Clarence Waddell NC A & T State University 1601 E. Market Street 336-334-7972 NC 27411 Greensboro waddellc@ncat.edu **Fuel Information Fueling Infrastructure Fleet Information** Age (Yrs Size Total Leased Vehicles **State Titled Vehicles Only** 68 Location Total County Titled Vehicles 0 Fuel Type Pet. Eqv. Phy Plant 12 6,000 Gas **Gallons** 99 12 Total State Titled Vehicles Gasoline 45,697 45,697 Phy Plant 6,000 Gas Total Other Vehicles 0 E10 0 E85 0 _ 5,712 Breakdown of State Titled Vehicles Only Diesel 5,712 Vehicle Type Quantity Miles Off-road Diesel 0 92 Gasoline Only 333,450 B5 0 7 Diesel 40,070 B20 4,913 3,930 Hybrids 0 B100 0 Flex-fueled Vehicles 0 CNG 0 _ _ Comp Natural Gas 0 0 Propane 0 Propane Other 0 _ _ 0 Electric **Quarts** 0 484 121 Other Petroleum Motor Oils _ 10% Eligible 0 Syn & Rec Motor Oils 0 99 373,520 **Totals Total** 55,460 Instructions Notes/Comments **Potential for Biofuels Expansion** Jan 2006 - Now using E10 for all non diesel Fill out all information (exception - miles if N/A) Location Space Tk Size | Fuel 10,000 BioDsl Complete with data from fiscal year 2004-2005 Vehicles Phy Plant Please note if fuel includes more than State Vehicles No mileage figures available in 04-05 Count hybrids and FFV's only once in the breakdown, do not count them as gasoline vehicles 10% Eligible vehicles include police & emergency 10% eligible educational vehicles must have specific modifications for instructional purposes

Potential Reduction in	Petroleum use for your organization;	Pr	ojected Redu	ıcti	on
Conservation	Reduce speeds, efficient cars, task pooling	1,664	gallons	=	3.00%
E10	Using E10 for all gasoline vehicles	4,570	gallons	=	8.24%
E85	Using E85 for all flex-fueled vehicles	-	gallons	=	0.00%
B5	Using B5 for all diesel vehicles	286	gallons	=	0.51%
B20	Using B20 for all diesel vehicles	1,142	gallons	=	2.06%
B100	Using B100 in 1/10th of your diesel vehicles	571	gallons	=	1.03%
FFV	Substituting one FFV using E85	381	gallons	=	0.69%
CNG/Propane	Replacing one vehicle with a CNG/LPG car	560	gallons	Ш	1.01%
Electric	Replacing one vehicle with an electric car	560	gallons	=	1.01%
Syn & Rec Oils	Using all synthetic and recycled motor oils	484	quarts	=	0.22%

Petroleum **Displacement** Goal: 20.0% 11,092 gallons

Fuel

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Petroleum	2007 2007	2007 2000	2000 2000	2000 2010	2010 2011	Initial	Yearly
Displacement	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Cost	Cost
0.10%	Switch 50% of university ve						
1.80%	Increase B20 use to 10,000 g	· · · · · ·					
6.36%	Campus tanks switched over	to E10, increased use to 35,	000 gallons per year				
0.10%		Switched the remaining veh	icles over to synthetic oil				
		Will continue purchasing bi	o-diesel fuel from City source	2.			
		1 0					
1.00%			Farm vehicles begin to gas u				
1.00%			increasing E10 use to 40,000	ganons per yr			
				replace old vehicles.			
TD ()	0.0404	0.240/	0.2407				
Totals	8.26%	8.36%	9.36%				
Possible additional	vehicle purchases from 2	2006 - 2010					
Year	Quantity, Vehicle Type	and Description	Purpose	Fuel / Hybrid		Additional (Cost
2006	4, 3 trucks & 1 van (replace	older vehicles)	Facilities	E-10			
2006	4 John Deere Gators						
2007	4, 3 trucks & 1 van (replace	older vehicles)	Facilities	E-10			
2007 2008	4 John Deere Gators4 trucks (replace older vehice	ulas)	Facilities	E- 85			
2008	4 John Deere Gators	ies)	racintles	E- 03			
2009	4 vans		Facilities	E-10			
2009	4 electric cars						

Fleet and Fuel Reporting

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Fleet Information	200	5-2006	200	6-2007	200	7-2008	20	08-2009	2009	-2010	201	0-2011		
Vehicle Type	Total #	Miles	Total #	Miles	Total #	Miles	Total #	Miles	Total #	Miles	Total #	Miles		
Gasoline	106	333,498	125	338,188	107	358,625	133	317,261	129	265,562	126	284,358		
Diesel	11	64,625	11	61,182	10	34,859	10	62,310	11	54,196	11	54,240		
Hybrid	1	-	-	-										
Flex-fueled Vehicles	1	-	4	1,549			4	8,950	4	20,372	4	11,838		
Comp Natural Gas	ı	-	-	1										
Propane	1	-	-	1										
Electric	ı	-	4	1	4	-	4	-	3		3			
Emergency/Ed (10%)	-	-	-	-										
Totals	117	398,123	144	400,919	121	393,484	151	388,521	147	340,130	144	350,436		
	18%	7%	45%	7 %	22%	5%	53%	4%	48%	-9%	45%	-6%		
Fuel Information	200:	5-2006	200	6-2007	200	2007-2008		2007-2008		2008-2009		-2010	2010-2011	
Fuel Type	Gal	Petr.	Gal	Petr.	Gal	Petr.	Gal	Petr.	Gal	Petr.	Gal	Petr.		
Gasoline	27,437	27,437	5,906	5,906	4803.2	4,803	4292.1	4292.1	3864.4	3,864.4	2885	2,885.00		
E10	23,945	21,551	34,887	31,398	35159	· ·	32500.8	29250.7	33213.7	29,892.4	34069.4	30,662.46		
E85	_	-	-	-		-		0.0		-		-		
Diesel	1,494	1,494	1,352	1,352	5172.1	5,172	9511.1	9511.1	9527.4	9,527.4	9097	9,097.00		
B5	-	-	-	-		-		0.0		-		-		
B20	9,611	7,689	9,513	7,611	4622.5	3,698	0.0	0.0		-		-		
B100	-	-	-	-		-		-		-		-		
CNG	1	-	1	1		-		-		-		-		
Propane	1	-	-	-		-		-		-		-		
	Qrts		Qrts		Qrts		Qrts		Qrts		Qrts			
Petroleum Motor Oils	637	159	306	77	130	33	87	22	65	16	61	15		
Syn & Rec Motor Oils	-	-	197	-	277	-	285	-	200	-	391	-		
Total Petroleum Use		58,330		46,343		45,349		43,076		43,300		42,660		
% Change in PDP		5%		-16%		-18%		-22%		-22%		-23%		
PDP goal by 2011:										-20.0%				

Results Noted (by FY 2009-2010) as relate to your PLAN

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Plan for FY 2011-2012

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all PDP participating fle	ets results to 2009-10								
Overall Results from all participating fleets									
	FY 2004-05	FY 2009-2010							
Fuel Type	thousand of gallons	thousand of gallons	% change						
Gas	14,935	3,165	-79%						
E10	598	11382	1803%						
E85	242	398	64%						
Diesel	8,526	1602	-81%						
B5	-	7							
B20	1,870	8157	336%						
B100	-	2							
Total Biodiesel as B20	1,870	8,167	337%						
CNG	3	0	-92%						
Propane	56	5	-91%						
Petroleum Motor Oils	48	35	-27%						
Syn & Rec Motor Oils	3	6	115%						
Total Fuel	26,283	24,760	-5.8%						
Total Petroleum	25,581	21,638	-15.4%						
T.Fuel (adj. for growth)	26,877	24,760	-7.88%						
T.Petro (adj for growth)	26,153	21,638	-17.26%						

vehicles reported in PDP							
	FY 2004-05	FY 200	9-2010				
Vehicle Types	#	#	% change				
Gasoline	10,816	9,436	-13%				
Hybrid	78	129	65%				
Flex-fueled Vehicles	4,752	7,018	48%				
Comp Natural Gas	14	5	-64%				
Diesel	4,498	5,066	13%				
Propane	192	150	-22%				
Emergency/Ed (10%)	6,007	5,871	-2%				
Electric	13	199	1431%				
Total	26,370	27,874	6%				

Of the Overall 17.5 % petroleum reduction:

3.95% displaced by reduced mileage (conservation)

4.01% displaced through E10 use

0.49% displaced through E85 use

4.7% displaced through biodiesel use

4.3% displaced through efficiency

Your organization result to date

NC A & T State University results to date (2009-10)				% Reductions Caused by PDP Actions (by FY 09-10 as reported)										
% of Goal State Or	rganization	Petro Use	Petroleum Displacement Achievements	PDP Actions (Petroleum Reduction)		Miles	E10	E85	B5	B20	B100	CNG	Prop	Syn Moil
110% NC A	&T	-22%		increased # of veh., held mileage (budget), lost previous B20 availability	L	-8.9%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%

your organization plan to date

					_		
NC A & T S	State University			report progress		plan next year and forward	
Petroleum Displacement	2005 thru2007	2007-2008	2008-2009	2009-2010		2010-2011	beyond 2011
Actual	-16%	-18%	-22%	-22%		-23%	
-8.9%	mileage increase over baseling	ne- has not helped PDP					
7.1%	steadily increasing E10 use h			1			
0.9%	use of synthetic motor oil						
as planned							
0.10%	Switch 50% of university vehicles over to synthetic oil.			better result than expected? See line 43			
1.80%	Increase B20 use to 10,000 gallons per year			reported until '08 then stopped?			
6.36%	Campus tanks switched over	r to E10, increased use to 35,000 gallons per year		see line 42			
		Switched the remaining vehicles over to synthetic oil		did this happen?		should see a reduction in motor oil next year	
0.10%		Will continue purchasing bio-diesel fuel from City source	e.	not reported		City no longer using B20	
1.00%			Farm vehicles begin to gas up at Facilities with E10, increasing E10 use to 40,000 gallons per yr	did this happen?			
	- - -			All university departs replace old vehicles		Some departments have replaced old vehicles	
					<u> </u>		

space for Plan notes

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baseline efficiency factor efficiency factor change indicated

'09	09-'10	10-'11	
6.6176	6.6176		
8.3825	7.300		
26.67%	10.31%		

Conservation and Efficiency

defining steps taken to reduce petroleum consumption

your fleet efficiency appears to have improved, 10% better than baseline

In the process of reporting PDP results we have been able to directly attribute petroleum use changes due to: mileage; alternative fuel use; number of vehicles; use of synthetic or recycled motor oil. Indirectly we have been attributing any other change to "change in efficiency", a positive change may be called "conservation". To better define what portion of PDP performance is due to "change in efficiency or conservation" Please answer the following:

Has your agency/ department/ organization initiated any steps, **not previously reported**, intended to improve fleet vehicle efficiency? Please place "X" as appropriate

YES 2009-'10 2010-'11 2009-'10 2010-'11 NO

what did you change? Place "X" in appropriate box(es)

examples: a mechanical change could include equipment changes to vehicles or fueling infrastructure to make them more efficient. New hybrid autos or new fuel card reader systems would be mechanical. Process change could be an accounting system change, vehicle reassignment, or a carpooling system. Behavior could be drivers improving fuel economy by driving more efficiently or drivers combining errands or carpooling to reduce mileage.

		2009-	-'10	2010)-'11
	mechanical				
		yes	no	yes	no
					77
1a	changed vehicle types				X
	use fuel management				
1b	system			X	
	use on-board idle reduction				
1c	mechanism				X
	other mechanical system				
1d	change				X

		2009	-'10	2010)-'11
	process				
		yes	no	yes	no
	changed fuel accounting				
2a	system				X
	reduced on-board				
2b	weight				X
2c	set carpooling policy				X
	reassigned vehicles to				
2d	reduce fuel use				X
	check tire pressure				
2e	routinely			X	
	evaluate MPG				
26					32
2f	performance by vehicle				X
	other process system				
2g	change				X

		2009	-'10	2010	-'11
	behavior				
		yes	no	yes	no
	trained drivers on				
3a	economical driving				X
	reminded drivers to save				
3b	fuel			X	
	set policy on idle				
3c	reduction			X	
	evaluate driver behavior				
3d	(on economy)				X
	carefully observe speed				
3e	limit			X	
	reward economical				
	driving or punish				
3f	inefficient driving				X
3g	other behavior change				X

when did you first change it? Place "question #" in box best marking when process began. There may be multiple marks.

-	_	_	
		mechanical	_
before 2005			
FY 04-05			
FY 05-06			
FY 06-07			
FY 07-08			
FY 08-09		X	
FY 09-10		X	
FY 10-11			X

may be multiple marks.		
	process	
before 2005		7
FY 04-05]
FY 05-06		1
FY 06-07		7
FY 07-08		7
FY 08-09	X	7
FY 09-10	X	1
FY 10-11		X

	behavi	or
before 2005		
FY 04-05		
FY 05-06		
FY 06-07		
FY 07-08		
FY 08-09	X	
FY 09-10	X	
FY 10-11		X

How did you change it? Please note question # you are referring to.

examples may include new procedures, training, or directives affecting vehicle choice or vehicle use; installation of new equipment to dispense fuel or account for its use.

process

new in FY 2010-'11:

process

new in FY 2010-'11:

behavior

new in FY 2010-'11:

From your Results Noted tab you are now aware of what portion of your PDP performance change (positive or negative) was attributed to efficiency and conservation last year.

Your '09-'10 PDP report indicated 10.31% was attributed to change in efficiency. Of the noted changes in each of these three categories what part will you attribute to current and future activities in each? Your answers may total 0% if not applicable, otherwise the total will be 100%.

FY	2009-10	mechanical	
FY	2010-11	mechanical	
FY	2011-12	mechanical	

F	FY	2009-10	process	
F	FY	2010-11	process	
F	FY	2011-12	process	

FY	2009-10	behavior	
FY	2010-11	behavior	
FY	2011-12	behavior	