MOREHOUSE SCHOOL OF MEDICINE

The Hugh M. Gloster Building

ATLANTA'S MOREHOUSE SCHOOL OF MEDICINE (MSM) WAS FOUNDED IN 1975 AND IS KNOWN TODAY AS A NATIONAL LEADER IN EDUCATING PRIMARY CARE PHYSICIANS FOR UNDERSERVED COMMUNITIES. BUILT IN 1982, THE HUGH M. GLOSTER BUILDING HOUSES LECTURE HALLS, LABS, OFFICES, AND AN ANIMAL CARE FACILITY. IT SERVES AS THE HUB OF MSM'S MEDICAL EDUCATION PROGRAM.

The Challenge:

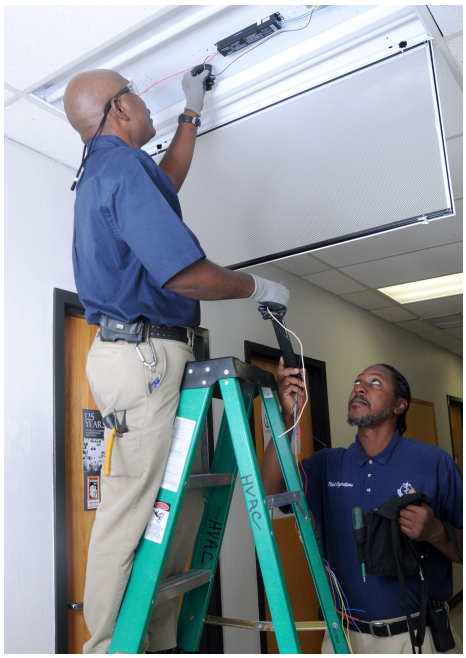
In 2008, to address a growing shortage of primary care physicians across the Southeast, MSM set an ambitious new 2020 goal to double the number of medical doctors it trains annually. To meet this goal, the school will need additional classroom and lab space, and a means to contain building operating costs, especially in the Gloster building, which has been a disproportionally large user of energy.

MSM's Facilities Services team enrolled the Gloster building in the Atlanta Better Buildings Challenge ABBC in late 2011, recognizing that energy-efficient, healthy and comfortable indoor work environments were "must-haves" to attract the caliber of future doctors MSM wanted to train.

"While the Morehouse School of Medicine appreciated and respected the idea of sustainability, we've come to understand that substantial cost savings result when buildings operate at peak efficiency."

Dr. John E. Maupin
President
Morehouse School of Medicine

ATLANTA BETTER BUILDINGS CHALLENGE



MSM UPGRADED 647 FLUORESCENT LIGHT FIXTURES WITH NEW, ENERGY-EFFICIENT BULBS AND BALLASTS TO SAVE OVER $16,000 IN ELECTRICITY COSTS PER YEAR.

The Hugh M. Gloster Building

Year Built: 1982
Size: 95,000 square feet
Occupancy: max. 506 people

Purpose:
To house lecture halls, labs, offices, and an animal care facility.

Ave Annual Electricity Use (pre-retrofit):

2,570,100 kWh
(calculated on a 2009 baseline year)

Ave Annual Water Use (pre-retrofit):

24,721 CCF
(calculated on a 2009 baseline year)

Overall Retrofit Impact:

- Cost savings;
- Reduced environmental impact;
- Improved indoor comfort and lighting;
- Enhanced stature and leadership within the Atlanta University Center, among partners, and throughout the medical community.

The Building Audit:

As an ABBC participant, MSM's Gloster building received its comprehensive audit in the spring of 2012. The audit established a 2009 energy and water use baseline for the Gloster, as follows:

	2009 Annual Cost	2009 Amount Consumed	2009 Resource Equivalent (in Pounds of CO_2)
Electricity	$202,431	2,570,100 kWh	3,839,729 lbs
Natural Gas	$78,750	113,810 CCF	1,372,469 lbs
Water	$453,185	24,721 CCF	n/a
TOTAL	**$734,356**		**5,212,198 lbs**

In addition, the ABBC audit team inspected the Gloster building carefully to provide MSM with a list of high-impact retrofits that would save additional, significant energy and water costs. Together, these enhancements were estimated to bring the school annual utility bill savings of ~$73,300.

Concerned about the cost of retrofitting its aging buildings, MSM was gratified to learn that the investment required to achieve ABBC's projected utility cost savings for the Gloster was ~$168,100. This means that if MSM undertakes all of the recommended retrofit tasks, its investment in energy and water efficiency will be repaid through savings in its utility costs, in just over two years.

The Results To Date:

A Lighting Retrofit Results in Utility Savings and an Improved Work Environment for Building Occupants

Task one for the Gloster building was a long-needed retrofit of its outdated lighting systems. MSM replaced 647 T-12 fluorescent fixtures with new T-8 bulbs and ballasts to produce a higher quality of light, reduce overall energy consumption, and generate a smaller lighting "heat load." This meant less air conditioning would be needed to maintain a comfortable temperature within the Gloster building, even with the new lights; a bonus source of cost savings for MSM.

Gloster's lighting upgrade is now on track for an energy use reduction of over 600,000 kWh per year; equal to annual savings of ~$16,000.

Financial assistance to accomplish this first task came from a Grants to Green matching grant that MSM received from The Community Foundation of Greater Atlanta.

Expected Annual Savings (post-retrofit):

~ 1,011,390 kWh of electricity
~ 897,082 gallons of water

Annual savings of **~$73,300**
Payback period of **~2.2 years**