

Energy Efficiency at Elizabeth City State University

*Environmental Defense Fund
Climate Corps Public Sector 2010*



Tyrone A. Davis II, MPA
North Carolina State University, MPA Class of 2009
(919) 523-9956
tadavisii@gmail.com

EXECUTIVE SUMMARY

Overview

The Environmental Defense Fund Climate Corps Program places trained MBA and MPA fellows into organizations to identify and analyze energy efficiency investments that can reduce costs and energy use in commercial buildings. The Environmental Defense Fund (EDF) partnered with Elizabeth City State University (ECSU) where a Climate Corps fellow identified and analyzed energy efficiency measures in four facilities.

Energy efficiency measures were identified and analyzed in Bedell Hall, Fine Arts Center, Information Technology Center (ITC) and the KE White Center. These measures included lighting upgrades, data center virtualization and adjustments to HVAC settings.

Analysis and Results

Implementation of the recommended energy efficiency measures can result in \$31,422 annual cost savings. This is a 12% reduction in energy consumption and a 15% reduction in energy costs. With an annual reduction of 369,346 KWh, ECSU can reduce its energy use by 33 American households.¹ Additionally, carbon emissions can be reduced by 190 metric tons, which is equal to taking 31 light trucks or SUV's off of the road each year.²

Recommended projects

Project	NPV of cost savings	Capital Investment	Annual Cost Savings	Annual kWh savings	CO2 reduction (tons/yr)	Payback (yrs)
T12 to T8	\$11,966	\$2,524	\$1,626	13,956	7	1.5
32T8 to 28T8	\$24,660	\$1,227	\$2,866	27,075	14	0.4
Sensors	\$18,160	\$8,350	\$2,760	37,485	19	2.9
Exit Sign	\$610	\$870	\$69	6,840	4	6.1
Data Center Virtualization	\$112,064	\$33,000	\$15,701	171,696	88	2.1
Vending Machines	\$4,696	\$875	\$580	7,875	4	1.5
Window Film	\$6,477	\$11,000	\$1,244	15,127	8	7.6
HVAC Settings	\$63,163	\$0	\$6,576	89,292	46	0
Totals	\$241,766	\$57,846	\$31,422	369,346	190	1.8

Conclusion

The Environmental Defense Fund and Elizabeth City State University provided great support during the fellowship period. ECSU is striving to become a leader in

¹ U.S. Department of Energy, http://www.eia.doe.gov/ask/electricity_faqs.asp#electricity_use_home

² U.S. Environmental Protection Agency, <http://www.epa.gov/oms/climate/420fo5004.htm>

sustainability among both HBCU and public institutions. With the findings of this report, ECSU can begin to achieve those goals.