



## DCAS: USE OF WINTER BIODIESEL (B20) IN CITY FLEET TRUCKS

Local Law 73 of 2013 requires the use of biodiesel blends in City diesel on-roads trucks, excluding police and emergency services. Biodiesel is a domestic, renewable, and sustainable fuel source that reduces harmful air quality and greenhouse gas emissions. NYC uses biodiesel in both its fleet units and in heating oil for municipal buildings.

Local Law 73 currently requires use of twenty percent (B20) blends of biodiesel from April through November each year, and blends of five percent (B5) from December through March. The biodiesel fuel is mixed with ultra-low sulfur diesel (ULSD). Emergency services including NYPD and FDNY are exempt from the law which governs public work trucks from DSNY, DEP, DOT, Parks and DCAS client fleet agencies.

Biodiesel has a higher gelling temperature than regular diesel and is more subject to cold weather operational issues. For this reason, the Law also requires DCAS to administer a pilot program using B20 in the winter for at least 5% of the City fleet. The intention is to determine whether higher blends of biodiesel such as B20 can be reliably used in winter months.

- *DCAS has exceeded the requirements of this law in use of biodiesel for fleet*

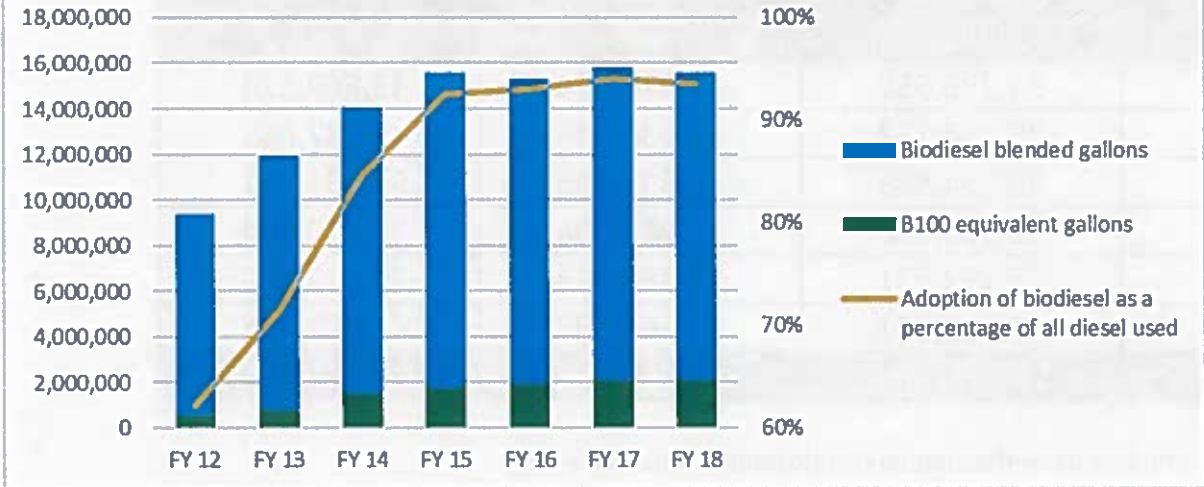
DCAS has fully implemented and exceeded the requirements of this law for use of biodiesel in City trucks. DCAS has fully implemented biodiesel for non-emergency on-road trucks. In addition, the City is using biodiesel for the majority of emergency service and off-road equipment, going above the law's requirements. Fully 93% of all diesel fuel used by fleet is blended with biodiesel including 99% at Correction, 78% at FDNY, and 88% at NYPD. These three agencies are exempt from the law. Most off-road equipment also uses biodiesel excluding some of the off-road street maintenance operations at DOT. Fleet also makes case by case decisions about the use of biodiesel blends in emergency generators.

These achievements are consistent with an expanding implementation of biofuels in fleet and also in heating oil for government operations as outlined in the backup charts below. DCAS has also begun use of renewable diesel (RD) in fleet operations. This goes further above the requirements of Local Law 73.

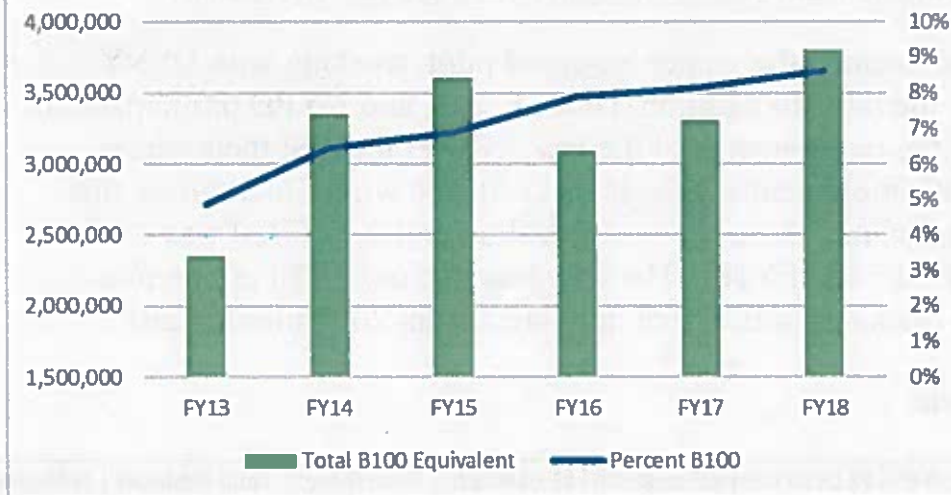
FY18

Agency	#2 ULSD	#2 ULSD B5	#2 ULSD B10	#1 ULSD B20	#2 ULSD B20	#2 ULSD B50	Total Diesel	Total Biodiesel	% Biodiesel
Correction	2,000	0	0	0	329,347	0	331,347	329,347	99%
Environmental Protection	0	144,871	0	0	248,682	0	393,553	393,553	100%
Fire	653,106	2,287,553	0	0	39,765	0	2,980,424	2,327,318	78%
Parks	2,999	261,751	0	5,951	387,231	500	658,432	655,433	100%
Police	69,280	42,316	481,946	0	2,618	0	596,160	526,880	88%
Sanitation	3,999	3,570,859	0	1,014,495	5,592,539	0	10,181,892	10,177,893	100%
Transportation	353,833	242,592	0	2,300	933,371	0	1,532,096	1,178,263	77%
Citywide	1,085,217	6,549,942	481,946	1,022,746	7,533,553	500	16,673,904	15,588,687	93%

Increase in biodiesel use - percent adoption, gallons used, and B100 equivalent gallons



Biodiesel Use in NYC Fleet and Buildings



NYC Government Use of Biodiesel Blends			
Blended Gallons for			
FY	Government Buildings (1)	Blended Gallons for Government Fleet	Total
13	31,736,530	11,925,594	43,662,124
14	35,457,127	14,080,534	49,537,661
15	35,554,585	15,597,826	51,152,411
16	22,669,030	15,281,204	37,950,234
17	23,792,071	15,780,318	39,572,389
18	27,412,541	15,588,687	43,001,228
<b>Total</b>	<b>176,621,884</b>	<b>88,254,163</b>	<b>264,876,047</b>

(1) Total fuel use determined by winter temperatures; Prepared by DCAS Fleet

- *DCAS has successfully implemented the winter biodiesel pilot required in Local Law 73 of 2013 using over 2 million gallons of B20 fuel over the last two winters.*

DCAS fully and successfully implemented the winter biodiesel pilot, working with DSNY, Parks, DOT, DEP, as required by the law. In addition, DOC, FDNY and NYPD participated in the pilot which goes well beyond the requirements of the law. NYPD focused their winter implementation on B10 fuel. DOC implemented B20 as its exclusive winter fuel during this period. FDNY used B5 during the winter. In total, over 2 million gallons of B20 was used during the winter months across FY17 and FY18. The City has also used B20 in previous years at NYC Parks. Most Parks trucks used B20 fuel in winters from 2008 through 2011.

**In-House Vehicle Biodiesel Use, Winter FY17-FY18**

Agency	#2 ULSD	#2 ULSD B5	#2 ULSD B10	#1 ULSD B20	#2 ULSD B20	Total Diesel	Total Biodiesel	% Biodiesel
Correction	2,000	0	0	0	233,288	235,288	233,288	99%
Environmental Protection	28,606	218,932	0	0	29,769	277,307	248,701	90%
Fire	425,571	1,559,693	0	0	0	1,985,264	1,559,693	79%
Parks	0	366,827	0	16,715	0	383,542	383,542	100%
Police	52,048	26,775	310,392	0	2,618	391,833	339,785	87%
Sanitation	3,999	6,918,842	0	1,546,816	16,056	8,485,713	8,481,714	100%
Transportation	119,205	343,887	0	14,104	209,618	686,814	567,609	83%
<b>Citywide</b>	<b>631,429</b>	<b>9,434,956</b>	<b>310,392</b>	<b>1,577,635</b>	<b>491,349</b>	<b>12,445,761</b>	<b>11,814,332</b>	<b>95%</b>

FY18 Average #1B20 Price: \$2.56

FY18 Average #2B20 Price: \$2.48

The major issue in the implementation was the choice of ultra-low sulfur diesel (ULSD) fuel to use with the biodiesel during the winter months. DCAS has both D1 and winterized D2 on

contract. D1 fuel has lower gelling temperatures and is more-cold weather resistant. D1 fuel is also more expensive, averaging about 8 cents per gallon more than D2 fuel. DCAS successfully eliminated almost all D1 fuel use for the City fleet in cost savings initiatives starting 2012 and 2013. DSNY employed D1 for most of their pilot program, while D2 was used for most of the program at the other agencies. No operational or cold weather issues were reported for either part of the initiative.

Based on these results, DCAS will be recommending to City fleets to expand biodiesel use in the winter, beginning with more general use of at least B10 and gradually expanding the B20 program. We will recommend at least two years of a phased in expansion, with a mix of B10 and B20. While these pilot results are very positive, any cold weather impact of higher blends involving the entirety of the City's plow and emergency fleets must be cautiously implemented to ensure no negative operational impacts. DCAS is very encouraged by these results and looks forward to working with all agencies to expand biofuels use, including both biodiesel and renewable diesel, in the upcoming years.