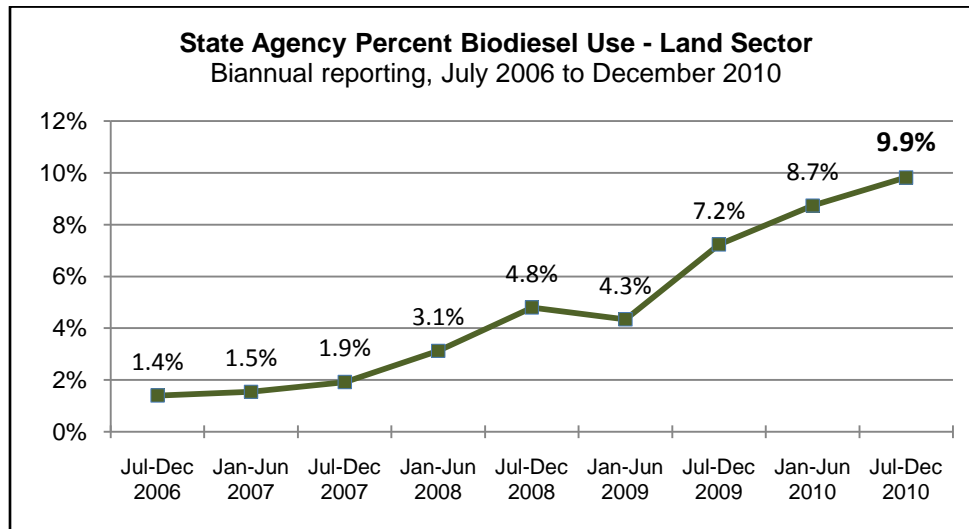
### State Agency Biodiesel Use (Land Sector): July to December 2010

Agency	Diesel Gallons	Biodiesel Gallons	Total Gallons	Biodiesel %
WSDOT	1,195,448	149,555	1,345,003	11.1%
Dept. of Corrections	111,957	4,080	116,037	3.5%
Other Agencies	111,172	4,741	116,453	4.1%
Higher Education	89,731	7,170	96,901	7.4%
<b>Total</b>	<b>1,508,848</b>	<b>165,546</b>	<b>1,674,394</b>	<b>9.9%</b>

*Note: Data only represents fuel purchased under GA fuel contracts.*

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### WSDOT Updates

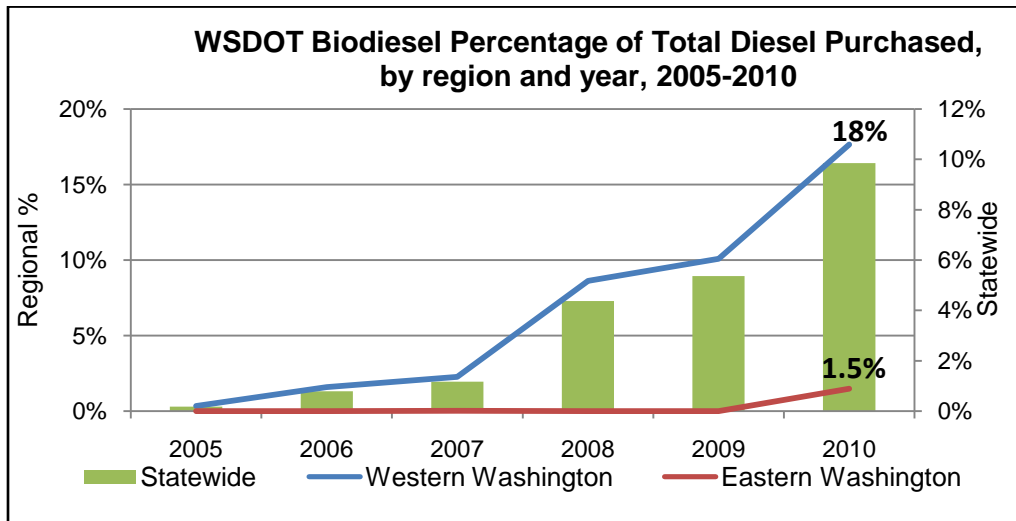
- WSDOT increased the number of fueling sites providing biodiesel blends. During the period, 47 of the 53 fueling sites in Western Washington offered biodiesel, with B20 the standard fuel. B5 or lower blends were available at 37 of the 39 fueling sites in WSDOT's Eastern and South Central regions.
- Contract vendors in Eastern Washington continued to report limited access to biodiesel. Vendors responded to WSDOT orders for B10 with B5 or lower blends, except for one vendor who supplied fueling sites along I-90 with B10 by obtaining fuel from Tacoma.
- WSDOT entered into a separate contract with a fuel distributor to supply biodiesel to four of the 17 fueling stations in its North Central region starting July 1, 2010. This is the one region of the state where there is no vendor through the state fuel contract.
- WSDOT concluded a test of various biodiesel blends – ranging from B40 to B90 – in three trucks operating out of Olympia. WSDOT found that: 1) cold weather can have an impact and it is important to regulate biodiesel concentration accordingly; 2) tank and filter maintenance is critical in maintaining fuel quality; and 3) fuel turn-over schedules need to be considered to maintain fuel quality and prevent tank contamination. Based on the findings, WSDOT offered B40 at its Tumwater fuel site for the last two months of the year and planned to continue B40 through the winter.
- WSDOT's growing experience with biodiesel blends continues to demonstrate the need for site-specific planning to implement the state's biodiesel mandate. For example, in remote, cold, low-utilization sites such as its Shuksan fueling station, use of biodiesel is not advised due to gelling concerns and fuel degradation associated with low turn-over. WSDOT successfully carried out a strategy in Western Washington to reach the 20 percent biodiesel mandate by using higher blends at sites where climate, storage conditions and use patterns do not present significant storage and performance concerns. WSDOT plans to use the same strategy to achieve the 20 percent mandate statewide.

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- WSDOT recorded four instances of blended biodiesel gelling during the period, all in November. In two cases, fuel dispensers froze when temperatures dropped to -18 and -21 degrees Fahrenheit. In the other two cases, dispensers were operational but slow in dispensing fuel.

When all diesel fuel purchased by WSDOT is considered, WSDOT reached a statewide average of 9.9 percent in 2010, purchasing 261,810 biodiesel gallons in 2010. This includes fuel purchased on the state contract as well as the WSDOT contract to supply its North Central region. In Western Washington, purchases averaged 20.1 percent biodiesel for the last six months of 2010, and 18 percent for all of 2010. Eastern Washington purchases averaged 1.9 percent biodiesel for the last six months of 2010, and 1.5 percent for all of 2010.



### WSDOT Biodiesel Purchases by Region: July to December 2010

Region	Diesel Gallons	Biodiesel Gallons	Biodiesel %
Westside	713,367	143,587	20.1%
Eastside	736,211	13,655	1.9%
<b>Total</b>	<b>1,449,587</b>	<b>157,241</b>	<b>10.9%</b>

Note: Includes purchases using "Best Buy" methodology in area not served by GA fuel contract.

## FUEL QUALITY

Washington State Department of Agriculture (WSDA) continues to monitor the quality of diesel and biodiesel used by state agencies as part of the state's overall Motor Fuel Quality Program. WSDA inspectors conducted on-site tests and collected samples of diesel and biodiesel at 22 WSDOT fueling locations during the last six months of 2010. On-site tests were performed to check for water and contaminate in fuel storage tanks. Samples were analyzed by a contract laboratory for compliance with American Society for Testing and Materials (ASTM) quality standards. None of the samples were reported to be out of compliance. WSDA will continue to coordinate with WSDOT on testing strategies and timing as WSDOT moves to increased use and higher blends of biodiesel.

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No significant fuel quality issues were identified, and none were reported to WSDA by state agencies during the reporting period. WSDOT noted four instances of diesel gelling during the period, with fuel dispensers freezing in two cases when temperatures dropped to -18 and -21 degrees Fahrenheit. In the other two cases, dispensers were operational but slow in dispensing fuel.

WSDA also sampled and monitored biodiesel offered for sale to the public during the same period, and quality remained good.

WSDA will continue to work with state agencies to monitor the quality of biodiesel used in state fleets, educate agencies on proper handling, and address any quality issues that arise.

### STATE FUEL CONTRACTING

- **Contract Challenges:** For the state to make progress toward meeting biodiesel mandates in Eastern Washington, fuel terminals in this region must consistently offer biodiesel at requested blend ratios. Otherwise, Eastern Washington fuel delivery contractors must invest in infrastructure upgrades at their facilities to support biodiesel or acquire biodiesel from Western Washington fuel terminals.
- **Contract Amendments and Extensions:** State government purchases 99 percent of its bulk fuel under GA fuel contracts. The marine fuel delivery contract has been extended through June 2011 and the land fuel delivery contract has been extended through April 12, 2011. The Marine Refueling Services contract was amended in December to support in-line blended biodiesel purchases in Anacortes.
- **Contract Rebid:** GA's process for rebidding the state's land fuel delivery contract included a year-long stakeholder outreach plan to identify challenges, opportunities and recommendations. Extensive review and analysis of this feedback was culminated in the release of a contract bid announcement in January 2011. The following were included in the new contract:
  - Updated (American Society for Testing and Materials International, or [ASTM](#)) [specifications](#) for biodiesel with no restriction on feedstock
  - Improved and more detailed biodiesel reporting requirements
  - Provisions that better promote supplying in-state produced biodiesel
  - Improved guidance to agencies regarding biodiesel usage requirements

**Contract Award:** Key dates leading up to the new contract include:

- February 2011: Deadline for submitting bids
- March 2011: Evaluation of bids
- Mid-March 2011: Award of contract
- April 2011: Contract in place

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### RELATED ACTIVITIES

- **Industry Meetings:** WSDA convened another quarterly meeting with biodiesel producers and petroleum industry representatives on September 15, and provided information on activities related to increasing biodiesel use in Washington. Topics included the latest data on state agency use of biodiesel, information on biodiesel projects funded by federal stimulus dollars, activity related to updating the state energy strategy, input on the rebid of the state fuel contract, WSDA's proposed penalty matrix for fuel quality violations, and a presentation from the Department of Licensing Fuel Tax Division on its proposal to update its data system.

No meeting was held in December, though biodiesel producers participated in a November 17 meeting hosted by GA to provide additional input on issues related to the state fuel contract.

### OTHER FACTORS AFFECTING BIODIESEL USE AND AVAILABILITY

- **Federal Biodiesel Tax Credit:** The prolonged lapse of the biodiesel blender's credit continued to impact the biodiesel market, affecting both production and availability. Beginning in 2005, blenders of biodiesel received a \$1 per gallon federal tax credit, which is reflected in state contract prices. The extension of the tax credit, which expired at the end of 2009, was uncertain throughout most of the year. Federal legislation (H.R. 4853) retroactively extended the biodiesel tax incentive through 2011, but did not become law until December 17, 2010. Congress has discussed transferring the credit from blenders to biodiesel producers in future legislation, a change that would benefit producers and simplify administration of the program.
- **Federal Renewable Fuel Standard (RFS2) & Canola:** The U.S. Environmental Protection Agency (EPA) implemented new rules for RFS2 on July 1, before the agency had completed its assessment of canola biodiesel under carbon reduction criteria. As a result of this delay and uncertainty about extension of the federal tax credit, one of the state's biodiesel producers suspended most of its production for the rest of the year. EPA published its supplemental determination for renewable fuels produced from canola oil on September 28, 2010.
- **State Renewable Fuel Standard (RFS):** An effort to increase biodiesel use throughout Washington, spearheaded by the state's biodiesel industry, is expected to be considered during the 2011 legislative session. The proposal would change the state's biodiesel RFS from a volumetric approach (requiring an average of two percent biodiesel in the state's diesel supply) to a universal approach (requiring at least two percent biodiesel in every gallon of diesel). The state's current RFS cannot be effectively implemented and administered. The proposal is similar to the industry-request bill passed by the House of Representatives in the 2010 session. The bill was supported by the Governor's Office, state agencies, and environmental and agricultural groups, but faced opposition from oil companies, truckers, and others. The legislative change is a recommendation of the State Energy Strategy Update prepared by the Department of Commerce.



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### **RECOMMENDATIONS/ACTION ITEMS**

- Continue efforts to resolve biodiesel availability issues.
  - Ensure successful implementation of biodiesel blending infrastructure upgrades that will allow WSF to fuel with biodiesel throughout its fleet.
  - Continue to work with the fuel delivery supply chain in an effort to make biodiesel consistently available throughout Eastern Washington.
  - Award and successfully implement the new and improved statewide bulk fuel delivery contract by April 2011.
- Continue to encourage and assist state fleet managers to meet biodiesel use and reporting requirements, including supporting efforts to identify best practices for cold weather biodiesel purchasing and long-term storage.
- Work with vehicle manufacturers on biodiesel use recommendations. Because of new emissions standards, manufacturers are revisiting previous recommendations.
- Give state agencies greater ability to purchase diesel vehicles on the state vehicle contract.
- Continue fuel quality monitoring to ensure standards are met.

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