

# Administration Buildings & Grounds

# Administration Mission

***THE COMMITTEE ON ADMINISTRATION SHALL CONSIDER AND MAKE RECOMMENDATIONS ON POLICY MATTERS PERTAINING TO THE ADMINISTRATIVE OPERATIONS OF THE COLLEGE, INCLUDING SUCH FUNCTIONS AS HUMAN RESOURCES AND SHALL ADVISE THE PRESIDENT OF THE COLLEGE ON MATTERS OF HUMAN RESOURCES POLICY IN REGARD TO ALL EMPLOYEES OTHER THAN INSTRUCTIONAL FACULTY MEMBERS EMPLOYED BY THE COLLEGE; INFORMATION TECHNOLOGY; PROCUREMENT; SUSTAINABILITY AND ANY OTHER MATTERS REFERRED TO IT BY THE RECTOR OR THE PRESIDENT OF THE COLLEGE, PARTICULARLY IN RELATIONSHIP TO THE AUTHORITIES GRANTED UNDER THE RESTRUCTURED HIGHER EDUCATION FINANCIAL AND ADMNISTRATIVE OPERATIONS ACT.***

# Buildings & Grounds Mission

*THE COMMITTEE ON BUILDINGS AND  
GROUNDS SHALL CONSIDER AND MAKE  
RECOMMENDATIONS ON ALL MATTERS  
RELATING TO THE BUILDINGS AND  
GROUNDS OF THE COLLEGE, INCLUDING  
THE NAMING OF COLLEGE BUILDINGS,  
REFERRED TO IT BY THE RECTOR, THE  
PRESIDENT OF THE COLLEGE, OR THE  
BOARD*

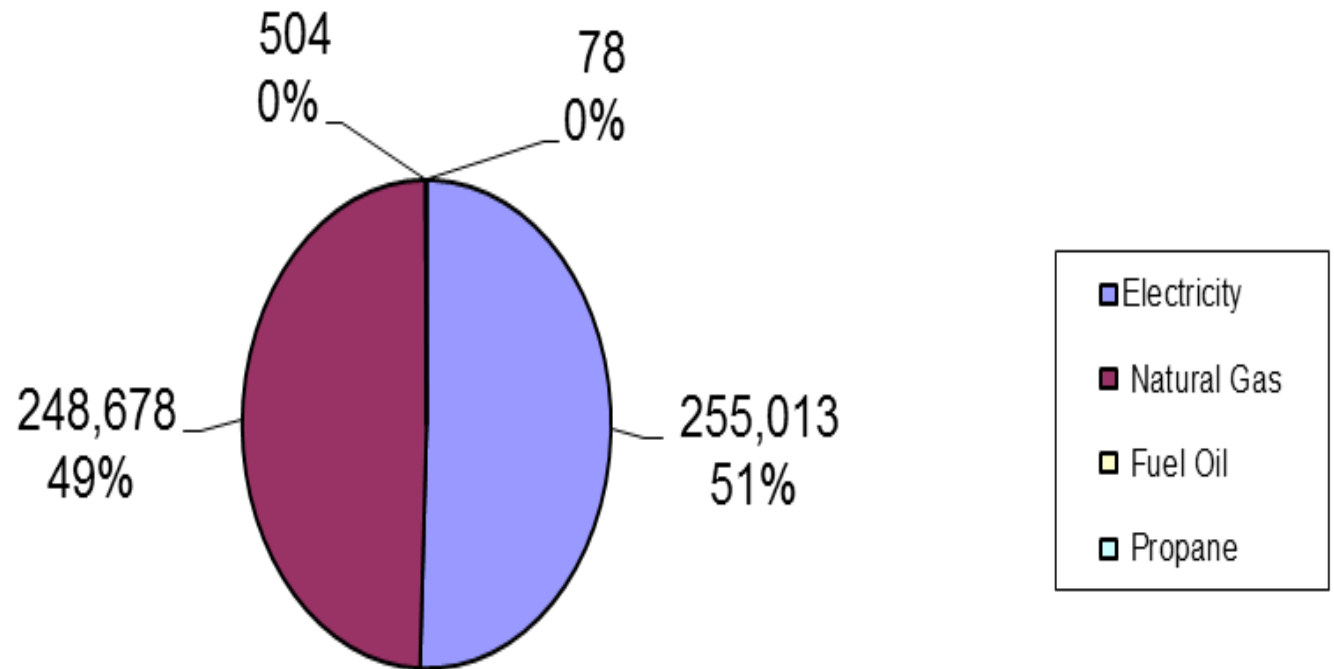
# Buildings & Grounds

## *Primary Responsibilities*

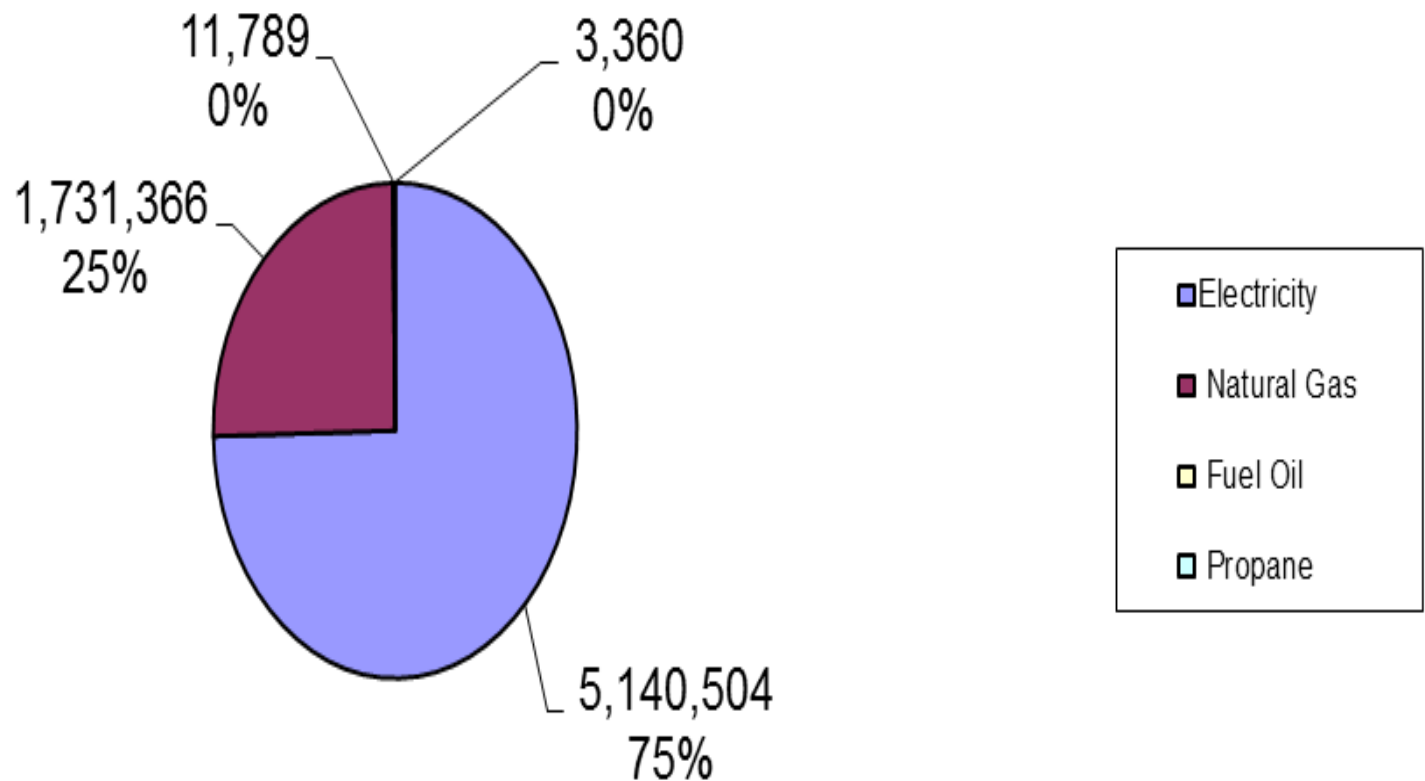
- ESTABLISHMENT OF ARCHITECTURAL STANDARDS FOR BUILDING AND LANDSCAPE DESIGN
- OVERSIGHT OF THE CONSTRUCTION, RENOVATION AND MAINTENANCE OF FACILITIES
- APPROVAL OF CAPITAL OUTLAY SIX-YEAR PLAN
- OVERSIGHT OF BUILDING OFFICIAL

# College of William & Mary Energy Management Program

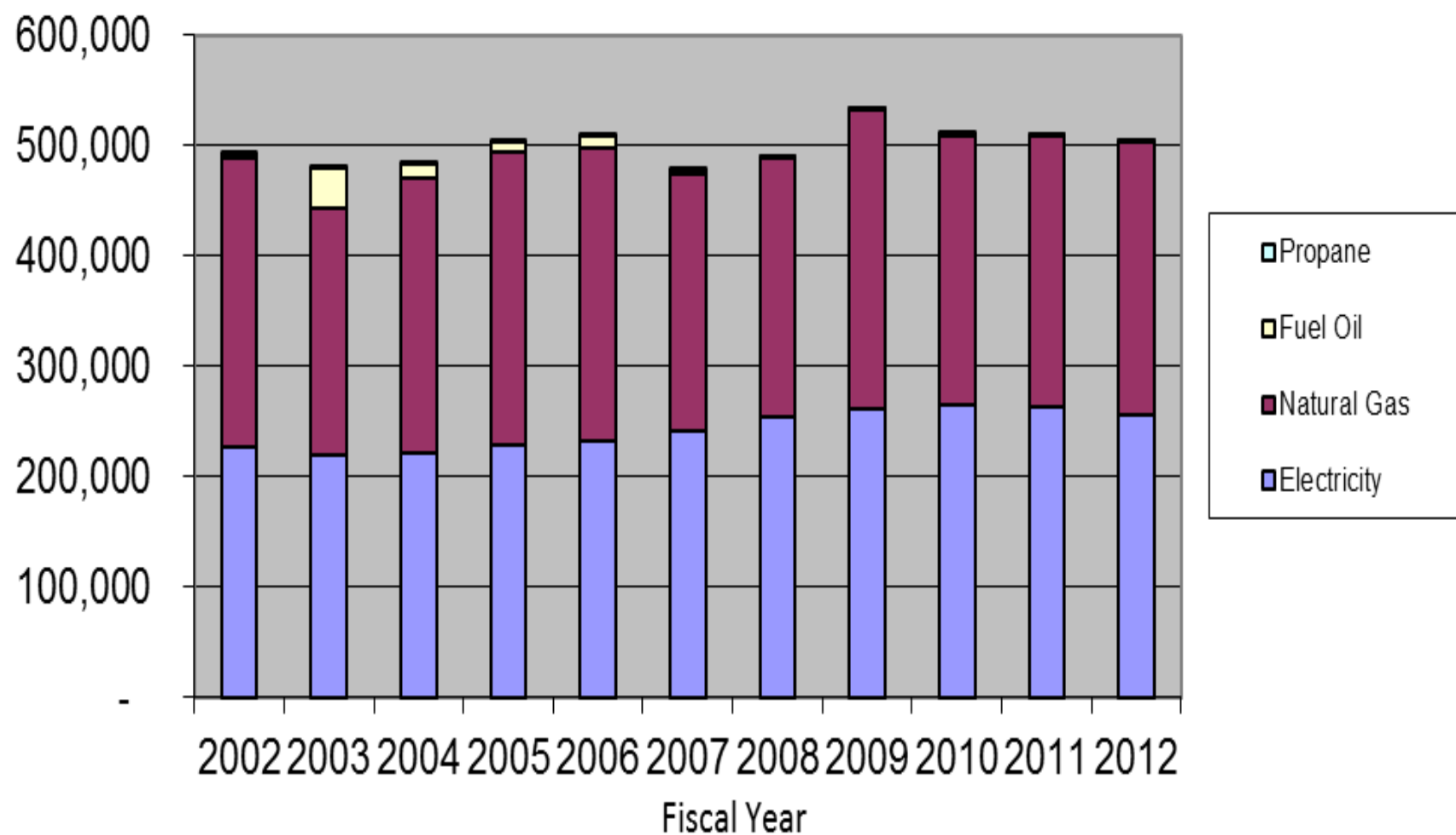
# W&M CAMPUS FY2012 ENERGY USE (MMBTU)



# W&M CAMPUS FY2012 ENERGY COST (\$)

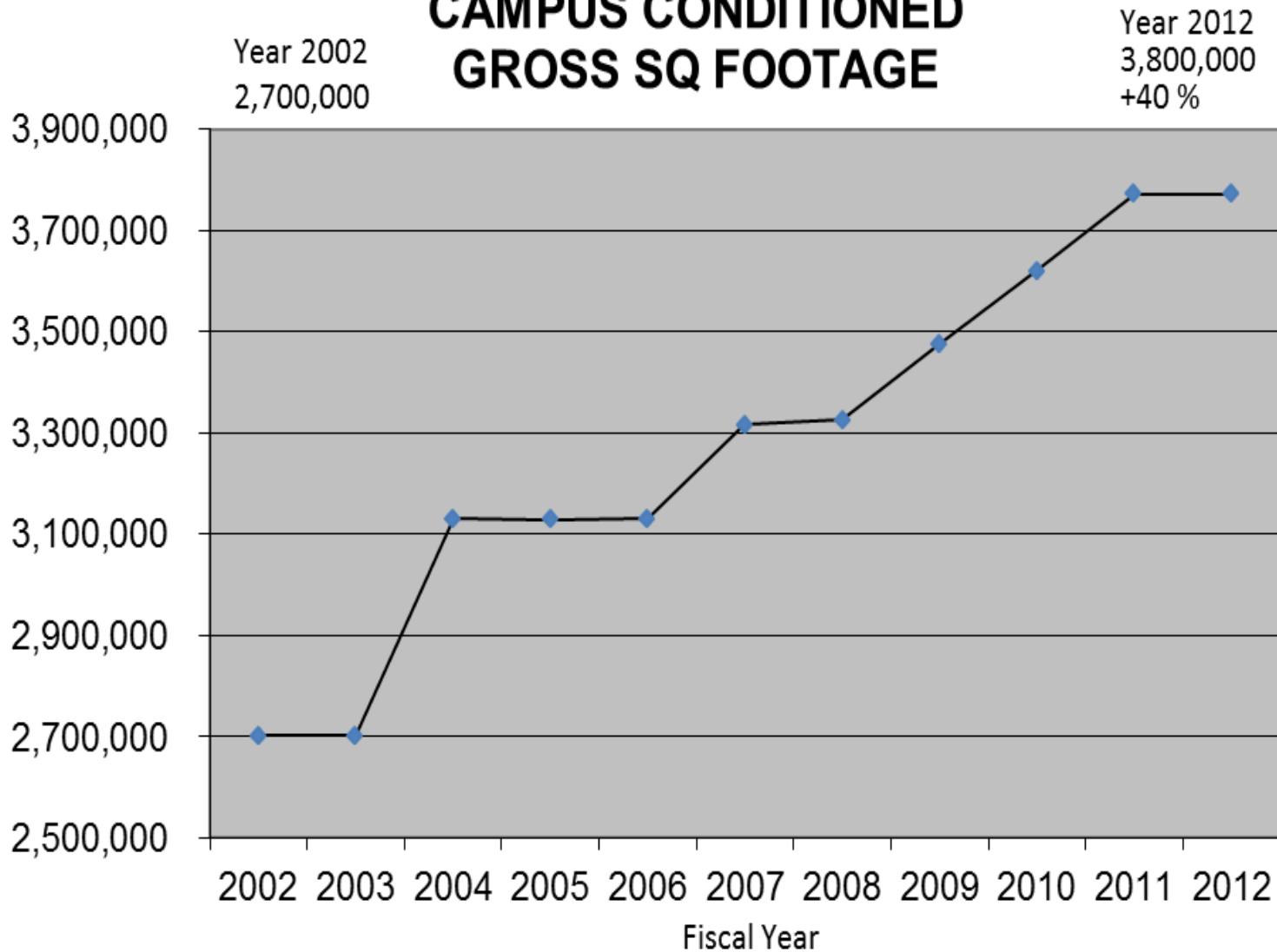


## W&M CAMPUS ENERGY USE (MMBTU)

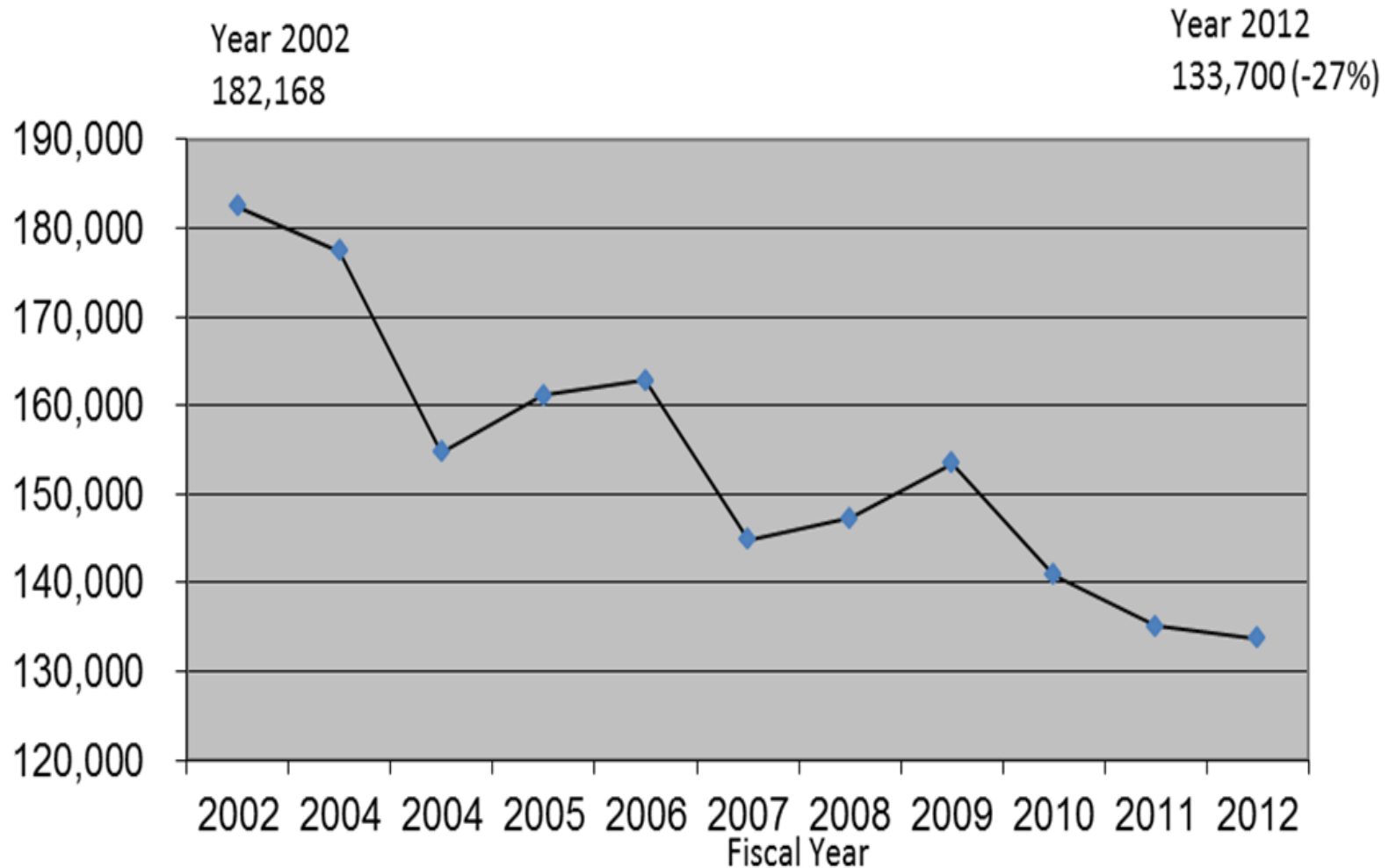




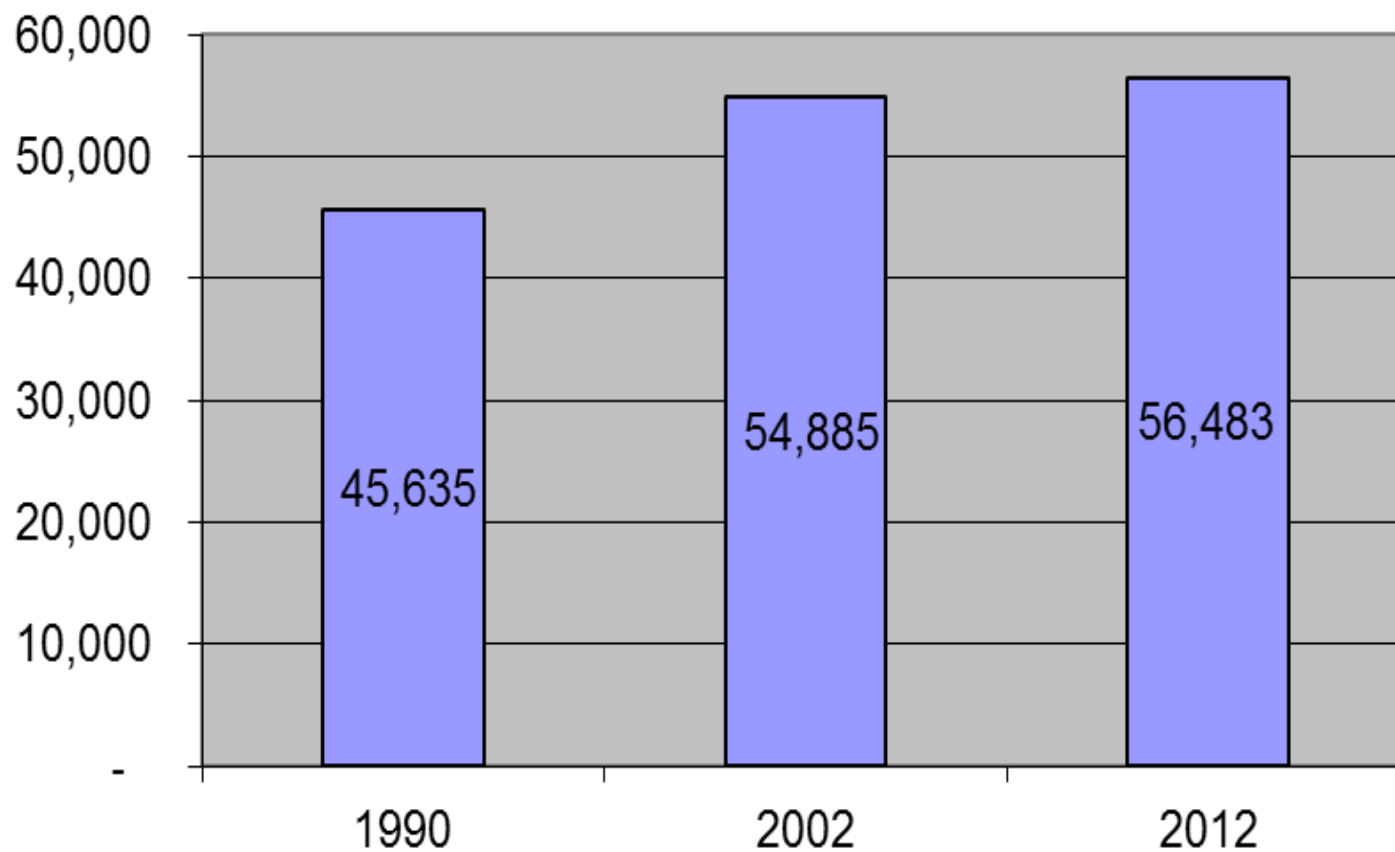
# W&M CAMPUS CONDITIONED GROSS SQ FOOTAGE



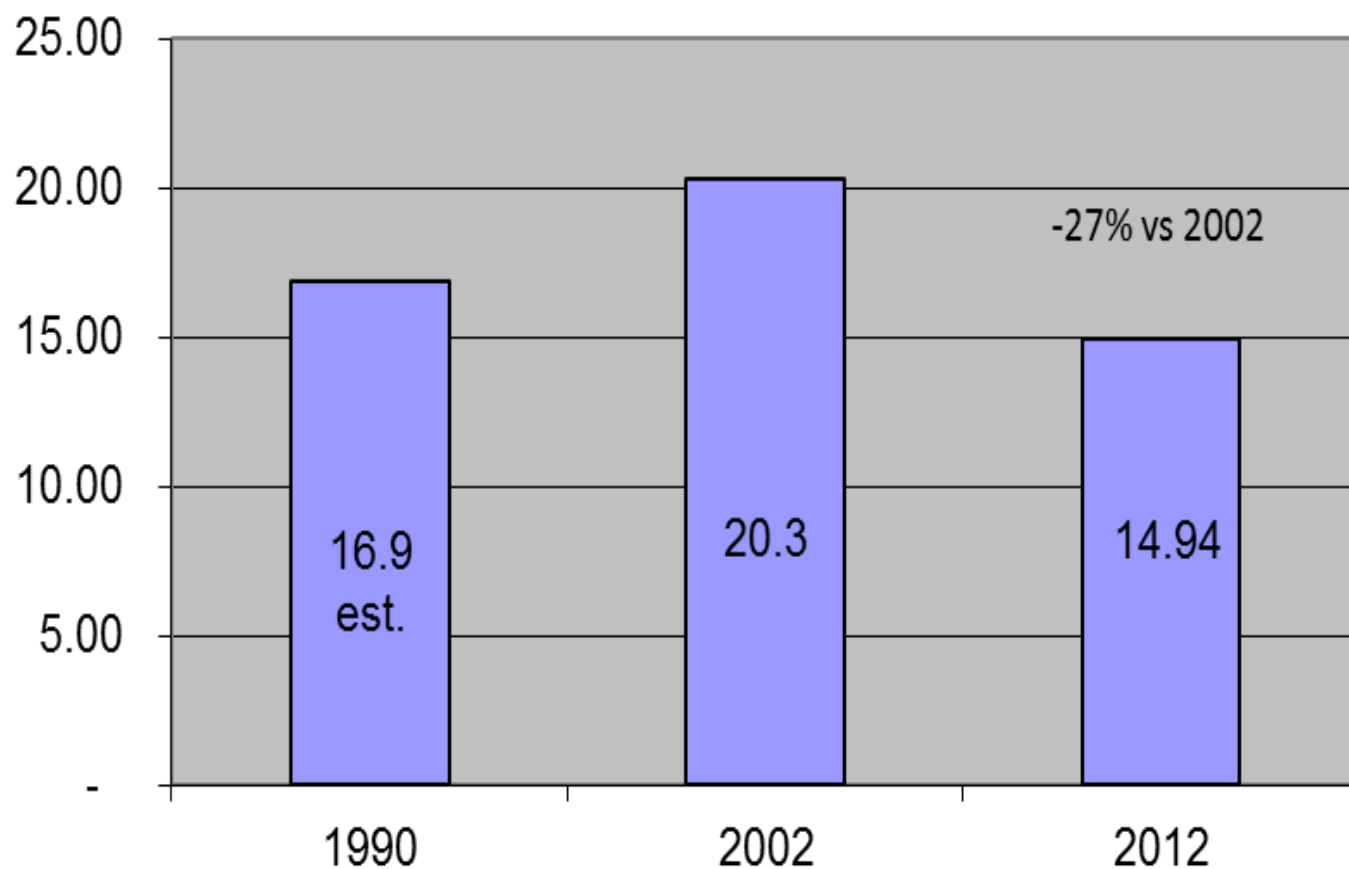
# W&M CAMPUS BTU PER GSF



## W&M CAMPUS Equivalent CO2 Emissions (MT)



## W&M CAMPUS Equivalent CO2 Emissions (MT/1000 GSF)



# CURRENT TOTAL CAMPUS ENERGY USAGE

	<u>FY12/13</u>	<u>FY13/14 (Projected)</u>
TOTAL COST (million)	\$6.9	\$5.9
TOTAL MMBTU (million BTU)	504,300	499,600

# PROGRAM BASIS

- Use a broad based systematic approach
- Use multiple funding sources
- Maximize return on investment
  - ROIs of 2 to 11 years depending on project
- Take advantage new construction and renovation projects to improve efficiency
- Implement projects that also reduce future maintenance efforts and maintain comfort conditions

# FUNDING SOURCES

- Capital Projects
- Maintenance Reserve
- Facilities Management Operations & Maintenance Budget
- Auxiliary Operating Budgets – i.e. residence life, dining services, utilities
- Student Green Fees
- External Funding- Energy Service Company (ESCO)

# CONSTRUCTION & RENOVATION

- More efficient building design
  - LEED Requirements
  - Technical Standards
  - Lighting, Bldg Envelope, Controls
- Steam Plant Renovation
  - Smaller more efficient boilers
- Main Chiller Plant
  - Consolidation of single building systems, greater efficiency
- Underground Utilities Piping
  - Reduction in leaks, better insulation



# FOCUSED RENOVATION ACTIONS

- Lighting Efficiency & Controls Retrofits
  - Conversion of obsolete incandescent and fluorescent systems
  - Occupancy Controls
  - Use of new LED technologies- Interior and Exterior
- Building System Controls Replacement & Upgrades
  - Replacement of old pneumatic with digital controls (James Blair, Jones, Morton)
  - Greater use of remote computer access
- Programmable Thermostats
- Electric Metering

# PREVENTIVE ACTIONS

- Operational Plant and Building Monitoring
  - Optimizing equipment to reduce flows and load equipment
- Steam Trap Program
  - Leak prevention
- Water Treatment
  - Efficient heat transfer
  - Cooling tower efficiency
- Air Filter Replacement Program
  - Increased air flow
  - Efficient heat transfer
- Preventive Maintenance Program
  - Inspection, lubrication, belt condition
- Spot Lighting Retrofits

# ESCO CONTRACTS

- A funding mechanism which partners the College with a private entity
- The private entity funds the design and installation of energy reducing technologies
- The College repays the investment with cost savings generated by the new systems
- Avoids the client need for capital
- Cost recovery is lengthy; contract term can be longer than the life of the installed equipment
- College has used once for the W&M Hall Project. ROI is 17 years
- Based on the amount of effort expended and the ROI, the College would not pursue use of this mechanism again.

# PURCHASING & SPECIFICATIONS

- Natural Gas Purchasing Strategies
- Energy Star Appliances
- Efficient Motor Replacements/Procurement
- Lighting Fixture and Lamp Standards

# CHALLENGES

- Campus Growth
  - Between 2002 and 2012, College GSF grew 40%
  - Recently added One Tribe Place – approx. 330,000gsf
  - Will add ISCIH and Performing Arts Quarter
- Addition of buildings with intensive energy use (science buildings, dining halls)
- Addition of air conditioning in residence halls
- Building age and architectural restrictions
- Increased demands of technology
- Energy rate increases
- Funding stream

# PEER REVIEW

## — Peer Review

- Student directed survey of other Virginia colleges to assess key metrics. (supported by Green Fee)
- Comparison of Energy Usage (BTUs per gsf) in 2010
  - CWM 133,700
  - JMU 143,111
  - VCU 2 143,900
  - UVA 146,400

# CONCLUSION

- A 27% reduction in energy usage per gsf over the past 10 years.
- Steady Progress
- Long waiting list of improvement projects
- Funding/Internal Support is key to the pace of increased efficiency

# Buildings and Grounds



# DESIGN AND CONSTRUCTION UPDATE

- Recently completed projects
  - The Brafferton Renovation
  - Tucker Hall Renovation
  - Fraternity Housing Complex
  - Sadler Dining Hall Expansion & Renovation

# ONE TRIBE PLACE TIMELINE

- August, 2013 - Open residential facility
- December, 2013 - Complete Laundry Room  
- Complete Condition Assessment
- Spring, 2014 - Open additional parking lots
- Spring, 2014 - Complete plan for use of remainder of the facility  
- Develop renovation schedule

# PROJECTS IN DESIGN

- TYLER HALL
- ISC III
- LAW SCHOOL ADDITION & RENOVATION

# PROJECTS IN FEASIBILITY

- ARTS QUARTER
- ZABLE STADIUM RENOVATION
- ALUMNI HOUSE EXPANSION

# ARTS QUARTER PROJECT

# THREE-PHASED PROJECT

- PHASE I – MUSIC
  - New construction
  - \$52.3 million
  - 2014-2016 biennium of Six-Year Capital Plan
- PHASE – THEATER, SPEECH & DANCE
  - Renovation & Expansion
  - \$59.5 million
  - 2016-2018 biennium of Six-Year Capital Plan
- PHASE III – ART & ART HISTORY
  - -Renovation & new construction
  - \$32.1 million
  - 2018-2020 biennium of Six-Year Capital Plan

# PHASE I - MUSIC

- 450-seat concert hall
- 125-seat recital hall
- Instrument & choral rehearsal rooms
- Practice rooms
- Teaching studios
- Classrooms & seminar rooms
- Non-western music, historic keyboard & percussions rooms
- Resource Center

# PHASE II – THEATER, SPEECH & DANCE

- Renovated 500-seat proscenium theater
- 250-seat studio theater
- Renovated 100-seat lab theater
- Performer & Audience Support Spaces
- Costume & scene shops
- Acting studios
- 60-seat dance recital theater
- Dance rehearsal studio
- Classrooms & seminar rooms
- New lobby and box office

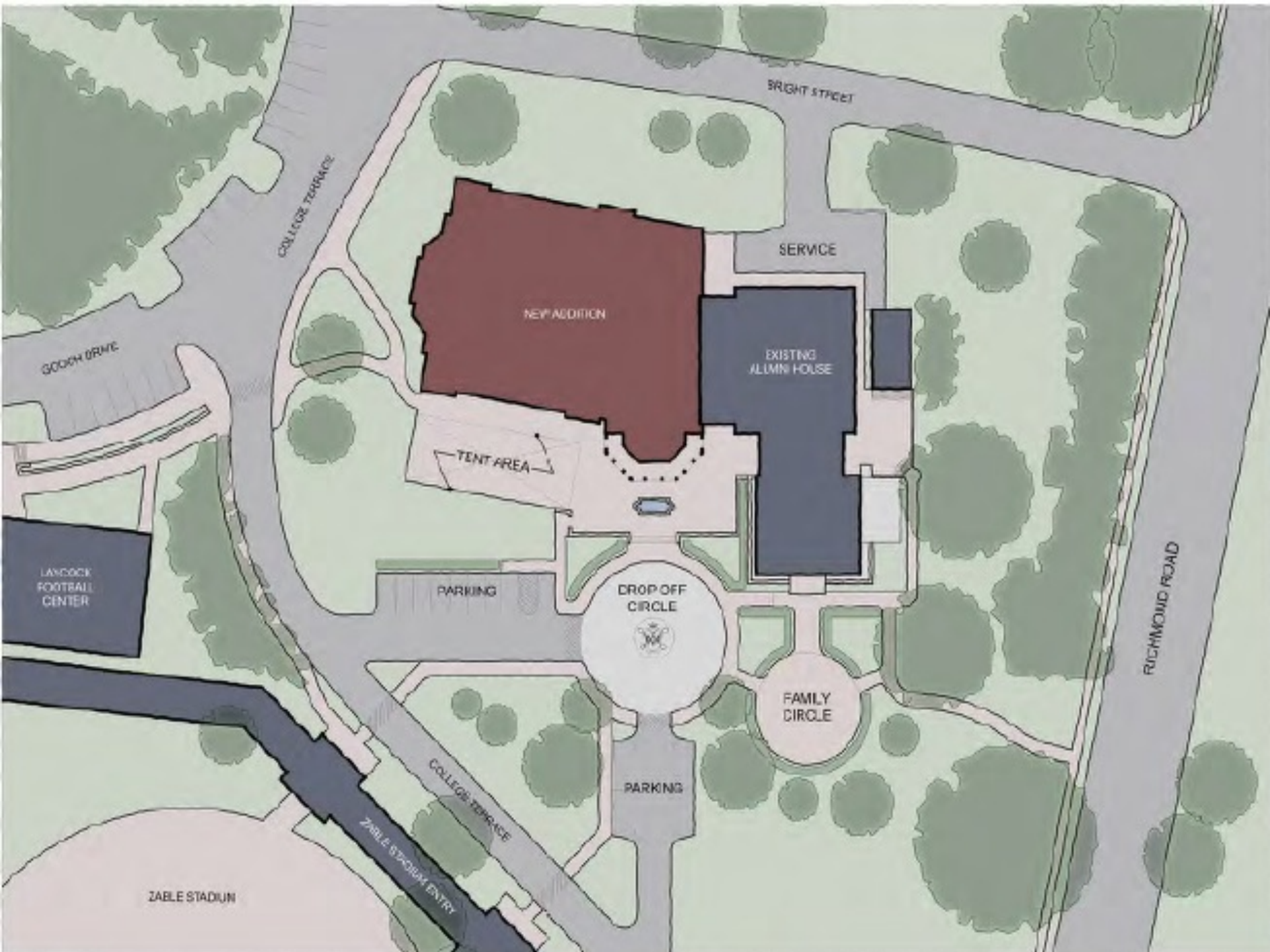


# PHASE III - ART & ART HISTORY

- 2D art studios
- 3D art studios (ceramics, sculpture & architecture)
- Printmaking studio
- Outdoor kiln yard & workspace
- Art history classrooms
- 150-seat lecture hall
- Visual resources center
- Gallery



# ALUMNI HOUSE EXPANSION











# RESOLUTIONS

- 9(D) Pooled Bond Program: Athletic Facilities, Auxiliary Facilities, Marshall Wythe School of Law and Acquire Property & Repair Requirements
- 9(C) Revenue Bond Program: Renovate Dormitories
- 9(D) Improve Auxiliary Facilities (Sadler Center Dining Hall)