

ESPC II Facility Improvement Summary FY10

Facility Improvement Measure	Description	Quantity	Electric Savings	Electric Demand	Gas Savings	Water Savings	Labor Savings
			kwh/yr	Savings KW	DKTH/yr	gal/yr	\$\$\$
Fairfax Campus Outdoor Lighting	Upgrade Metal Halide and High Pressure Sodium Lights to LED Lighting	1678 LED Fixtures	1,237,505				
Prince William Outdoor Lighting	Upgrade Metal Halide and High Pressure Sodium Lights to LED Lighting	184 LED Fixtures	200,675				
Fairfax Campus Parking Garage Lighting	Upgrade Metal Halide and High Pressure Sodium Lights to T-5 High Output Fluorescent Lighting	507 T-5 Fixtures	178,160				
Fairfax Campus Housing Shower Head Replacements	Replace existing shower heads 3.25 gpm with 1.75 gpm shower heads	136 Shower Heads				94	2,105,400
Fairfax Campus Dishwasher Replacement	Replace existing dishwasher in Student Union I	1 Dishwasher	44,756			179	329,400
Fairfax Campus Dishwasher Replacement	Replace existing dishwasher in Johnson Center	2 dishwashers	72,107			288	530,700
Prince William Irrigation System	Install Irrigation system using existing well and eliminate manual watering of grass	1 system					1,440,000
Prince William Sterilizer Controls	Install tempering controls on 4 sterilizers at Prince William Campus in Bull Run Hal	4 Tempering Controls					1,577,000
Fairfax Campus Warehouse	Install infrared Heating in Warehouse					864	
Fairfax Campus Patriot Center Lighting	Office lighting, concourse lighting, canopy lighting to be upgraded	1078 Fixtures	274,493	51			
Fairfax Campus Research I	Install Green Roof						
Fairfax Campus CHCP	Replace Boiler and Burner #2 and upgrade all controls on existing burner:		51,653		10,154		
Prince William Campus Occuquan	Upgrade Lighting and install occupancy sensors	1339 Fixtures	316,633	35			
Prince William Campus Discovery	Upgrade Lighting and install occupancy sensors	1535 Fixtures	280,576	28			
Prince William Campus Bull Run Hall	Upgrade Lighting and install occupancy sensors	962 Fixtures	196,195	20			
Prince William Campus Freedom Center	Upgrade Lighting and install occupancy sensors	196 Fixtures	573,052	46			
Prince William Campus Occuquan	Building automation control recommissioning		130,433			395	
Prince William Campus Discovery	Building automation control recommissioning		182,569			1,606	
Prince William Campus Bull Run Hall	Building automation control recommissioning		408,623			2,392	
Prince William Campus Freedom Center	Building automation control recommissioning		207,677			1,175	
Prince William Campus Occuquan	Demand flow/chilled water control		234,449				
Prince William Campus Discovery	Demand flow/chilled water control		247,008				
Prince William Campus Bull Run Hall	Demand flow/chilled water control		210,698				
Prince William Campus Occuquan	Boiler Primary flow modifications - Install VFD's on Pumps		95,577				
Prince William Campus Bull Run Hall	Boiler Primary flow modifications - Install VFD's on Pumps		54,595				
Prince William Campus Freedom Center	Isolate chillers and primary pumps		14,790				
		Fairfax Campus	2,059,349	51	11,579	5,982,500	0
		PW Campus	3,152,875	129	5,568	0	0
		TOTALS ENERGY	5,212,224	180	17,147	5,982,500	0
		Fairfax Campus \$	123,560.94	\$ 51.00	\$ 86,726.71	\$ 23,690.70	\$ 31,944.00
		PW Campus \$	283,758.75	\$ 193.50	\$ 41,704.32	\$ -	\$ -
		TOTALS \$	\$ 407,319.69	\$ 244.50	\$ 128,431.03	\$ 23,690.70	\$ 31,944.00

Total Cost \$ all Campuses \$591,629.92

5,212,224 KWH
170,147 Therms NG
Equivalency Results 4451 metric tons CO2

Annual greenhouse gas emissions from **873** passenger vehicles

CO2 emissions from **499,043** gallons of gasoline consumed

CO2 emissions from **10,352** barrels of oil consumed

CO2 emissions from **58.7** tanker trucks' worth of gasoline

CO2 emissions from the electricity use of **555** homes for one year

CO2 emissions from the energy use of **386.4** homes for one year

Carbon sequestered by **114,140** tree seedlings grown for 10 years

Carbon sequestered annually by **949** acres of pine or fir forests

Carbon sequestered annually by **44.1** acres of forest preserved from deforestation

CO2 emissions from **185,478** propane cylinders used for home barbeques

CO2 emissions from **24.3** burning railcars' worth of coal

Greenhouse gas emissions avoided by **1,551** recycling tons of waste instead of sending it to the landfill

Annual CO2 emissions of **0.0011** coal fired power plants