

COMPREHENSIVE ENERGY EFFICIENCY SOLUTION – HEALTHCARE DATA CENTER



The Problem

A regional healthcare provider in southern California came to our team seeking to reduce the energy consumption at their data center facility and to do so with minimal investment.

Prior to engaging with Origyn and our partners, the healthcare provider was spending over \$4.1 million annually in electricity expense to operate the data center with a PUE of about 1.73.

The Solution

Origyn reviewed 12 months of utility bills and the facility's listing of mechanical equipment, and ultimately conducted an onsite audit of the facility and from that Origyn was able to design a plan targeting increasing the efficiency of the facility's existing HVAC equipment along with improving the power quality coming into the facility.

Our plan included outfitting the facility's chillers and roof top units, which served the data space, with smart controls on both the compressors and supply fans, converting them from fixed speed units to variable speed without sacrificing the necessary output. Additionally, we applied a nano polymer coating to the evaporator and condensing coils of these units which helped close microscopic openings that allow treated air to escape while also protecting these components from corrosion and deterioration.

In addition to the improvements on the HVAC equipment, our team installed power optimization equipment at each of the 4 switchgear bringing power into the facility. Through this equipment, we were able to bring the voltage across all three phases of power into balance, make use of transient voltage (which is typically lost to ground), and reduce KVAR (power you pay for but can't really use), all of which helped reduce energy consumption and demand across the entire facility's load.

	Before	After
Annual Electricity Consumption (Kwh)	23,678,034	17,427,412
PUE	1.73	1.54
Annual Electricity Cost	\$4,116,134	\$3,029,539

The results from these improvements proved to be quite drastic from an energy savings perspective. A year after making these efficiency improvements, the healthcare provider saw over a 26% reduction in their energy consumption, resulting in over \$1 million of savings! In addition, they reported fewer service calls on their HVAC equipment and saw significant improvement in their PUE.

No Capital, No Debt..... Just Savings.

This healthcare provider was also able to procure these savings without spending any of their own money or having to take on any debt by utilizing our Energy Savings-as-a-Service program. The Origyn team provided all the capital to get the project installed and commissioned, utilizing a 60 month service term, where Origyn provides service on all installed equipment throughout the term. This structure not only saved the customer \$2.83 million in upfront capital expense, but allowed the healthcare provider to keep the expense off their balance sheet and report it as an operating expense.

As you can see, the healthcare provider was able to maintain \$29,336 a month in savings without spending a penny of their own money, nearly a third of the overall savings, and preserved \$2.83 million of their own money. Those capital savings, along with their energy savings, were later used to expand their datacenter to meet the demands of their growing customer base.

Service Term:	60 Months
Total Monthly Savings:	\$90,549
Monthly ESaaS Payment:	\$61,213
Monthly Savings Retained by Customer:	\$29,336
Customer's Percentage of Savings:	32.3%
Capital Retained by Customer:	\$2.83 Million

