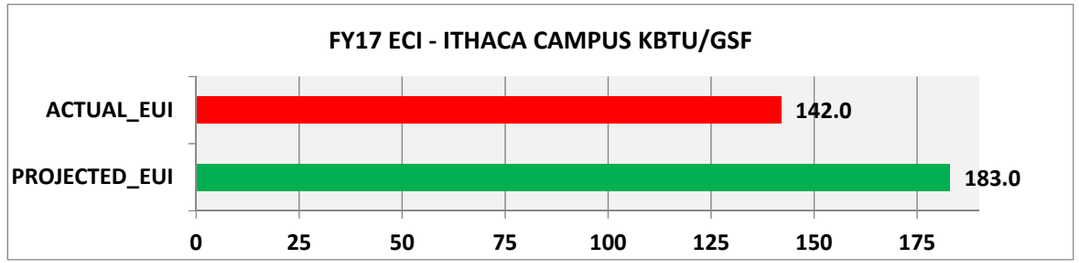
ECI Campus Summary:

Starting in the 2011/2012 fiscal year, a yearly energy metrics analysis is being performed. This analysis supports creating Facilities Metrics and evaluation of the overall campus Energy Conservation Initiative (ECI), part of the Administrative Streamlining Program. The purposes of the analysis are:

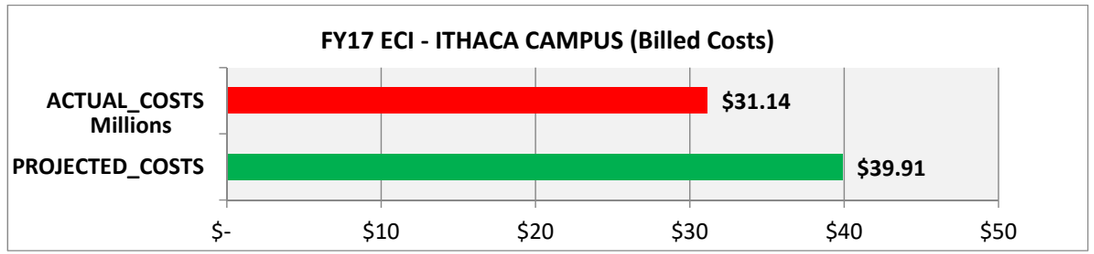
- Document/Measure ECI savings on a campus wide basis. The "projected" usage bar for a building is the weather corrected predicted usage of energy per square foot and is shown together with the "actual" bar for comparison. The projected usage is created based on a "baseline" equation that relates past usage before the start of the 2010-2016 ECI to past weather using regression analysis. Note that all facilities are not part of the campus for ECI analysis purposes (i.e. new buildings, major renovations, are excluded).

- Identify central energy plant connected facilities where energy use intensity (EUI) is trending unexpectedly higher compared with pre-ECI projected values. EUI turns all energy into one common unit "Btu" divided by the gross square feet. Those buildings are then targeted for follow up action to determine why the usage is higher than predicted.



For FY17 Actual EUI is approximately 22% below pre ECI values.

Note: Energy Use Intensity (EUI) is expressed in kBtu's (1,000 British Thermal Units) per Gross Square Foot. Energy use represents the delivered energy for electric, steam and chilled water.



Billed costs are about $ 9 million less comparing pre ECI projected versus actuals. Although the trends indicate reductions, actual net decreases in usage are also affected by variability in occupancy, minor renovations, internal loads and weather which cannot be 100% captured in the analysis.

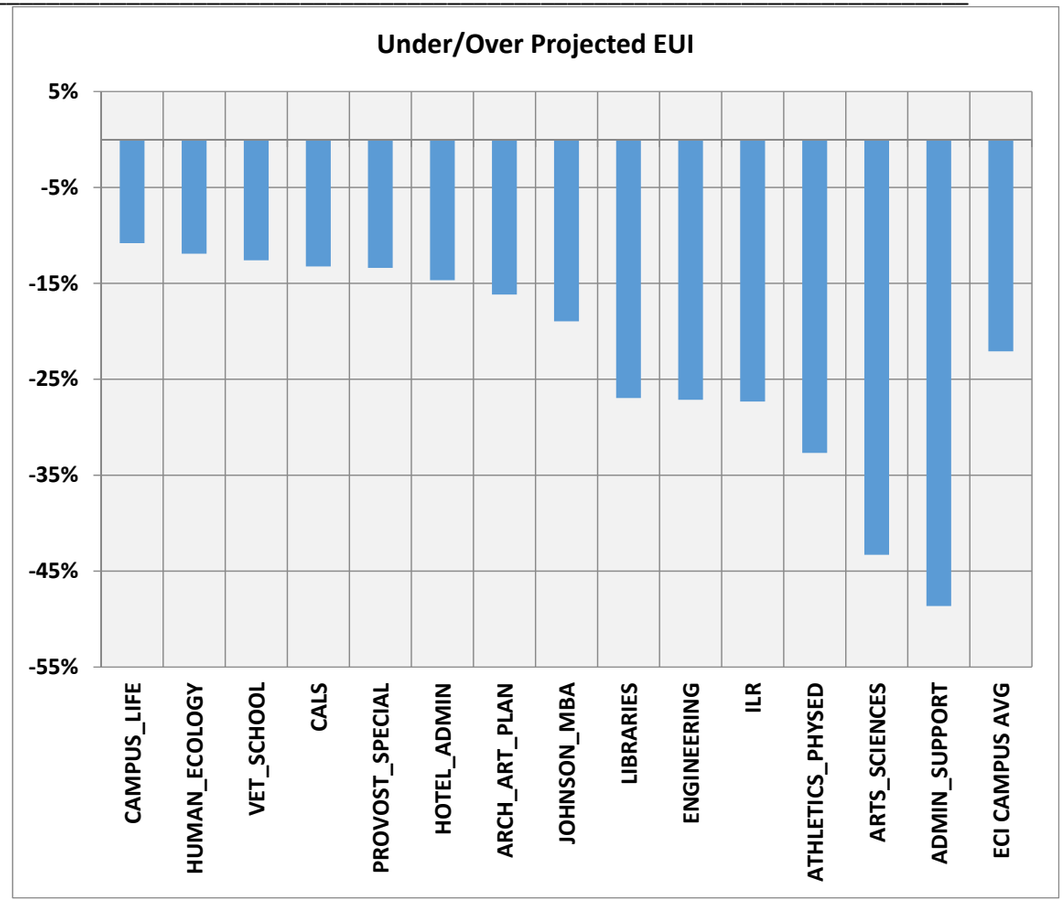
College/Unit Summary

The charts on the following pages provide EUI information by commodity (steam, chilled water and electric) by College/Unit. The analysis at the commodity level uses the gross square footage assigned for each commodity. For example, not as many buildings are connected to the district cooling system compared with those connected to the district steam system. Building space may be occupied by multiple colleges; however, the analysis assigns the energy consumption and dollars to the **majority** space user for each building.

Actual sales in "$" in the charts are rounded for ease of use in comparisons, and will vary slightly from true billed costs. Facilities are billed based on metered consumption. There are separate rates for steam, chilled water (cooling) and electric.

Actual EUIs are lower than pre-ECI EUIs at the College/Unit level. Not all colleges are part of the ECI. For example, the Law School chose not to participate.

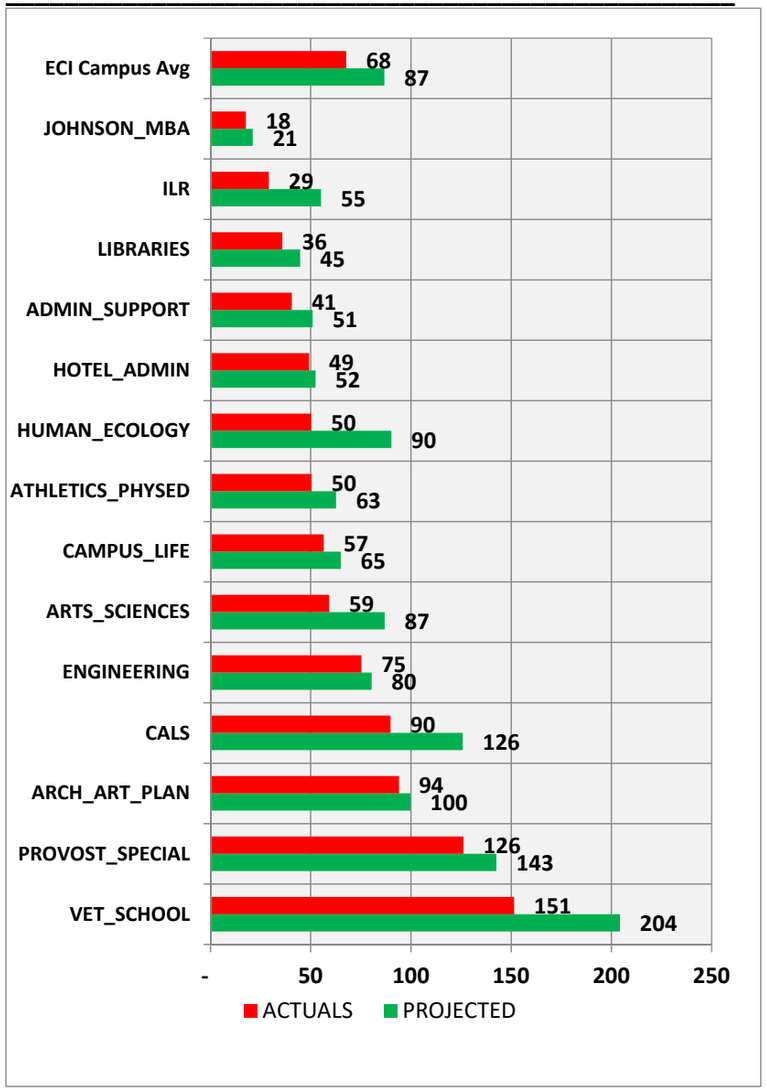
The impact of energy conservation projects and continuous commissioning is clearly dramatically reducing usage versus the pre-ECI baselines.



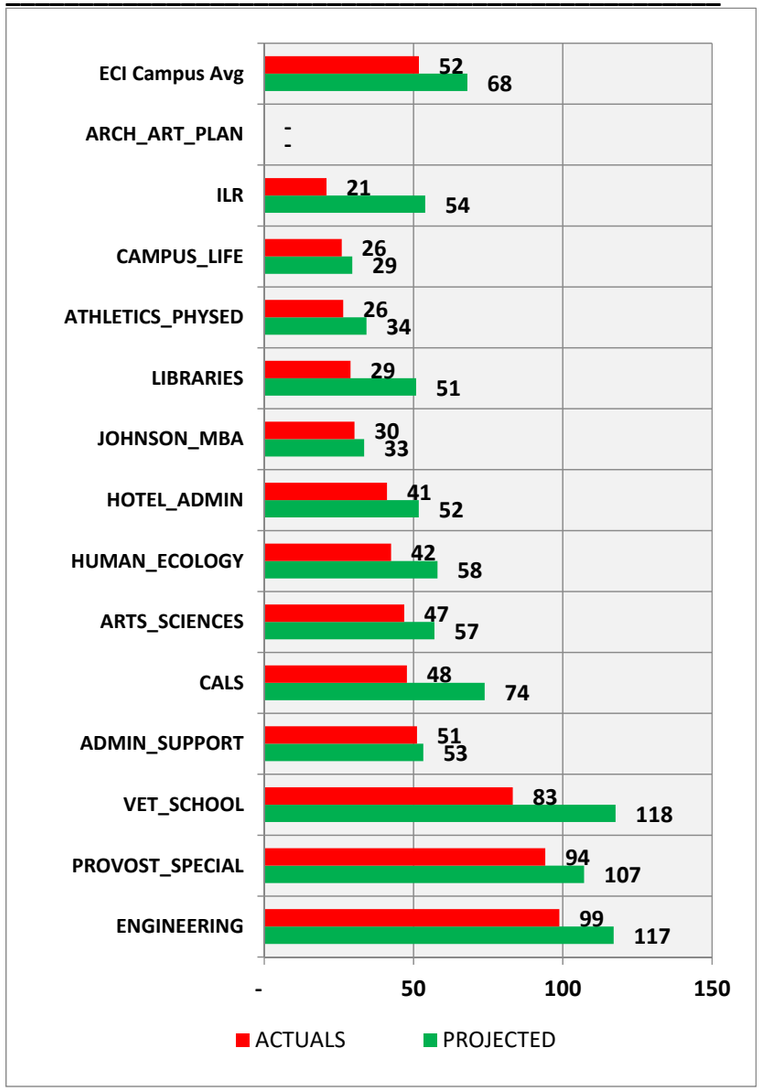
Actual EUI is approximately 22% below pre-ECI values.

Cornell University Energy and Sustainability:
ECI Campus Energy Metrics Fiscal Year 2017 Annual Analysis
College/Unit Energy Use Intensity (EUI)

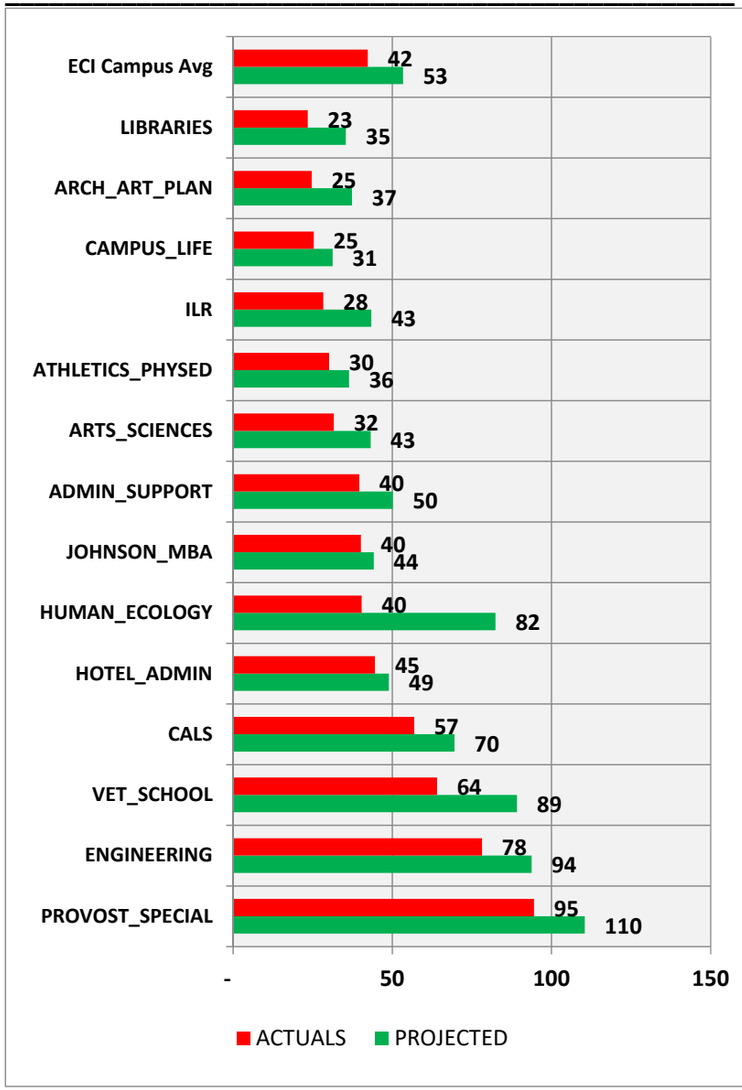
STEAM EUI (kBtu/gsf): 9.5 million GSF



CHILLED WATER EUI (kBtu/gsf): 6.2 million GSF



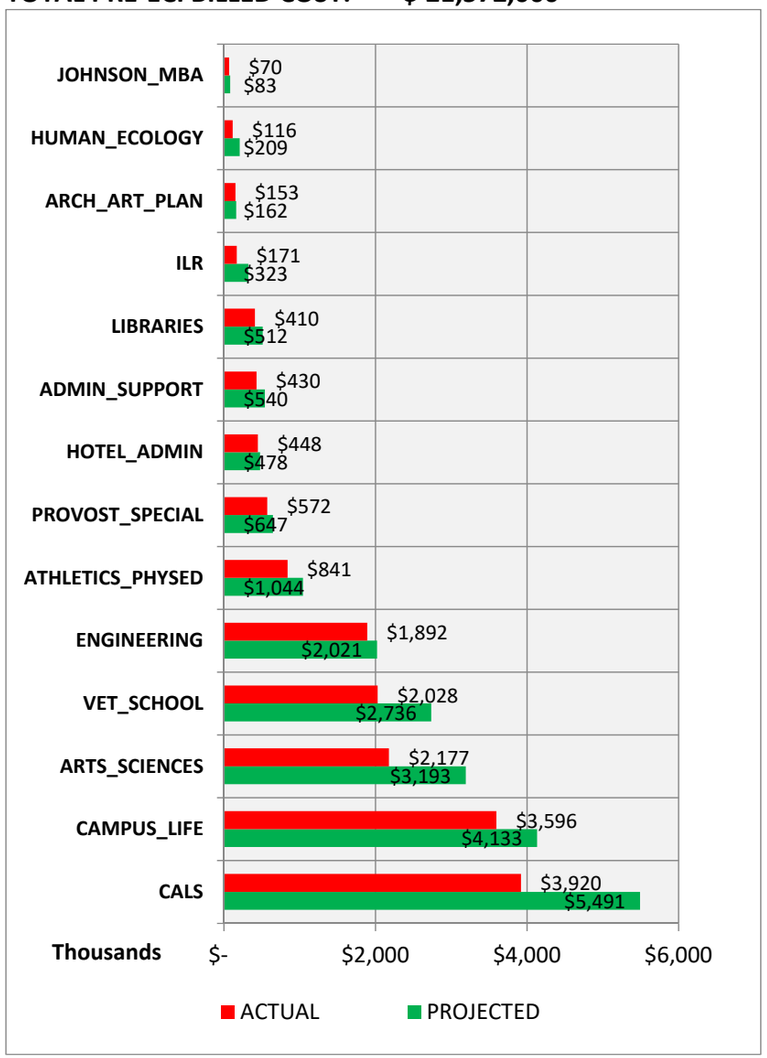
ELECTRIC EUI (kBtu/gsf): 9.7 million GSF



Cornell University Energy and Sustainability:
ECI Campus Energy Metrics Fiscal Year 2017 Annual Analysis
College/Unit Energy Sales

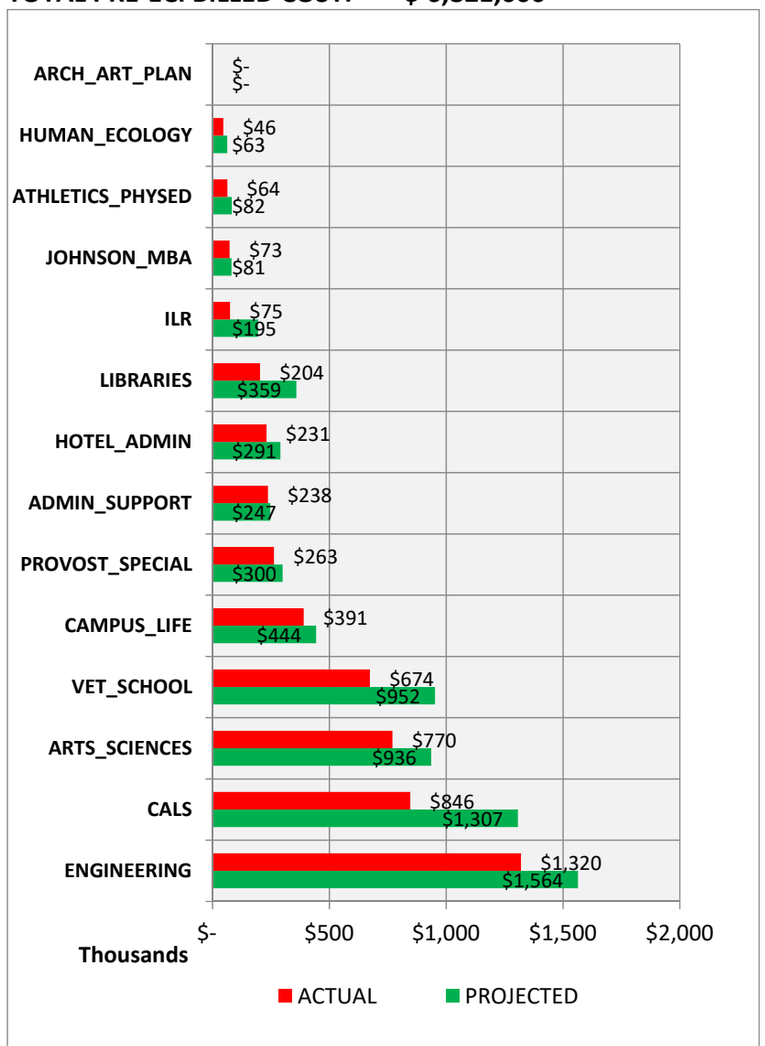
STEAM SALES

TOTAL ACTUAL BILLED COST: $ 16,824000
TOTAL PRE-ECI BILLED COST: $ 21,572,000



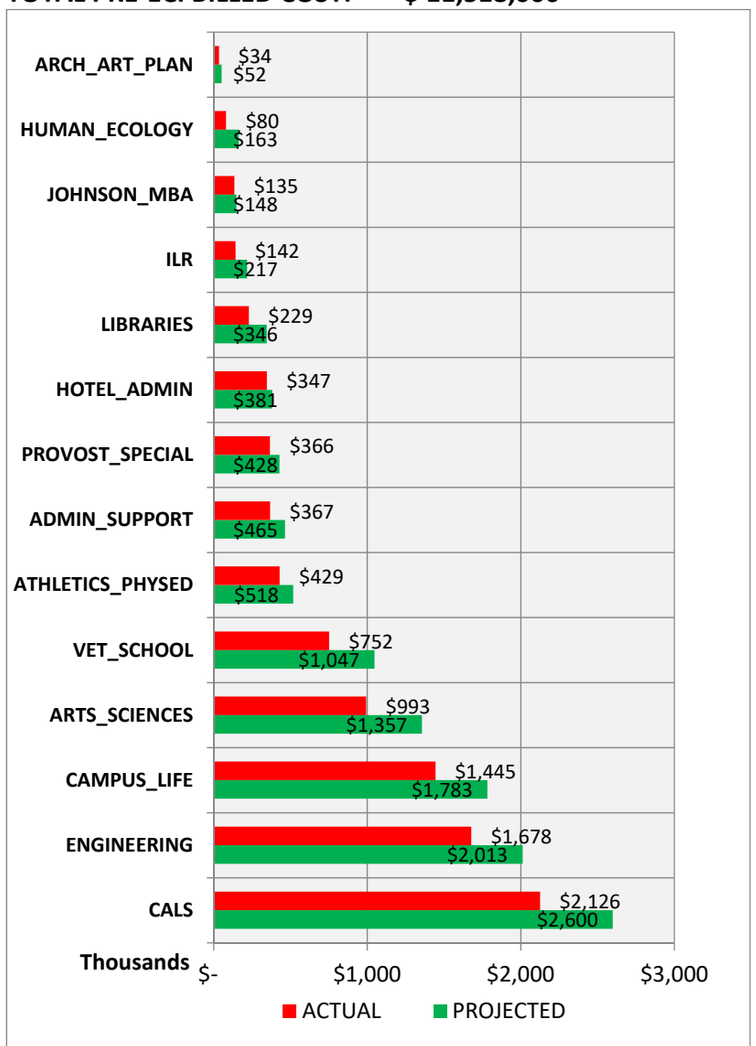
CHILLED WATER SALES

TOTAL ACTUAL BILLED COST: $ 5,196,000
TOTAL PRE-ECI BILLED COST: $ 6,821,000



ELECTRIC SALES

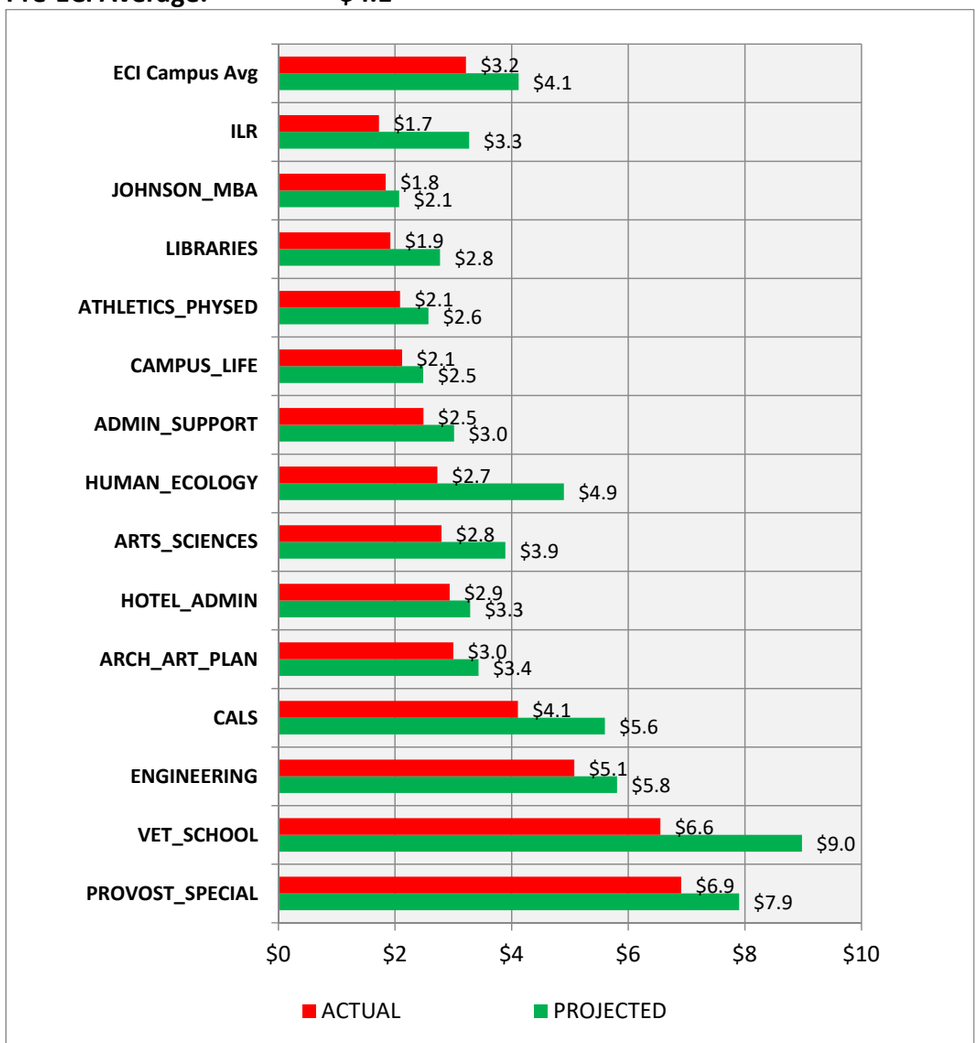
TOTAL ACTUAL BILLED COST: $ 9,124,000
TOTAL PRE-ECI BILLED COST: $ 11,518,000



Cornell University Energy and Sustainability:
ECI Campus Energy Metrics Fiscal Year 2017 Annual Analysis
College/Unit Energy Sales

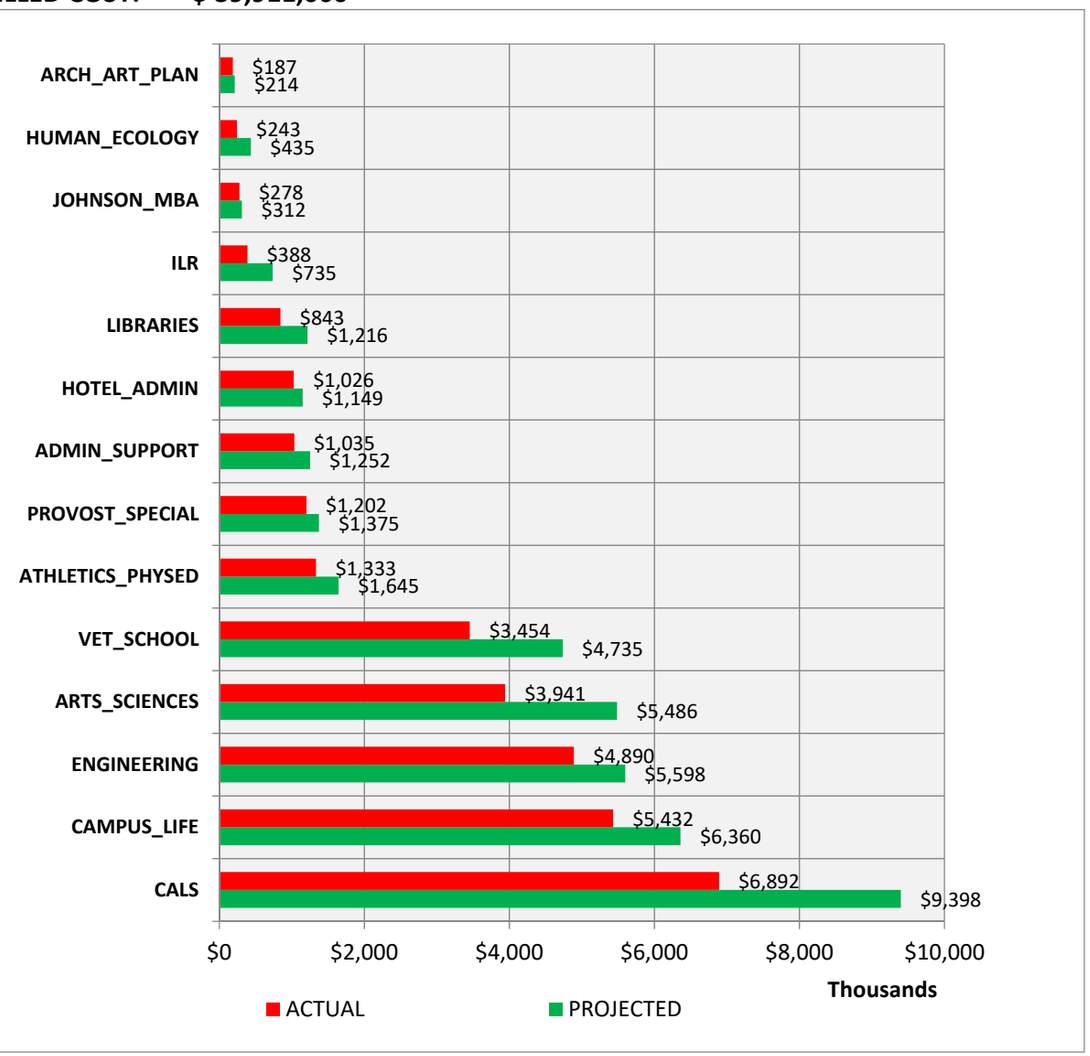
ALL COMMODITIES COST INTENSITY (Billed $ per GSF)

Actual Average: **$3.2**
Pre-ECI Average: **$4.1**



ALL COMMODITIES SALES

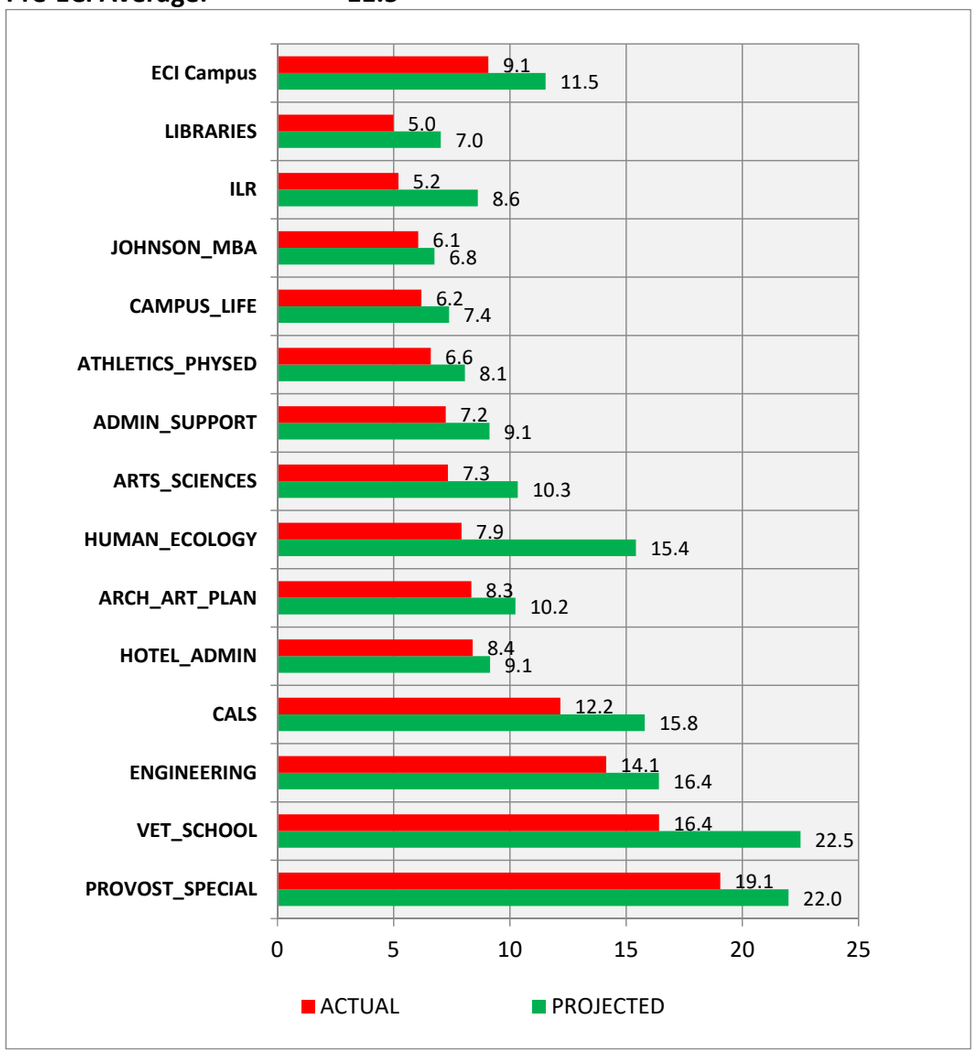
ACTUAL BILLED COST: **$ 31,143,000**
PRE-ECI BILLED COST: **$ 39,911,000**



Cornell University Energy and Sustainability:
ECI Campus Energy Metrics Fiscal Year 2017 Annual Analysis
College/Unit Energy Sales

ALL COMMODITIES CO_2 INTENSITY (kg of CO_2 per GSF)

Actual Average: 9.1
Pre-ECI Average: 11.5



ALL COMMODITIES CO_2 EMISSIONS (METRIC TONS)

TOTAL ACTUAL: 88,000
TOTAL PRE-ECI PROJECTED: 112,000