Power TakeOff



REIT Case Study

COMMERCIAL OFFICE BUILDING

A commercial office building achieved a 24.6% reduction (881,000 kWh) in annual energy use after participating in Power TakeOff's Virtual Commissioning® (VCx®) Program, saving $88,100 in direct NOI and increasing property value by $1.25 million at a 7% cap rate.

The Partnership

A REIT provided Power TakeOff with utility account information for hundreds of properties, which Power TakeOff cross-referenced through its utility database to identify this property, among others, that showed unexpected energy usage spikes throughout the day and overnight.

The REIT introduced the building engineer, whom Power TakeOff virtually met with to share the findings and discuss the data. During the discussions, it was discovered that the boilers were set to turn on even during milder temperatures, explaining the large spikes in usage seen throughout February. In addition, the summer usage showed periods of constant usage, indicating a lack of setback temperatures overnight.

The Action Plan

After understanding the building's occupancy and systems, Power TakeOff created a plan for the building engineer to reduce boiler use in winter and limit continuous overnight use in summer. The building engineer implemented adjustments to their Building Management System (BMS) to align with these recommendations:

- Lowered boiler lockout temperature from 60°F to 45°F
- Increased chiller lockout temperature from 63°F to 80°F to utilize economizers in the shoulder season
- Implemented an extreme weather plan for extreme heat days in the summer to limit running building equipment overnight
- Staggered equipment start-ups to manage peak demand during on-peak hours

These changes required no capital investment and maintained occupant comfort.

$88,100
In Avoided Costs

881,000 kWh
Saved

24.6% Annual
Energy Savings

The Outcome

The building experienced measurable and sustained improvements in energy efficiency following these adjustments:

$1.25 MILLION
property value increase

Achieved through **$88,100** in annual NOI savings, capitalized at a 7% cap rate with no capital expenditure required.

$81,100
in NOI savings

achieved entirely through operational improvements without capital expenditure.

$13,200
in additional annual savings

Estimated annual savings from reduced maintenance and deferred capital replacement costs.[1]

Energy performance gains were maintained, with ongoing monitoring to ensure that savings persisted and to provide early detection of any operational drift.

Peak demand lowered, minimizing strain on the local grid and reducing demand charges.

Improved alignment of HVAC operation with occupancy and seasonal conditions, preventing unnecessary wear on equipment and extending asset life.

These results highlight the impact of data-driven, low-cost interventions and underscore the effectiveness of VCx in commercial facilities where comfort and usability cannot be compromised.

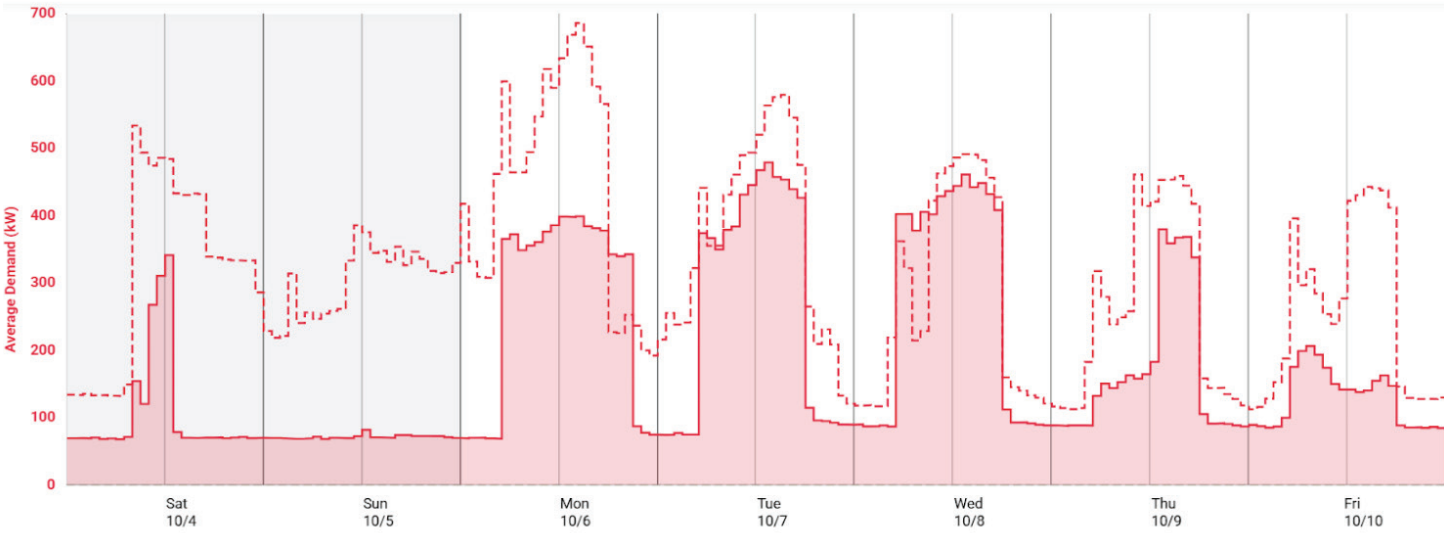


Figure: Comparison of Energy Usage from the Previous Year and the Period After Power TakeOff Intervention.

1. Crowe, Eliot, Evan Mills, Tom Poeling, Claire Curtin, Diana Bjørnskov, Liz Fischer, and Jessica Granderson, "Building Commissioning Costs and Savings Across Three Decades and 1,500 North American Buildings," Lawrence Berkeley National Laboratory, 2020.

Eric A. Woodroof et al., "Energy Conservation Also Yields: Capital, Operations, Recognition and Environmental Benefits," Energy Engineering, Vol. 109(5), 2012.

Since 2007, Power TakeOff has been an industry leader in data-first, virtual utility products and efficiency programs. Specializing in Energy Information Software, Power TakeOff transforms complex utility AMI data into personalized energy efficiency recommendations with proven measurement and verification results. Utilities across North America rely on Power TakeOff to enhance customer experiences, increase revenue, meet efficiency goals, and reduce greenhouse gas emissions. Learn more at www.PowerTakeOff.com.

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