NC STATE UNIVERSITY

Holiday Energy Savings Initiative Report FY 2019

Program Overview

- Project Description
  - The NC State campus closes annually for the Winter Holiday. During this time, building thermostat temperature setpoints are lowered, unnecessary lights and equipment are turned off, and doors and windows are closed to reduce utility consumption. These tasks are called energy conservation measures (ECMs). The setback temperatures are approximately 60°F. This temperature range ensures buildings are not damaged from freezing conditions, while at the same time providing opportunities for energy conservation. Cooling thermostat setpoints are adjusted upward to approximately 80°F, in the event that warm weather leads to a call for cooling in the buildings.

- Business Case
  - By setting back buildings, NC State can save natural gas and electricity thereby avoiding utility costs and lowering carbon emissions.
  - During the FY 2019 Holiday Energy Savings Initiative (HESI), **$389,706** in energy costs were avoided. Since the established baseline in FY 2005, the program has avoided **$4,075,491** in energy costs.

- Exemption Process
  - The program has a formal exemption process that allows select buildings and building zones to remain at normal heat and humidity operating levels throughout the setback period.
  - Research labs, occupied residences halls, and special need areas (library and art collection standards) are automatically exempt from the temperature setbacks.

- Education and Outreach
  - The campus community is informed about the program through email and routine media outlets, such as flyers, campus digital billboards, and social media.

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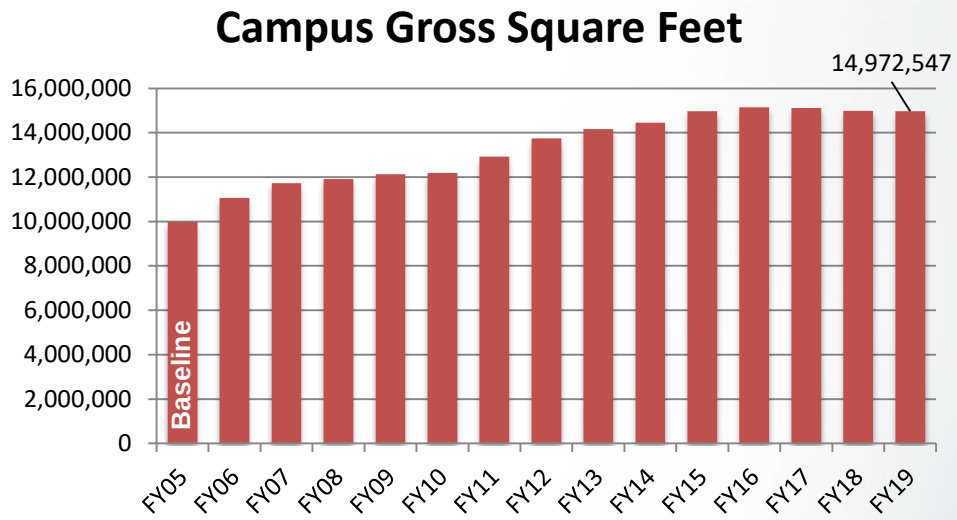
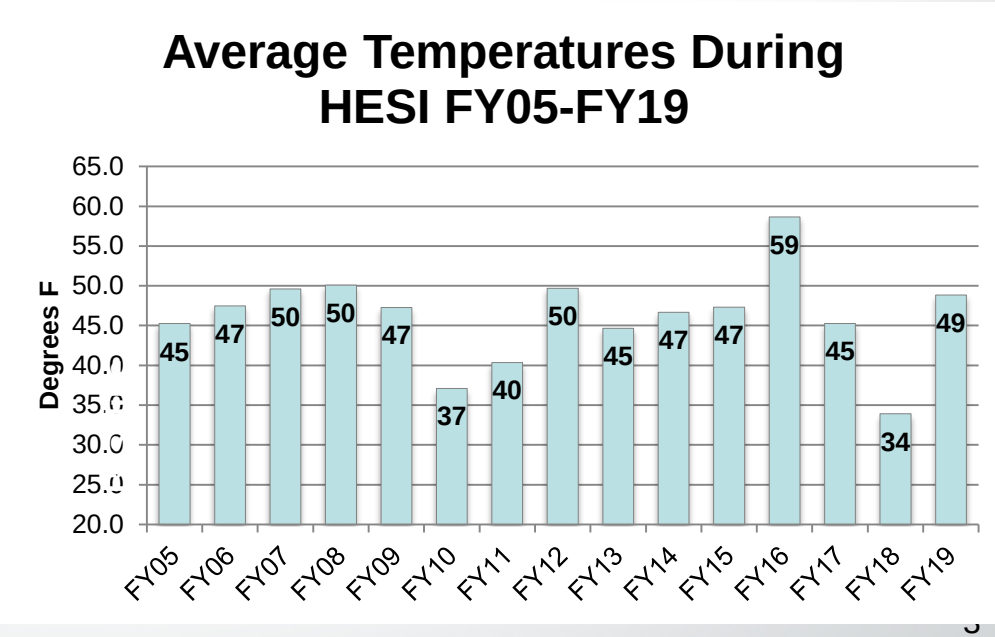
- Growth of NC State's Campus
  - NC State has grown rapidly, adding 5 million square feet of building space in the last 15 years. Along with this growth, energy consumption is generally expected to grow at a similar rate. In order to compare energy use to prior years, energy consumption per gross square foot (GSF) is the accepted unit of measure.



- The Effect of Weather
  - Colder temperatures equate to a higher demand for energy for heating campus buildings. FY19 saw relatively mild weather during the break, which aided energy saving efforts.



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Holiday Energy Savings Initiative Calendar

LEVEL 1 SETBACK
Temperatures in classrooms & teaching labs will be lowered Dec. 19 - Jan. 6.

LEVEL 2 SETBACK
Temperatures in residence halls will be lowered Dec. 20 – Jan.1.

LEVEL 3 SETBACK
Temperatures in all university buildings not exempt from the program will be lowered Dec. 22 - Jan. 1.

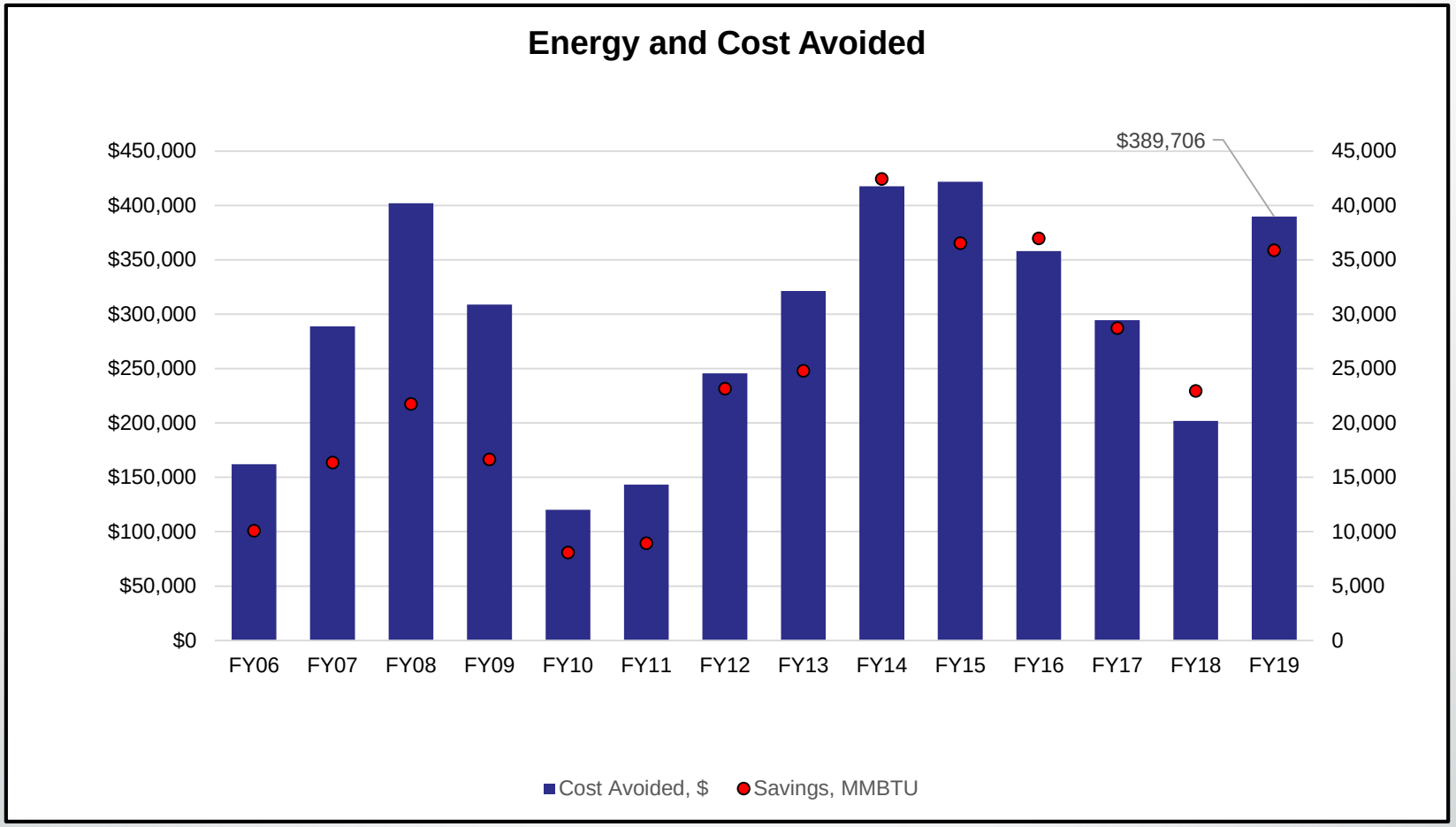
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Dec. 9	10 Final Exams Begin	11	12	13 Deadline for Energy Savings Exemption Requests	14	15
16	17	18 Final Exams End	19 **Setback Begins for Classrooms & Teaching Labs**	20 **Setback Begins for Residence Halls**	21	22 **Campus-Wide Setback Begins**
23	24	25	26	27	28	29
30	31	Jan. 1 **Campus-Wide Setback Ends**	2 University and Residence Halls Reopen	3	4	5
6 **Setback Ends for Classrooms & Teaching Labs**	7 First Day of Spring Semester Classes	8	9	10	11	12

FY19 Savings Period Duration

While the complete HESI period lasted for 19 days this year, energy data can only be compared to the 2005 baseline for the period of HESI Level 3. Thus, total energy savings figures quoted in this report are underestimates – actual savings are greater.

Avoided Energy Costs

Avoided energy costs are calculated by comparing the energy consumption during the FY05 baseline and normalizing for the changes in length of savings period and campus gross square footage between the base year and the savings year, and then applying the energy prices for the current savings year. Using this approach, $389,706 in energy costs were avoided in FY19, and a total of $4,075,491 have been avoided since the program began in FY06.



Questions or Comments

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