

# Energy Savings Program: Case Study

DGS Office of Sustainability



## DMV Headquarters



DGS Office of Sustainability's Energy Savings Program (ESP) helped the Department of Motor Vehicles (DMV) headquarters install \$8.7M of energy efficient building upgrades – with no upfront investments and entirely paid for through energy bill savings.

### Project Outcomes:

- 33% annual electric bill savings
- 26% annual gas bill savings
- \$607,858 annual energy and maintenance savings
- Department support budget previously reserved for equipment replacement was freed for other needs

### The Need:

DMV's Headquarters (HQ) was LEED silver certified when it was built and was well maintained. But the DMV HQ had not had a major renovation since 2012. Some buildings within the complex had periodic equipment failures or had out-of-date equipment. Additionally, DMV was facing a major expense to replace one building's fan arrays which, according to a recent

**"The project exceeded our... goal. Our DMV department today realizes an ongoing savings in energy expenditures over \$600,000 annually."**

-Sjon Woodlyn, Facilities Operations Branch Chief (DMV)



audit, had “exceeded their useful life and are in jeopardy of failure” within five years.

The DMV facilities leadership set a goal to achieve a 33% reduction in energy use annually and put the ESP team to the task of identifying energy efficiency improvements to save money without upfront costs, improve building operations and controls, and lower greenhouse gas (GHG) emissions.

**DGS ESP Solution:**

DGS partnered with PG&E’s Sustainable Solutions Turnkey program to hire the energy savings company (ESCO) SmartWatt/Centrica. The ESCO identified four facility improvement measures (FIMs) 1. Lighting upgrades involving 12,000 LED fixtures inside and outside of the buildings, 2. Installation of fan arrays, 3. HVAC and controls upgrades, and 4. Solar renewables operational improvements. The verified savings associated with each measure helped DMV pay for the project costs in just 17 years.

**“The teams under the Office of Sustainability are professional, knowledgeable, creative in their approach, and they understand the needs of government.”**

-Sjon Woodlyn, Facilities Operations Branch Chief (DMV)

**DMV Headquarters Verified Energy Project Savings**

FIM No.	FIM Description	Electric Savings (kWh/yr)	Natural Gas Savings (therms/yr)	Total Cost Savings (\$/yr)
1	Lighting Upgrades	3,818,912	0	\$513,287
2	Installation of Fan Arrays	46,305	0	\$42,546
3	HVAC and Controls	91,013	40,621	\$40,823
4	Solar Renewables Operations	106,492	0	\$12,358
	<b>Total Savings</b>	<b>4,062,722</b>	<b>40,621</b>	<b>\$609,014</b>



DMV wanted the entire project funded without upfront costs. DGS ESP experts have decades of experience helping state agencies get the most from their energy savings projects. By bundling several energy efficiency projects together, all projects were able to be funded using the verified energy savings. This freed DMV's support budget that had been earmarked for the fan array upgrades for an entirely different project. DGS ESP project financing experts worked with DMV to identify the right cost-neutral financing option and DGS' low-interest GS \$Mart loan fully financed the project. DGS ESP also helped DMV secure \$282,000 in incentives from the local electric utility.

DMV wanted better building reliability in addition to energy cost savings. Pneumatic variable air volume controls and thermostats were upgraded to digital and integrated with the building management system (BMS). DGS ESP also recommissioned the building's direct digital controls (DDCs) which uncovered several operational improvements. A check-up performed on the existing solar PV equipment uncovered poor wiring and a failed inverter that had been offline for 15 months. DGS ESP's improvements to the solar installation along with cleaning of the panels yielded an 18% increase in solar production.

DGS ESP helped DMV achieve their goals efficiently and painlessly, saving energy, delivering a better performing headquarters building complex, and enabling the staff to use their support budget for other projects.

