

Virginia Commonwealth University



Established in 1838, Virginia Commonwealth University (VCU) in Richmond, VA, is dedicated to discovery and creativity. With a diverse student enrollment of over 30,000, it fosters strength in the bold and unconventional, is ranked a top 100 research university, and is home to a first-rate graduate arts school.

In July 2019, VCU designated its Engineering and Utilities building for Tune® installation. Being one of the older buildings on campus, it has undergone multiple renovations over the years. Consequently, it has more breaker boxes per square foot than most buildings of its type. The installation required 17 Tune® devices, whereas most building of its size and type would only require seven or eight.

In the Engineering and Utilities building at VCU, the dollars spent on electricity dropped by 10%, and the raw KWh consumption decreased by 9%, or 12%, after weather normalization.*

RAW MONTHLY KWH USE / 2019 vs 2018 - avg 10% saving

MONTH	2019 BILLED	2018 BILLED	2019 KWh SAVED	2019 % SAVED
July	41,400	43,800	2,400	5%
Aug	40,200	43,200	3,000	7%
Sept	35,700	42,300	6,600	16%
Oct	29,700	32,400	2,700	8%
Nov	31,200	36,000	4,800	13%
TOTAL 2019	178,200	197,700	19,500	10%

12%

KWh SAVINGS WEATHER NORMALIZED*

96% CONFIDENCE FACTOR

100/0
DOLLAR SAVINGS

(ELECTRICITY COST)



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^{*}Information about weather normalization is provided on the following page.



Tune® is perfectly designed to deliver significant energy savings to universities and other multi-building, multi-unit organizations.



WEATHER NORMALIZATION

The heating and cooling of buildings is undeniably the most significant contributor to electricity consumption. The number of heating and cooling days can vary drastically in any given year. To most accurately determine the impact of any electrical savings initiative, data is best normalized for weather. Following is the process in a nutshell.

Smooth Anomalies with NOAA Data

20+ year NOAA history of the subject region to smooth annual weather variations.

Build a Consumption Pattern

A 12-month history of consumption by the subject building is used to create a consumption pattern.

Calculate the Confidence Factor

A confidence factor is calculated to determine that the model can be used to predict future consumption.

Model Consumption

Model the predicted consumption to compare to pre-and post-installation data (also normalized for weather).



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