



CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION

STATE PARTNERSHIP AND ENERGY EFFICIENCY





CDCR AT A GLANCE



Employees = 56,000+

Inmate Population = 117,000+



CDCR FACILITY BREAKDOWN

- 34 State-owned Adult Institutions
 - 3 Juvenile Facilities
 - Leased Correctional Facility
 - Training Academy
-
- 49 million square feet of State-owned building space on over 24,000 acres of land.
 - Approximately 1.8 million square feet of leased space for administration needs.
 - Additional 489,000 square feet for a private correctional facility.





CALIFORNIA LEGISLATION ENERGY AND SUSTAINABILITY

The Governor has directed California State Agencies to demonstrate sustainable operations and to lead the way by implementing sustainability policies set by the state.

Executive Orders

- B-18-12 Green Building Action Plan
- B-29-15 Water Reduction
- B-30-15 Climate Change
- B-16-12 Zero Emission Vehicles/Fleet

Laws

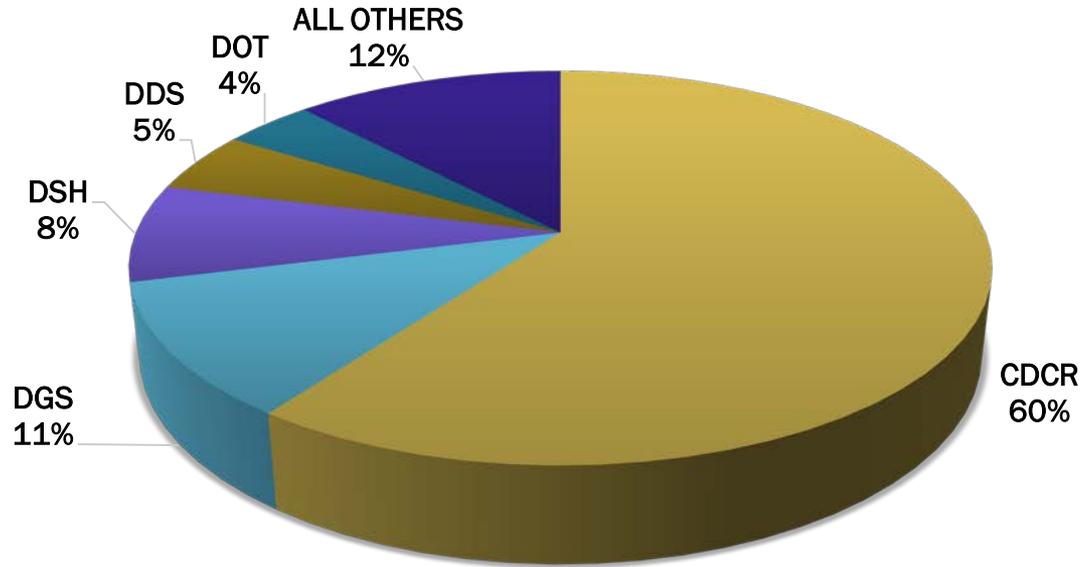
- AB 1826 Organic Waste Recycling
- AB 32 Global Warming Solutions Act
- AB 2800 Climate Change Infrastructure Planning
- SB 32/862 Greenhouse Gas Emission Reduction
- SB 379 Climate Adaptation





STATEWIDE ENERGY USE BREAKDOWN

Based on 2016 data





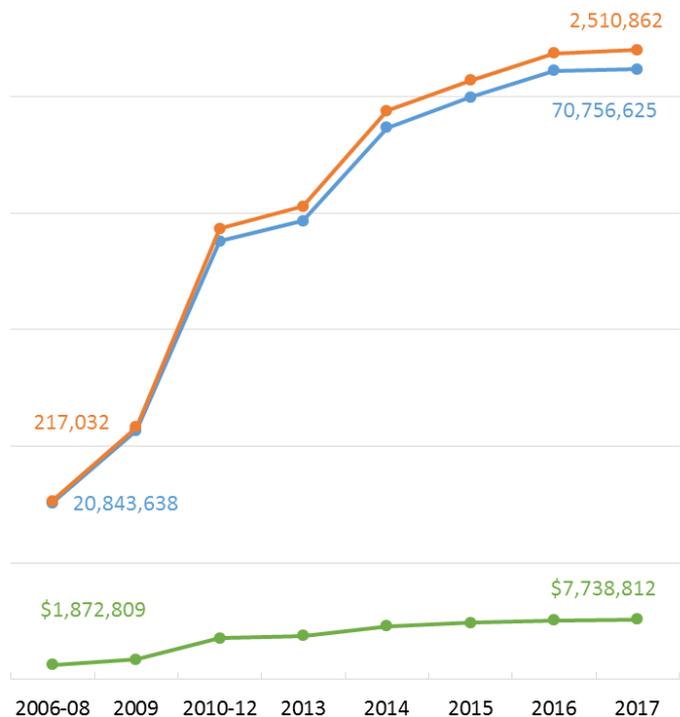
CDCR'S ENERGY SAVINGS

CDCR Energy Savings 2006-2017*

— Natural Gas: CDCR has saved 2.5 million therms of natural gas as of Dec 2017

— Electricity: nearly 71 million kWh

— Dollars: Annual utility bill savings is nearly \$8 million



*Cumulative savings from January 2006 to December 2017

Cycle/Year	kWh/yr Saved	therms/ yr Saved	Annual Cost Savings
2006-08	20,843,638	217,032	\$ 1,872,809
2009	29,475,229	446,793	\$ 2,556,664
2010-12	51,110,480	1,596,227	\$ 5,277,348
2013	53,388,275	1,841,758	\$ 5,611,231
2014	64,105,792	2,157,256	\$ 6,872,607
2015	67,580,757	2,224,575	\$ 7,282,825
2016	70,756,625	2,224,575	\$ 7,569,225
2017	70,756,625	2,510,862	\$ 7,738,812





CDCR/IOU STATE PARTNERSHIP

The CDCR/Investor Owned Utility (IOU's) Partnership is a statewide energy-efficiency program that accomplishes immediate and long-term peak energy demand savings through sustainable, long-term and comprehensive energy management programs at CDCR institutions served by California's four IOU's and the Program Administrator – AESC.





ENERGY EFFICIENCY

Energy Audits

Financing Opportunities



Project Delivery Methods

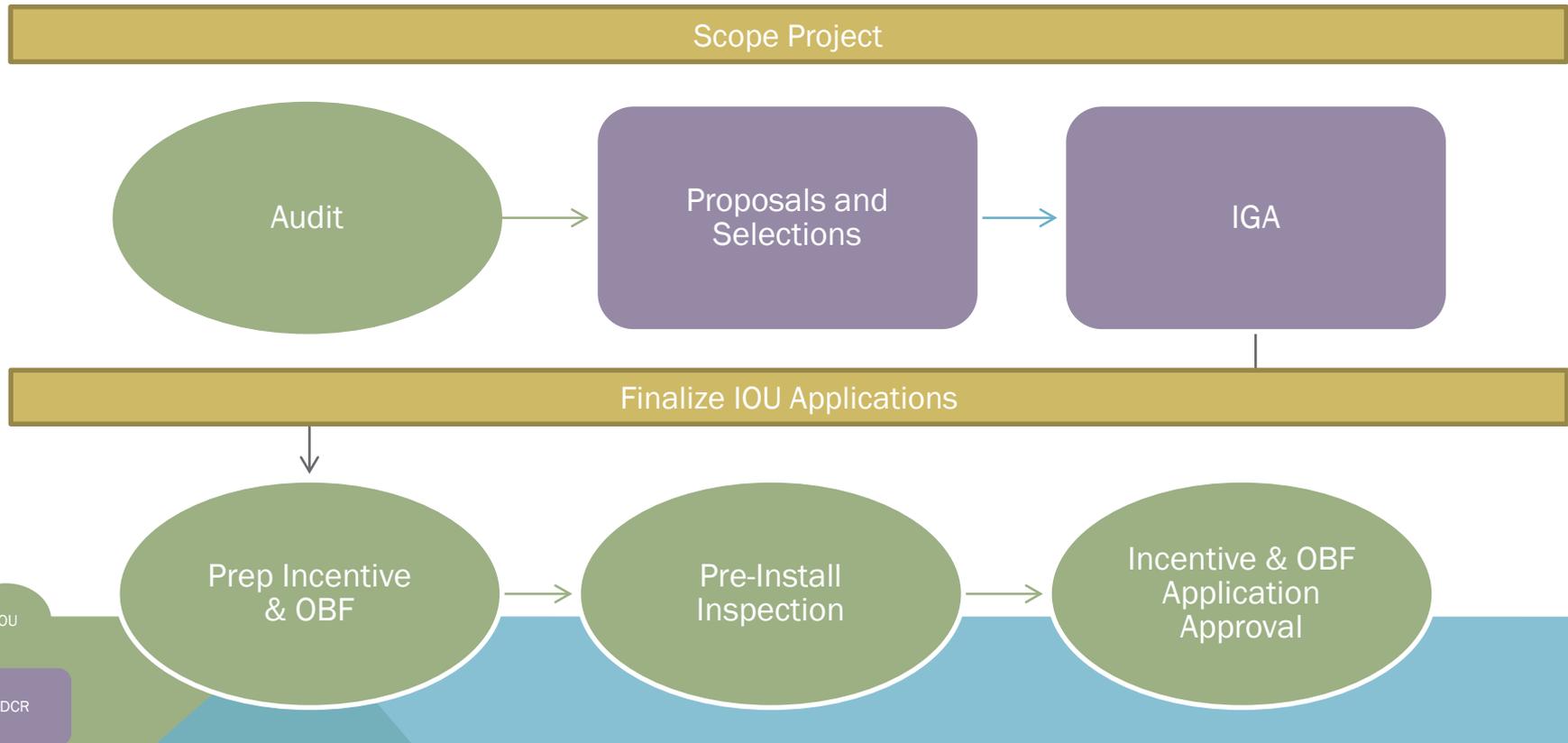
Partnership with Investor Owned Utilities





ENERGY EFFICIENCY PROCESS (1 OF 2)

CDCR – IOU RETROFIT PROJECT PROCESS FLOW





ENERGY EFFICIENCY PROCESS (2 OF 2)

CDCR – IOU RETROFIT PROJECT PROCESS FLOW

Implementation Project



Ensure Project Savings / Close Out Project



IOU
CDCR



UTILITY SPONSORED ENERGY AUDITS

Sponsored By	Totals
Utility Sponsored audit in the last year (IOU only)	12 completed
Utility Sponsored audit to be scheduled (IOU only)	9
Utility Sponsored audit to be scheduled (joint IOU/non-IOU)	7
Utility Sponsored audit to be scheduled (non-IOU)	3





ENERGY EFFICIENCY

CDCR Non-IOU Utilities:

- SMUD
- Western Area Power Administration
- Imperial Irrigation District
- Sierra Pacific Power
- Pacific Corp
- Mountain Utilities

- Community Choice Aggregates
 - Marin Clean Energy
 - Monterey Bay Community Power





EFFICIENCY PROJECT EXAMPLE 1

VALLEY STATE PRISON

VARIABLE FREQUENCY DRIVES INSTALLED ON AN AIR HANDLER UNIT



Annual Energy Savings = 154,661 kWh

Annual Cost Savings = \$17,322



EFFICIENCY PROJECT EXAMPLE 2

AVENAL STATE PRISON

STEAM AND CONDENSATE INFRASTRUCTURE REPLACEMENT



Annual Energy Savings = 278,587 Therms

Annual Cost Savings = \$149,452



EFFICIENCY PROJECT EXAMPLE 3

AVENAL STATE PRISON

EXTERIOR HIGH MAST LED LIGHTING



Annual Energy Savings = 2,154,723 kWh

Annual Cost Savings = \$538,681



CDCR/IOU PARTNERSHIP

Total CDCR Energy Efficiency Partnership - Achieved Savings Summary

Period	Count	kW Saved	kWh/yr Saved	therms/ yr Saved	Incentive Paid	*Metric tons CO2e Saved/ yr	Project Cost	Annual Cost Savings
2006-2017	98	10,040	76,951,728	2,513,111	18,564,550	67,422	\$71,722,438	\$8,086,918

*EPA source <https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references>





ENERGY EFFICIENCY

Savings By Design Program:

- CDCR works with the IOU Partnership on the Savings By Design program during project development / design phase to identify system options that show potential savings, and identify which systems qualify for incentives: I.e. Interior/exterior lighting, HVAC, service hot water and other systems and processes.



CDCR Energy & Sustainability Section



Chief of Energy & Sustainability:
Deanna Beland

Energy Efficiency Projects & Savings by Design:
Mark Elliott



Renewable Portfolio:
Jennifer Farrell

Water Conservation & Organic Recycling:
Maria Martinez

Electric Vehicle Charging and Infrastructure:
James Villapudua

Internal and External Reporting:
Ben Gale





Questions?

