



EAST END STATE OFFICE COMPLEX

Sacramento, California



\$950K

Verified Annual Savings

25,900 MMBTU

Verified Annual Energy Savings

At a glance

CEG Solutions partnered with California's Department of General Services on a \$45M ESPC at the East End State Office Complex to deliver a 36% energy reduction, \$950K in annual savings, and improved resiliency.

Project Highlights

- \$45M ESPC covering 2.2M SF campus
- \$950K verified annual savings
- 25,900 MMBtu energy savings annually
- 448,000 gallons water savings annually
- 36% energy reduction across campus
- 4,600 metric tons Scope 2 GHG avoided
- Utility incentives of ~\$193K

OVERVIEW



The East End State Office Complex houses the CA Department of Education and Department of Public Health across five LEED-certified office towers constructed in the early 2000s. Despite its relatively new design, the complex struggled with failing mechanical systems, siloed proprietary BAS controls, and rising energy costs. CEG was engaged to deliver a performance contract that would renew infrastructure, consolidate controls, and achieve deep energy savings without disrupting daily operations.



STRATEGIES



Deep Energy Retrofit, Energy & Operational Efficiency, Energy Audits, Performance Contracting, Resiliency



Deep Energy Retrofit

Achieved Deep Energy Retrofit Status (40% or more energy savings) in 2 buildings:

- 45% energy reduction in CA Dept. of Public Health HQ
- 57% energy reduction in CA Dept. of Public Healthcare Services HQ

Energy Conservation Measures

- Central plant improvements, including new pony chillers
- BAS consolidation to Tridium Niagara open-source system
- SkySpark automated fault detection & diagnostics
- VFD installation on chilled water, condenser, and AHU fans
- LED retrofits of ~30,000 fixtures with daylight harvesting controls

SOLUTIONS



CEG consolidated multiple proprietary controls systems into a new open-source Tridium Niagara front end, replaced failed hardware with Distech controllers, and added SkySpark automated fault detection for ongoing optimization. In the central plant, three failed natural gas chillers were replaced with two right-sized 165-ton pony chillers, allowing two 1,275-ton chillers to setback ~6,700 hours annually. VFDs were installed on chilled water and condenser pumps, and non-functional AHU supply and return fan VFDs were replaced. Nearly 30,000 lighting fixtures were retrofitted with LEDs and integrated with daylight harvesting controls, cutting load and reducing maintenance.

RESULTS



The project achieved \$950K in verified annual cost savings, reduced energy use by 25,900 MMBtu, and cut water use by 448,000 gallons. Site-wide energy use intensity dropped 36%, lowering the campus EUI from 0.058 to 0.041 MMBtu/SF/year. These measures avoided 4,600 metric tons of GHG emissions annually while extending equipment lifespans, enhancing resiliency for the data center and telecom rooms, and reducing lighting maintenance costs.

