

**Onsite Energy Generation in Public Buildings**  
**Government Code 14714 Biennial Report**  
**As of March 1, 2012**

**Background**

In 2001, the Legislature passed, and Governor Davis subsequently signed, ABX1 29, a comprehensive energy bill that created Government Code (GC) Section 14710-14714. This statute requires the Department of General Services (DGS) to identify public buildings where it is feasible to install alternative energy equipment, thermal energy storage, or cogeneration equipment and to utilize third party agreements to achieve the goals of the section. GC Section 14714 requires DGS to submit a report biennially on the energy savings in terms of megawatts per year for each facility affected by the section, with the first report due two years after enactment.

In accordance with GC Section 14711.5, DGS conducted a voluntary survey of State agencies to identify possible energy projects and potential energy savings. Based on the results of the survey, the DGS Office of Energy Assessments (OEA) oversaw one solar and three cogeneration projects in 2002. As required, OEA submitted a report on this progress to the Legislature in 2003.

In 2004, budget constraints forced the dissolution of OEA, with DGS absorbing its employees and programs into other sections and divisions. While oversight of the third party contracts for the existing cogeneration projects continued, further installations did not occur. However, interest in renewable generation returned when Governor Schwarzenegger signed Executive Order S 20-04 (EO), the Green Building Initiative. DGS enlisted former staff from OEA to comprise a team (Green Team) to coordinate DGS's compliance with the EO.

A moratorium on legislative reporting began in 2004, ending in 2008. For that reason, no report was submitted in 2005 or 2007. In 2009, the Green Team leadership suggested that information on the Green California website fulfilled GC Section 14714 reporting requirement, and no further reports were submitted. DGS informally disbanded the Green Team in 2010 due to personnel changes and the crippling effects of the recession.

Responsibility for energy projects now lies within the Professional Services Branch (PSB) of the Real Estate Services Division at DGS. PSB currently houses a program that utilizes the third party agreements described in GC Section 14712 to install solar photovoltaic systems on State property.

### **Projects Instituted Under GC Sections 14710-14714**

A 470-kilowatt solar photovoltaic array, the largest on a State building to that date, was installed at the Franchise Tax Board's Butterfield Office Complex. Completed in 2002, this equipment is still in operation. It generates roughly 804 megawatt hours (MWh) of electricity annually, totaling approximately 7,300 MWh to date, and has saved the State about \$900,000, assuming a utility rate of \$0.125 per kWh.

Cogeneration equipment was installed in 2002 at the Edmund G. Brown, Elihu Harris, and San Francisco Civic Center office buildings. In their first three years of operation, these units saved approximately 4 million MWh of electricity and almost 30,000 therms of natural gas annually. These systems are not currently operating because the third party has undergone a series of ownership changes. Negotiations to resume service are underway.

In 2005, DGS developed a program that allows State facilities to procure electricity from onsite generation through Power Purchase Agreements (PPAs). Companies lease space from State facilities where they install solar equipment. The facility agrees to purchase all of the electricity the equipment generates at a rate that is lower than the rate they pay to their utility. At the end of the 20-year agreement, the State facility can buy the system for fair market value, renegotiate a new agreement with the contractor for continued service, or the contractor can disassemble and remove the system.

By 2008, eight solar installations with a capacity of 4.25 megawatts (MWs) were in operation. Presently, a second phase of installations that can produce approximately 21 MWs at eight facilities is underway with some systems under construction and others awaiting contract execution. A third phase for approximately 30 MWs at 15 facilities is currently in contract negotiations.

Using the same PPA model, DGS recently issued a Request for Qualifications (RFQ) for wind generation. The RFQ will establish a qualified pool of contractors who will be eligible to respond to Requests for Proposals once DGS identified potential candidate sites. In addition, DGS is studying the feasibility of solar thermal systems as well as combined heat and power installations. If the studies of these systems demonstrate that they would be cost effective, DGS will issue additional RFQs.

A list of all the projects initiated under the authority of GC Section 17417 follows in Attachment 1

ONSITE ENERGY GENERATION IN PUBLIC BUILDINGS AS OF MARCH 1, 2012  
ATTACHMENT 1

| CURRENT OR COMPLETED DISTRIBUTED GENERATION PROJECTS                    | ANTICIPATED PEAK LOAD SAVINGS (MW) | ANTICIPATED ANNUAL ENERGY SAVINGS (KWH) | ACTUAL ENERGY SAVINGS TO DATE |
|-------------------------------------------------------------------------|------------------------------------|-----------------------------------------|-------------------------------|
| Franchise Tax Board Photovoltaic – Solar Project                        | 0.470                              | 803,940                                 | 7,358,540 KWH                 |
| Edmund G. Brown Building (CPUC) – 3 <sup>rd</sup> Party Cogeneration    | 0.400                              | 1,017,900                               | 1.5 MWH / 19,202 THERMS       |
| San Francisco Civic Center – 3 <sup>rd</sup> Party Cogeneration         | 0.800                              | 5,908,500                               | 8.3 MWH / 34,173 THERMS       |
| Elihu Harris State Office Building – 3 <sup>rd</sup> Party Cogeneration | 0.600                              | 2,019,700                               | 2.6 MWH / 43,502 THERMS       |
|                                                                         | 2.270                              |                                         |                               |
| <b>POWER PURCHASE AGREEMENT SOLAR PROJECTS – PHASE I</b>                |                                    |                                         |                               |
| CDCR Chuckawalla                                                        | 1.110                              | 2,278,401                               | 11,582,756 KWH                |
| CDCR Ironwood                                                           | 1.198                              | 2,296,447                               | 9,712,082 KWH                 |
| DMH Patton State Hospital                                               | 0.279                              | 418,575                                 | 1,863,208 KWH                 |
| Caltrans District 10 HQ                                                 | 0.246                              | 347,407                                 | 1,493,151 KWH                 |
| CSU Dominguez Hills                                                     | 0.559                              | 750,948                                 | 3,904,269 KWH                 |
| CSU Cal Poly                                                            | 0.175                              | 252,211                                 | 1,464,932 KWH                 |
| CSU San Bernardino                                                      | 0.346                              | 469,330                                 | 2,117,098 KWH                 |
| CSU Chico                                                               | 0.326                              | 458,700                                 | 2,327,934 KWH                 |
| <b>Total Phase I</b>                                                    | <b>4.239</b>                       | <b>7,272,019</b>                        | <b>34,465,430 KWH</b>         |

| CURRENT OR COMPLETED DISTRIBUTED GENERATION PROJECTS      | ANTICIPATED PEAK LOAD SAVINGS (MW) | ANTICIPATED ANNUAL ENERGY SAVINGS (KWH) | ACTUAL ENERGY SAVINGS TO DATE |
|-----------------------------------------------------------|------------------------------------|-----------------------------------------|-------------------------------|
| <b>POWER PURCHASE AGREEMENT SOLAR PROJECT – PHASE II</b>  |                                    |                                         |                               |
| CDCR CA Correctional Institution – Tehachapi              | 1.000                              | 2,104,848                               | Operational December 2012     |
| CDCR North Kern State Prison – Delano                     | 1.000                              | 2,104,848                               | Operational December 2012     |
| DMH Patton State Hospital                                 | 1.000                              | 2,442,292                               | Online June 2012              |
| CDCR Chuckawalla                                          | 4.000                              | 8,884,464                               | Operational December 2012     |
| CDCR Ironwood                                             | 4.000                              | 8,884,464                               | Operational December 2012     |
| CDCR North Kern State Prison – Delano                     | 4.000                              | 8,993,000                               | Operational December 2012     |
| CDCR CA Correctional Institution – Tehachapi              | 4.000                              | 8,993,000                               | Online June 2012              |
| CDCR CA State Prison – Los Angeles                        | 2.400                              | 6,397,000                               | Online June 2012              |
| <b>Total Phase II</b>                                     | <b>21.400</b>                      | <b>48,803,916</b>                       | <b>Data Unavailable</b>       |
| <b>POWER PURCHASE AGREEMENT SOLAR PROJECT – PHASE III</b> |                                    |                                         |                               |
| CDCR Central California Women’s Facility – Chowchilla     | 3.000                              | 6,385,874                               | See Note Below                |
| CDCR Salinas Valley State Prison – Soledad                | 2.000                              | 4,148,661                               | See Note Below                |
| CDCR Correctional Training Facility – Soledad             | 2.00                               | 4,338,638                               | See Note Below                |
| CDCR Pleasant Valley State Prison – Coalinga              | 1.500                              | 3,335,259                               | See Note Below                |

| CURRENT OR COMPLETED DISTRIBUTED GENERATION PROJECTS   | ANTICIPATED PEAK LOAD SAVINGS (MW) | ANTICIPATED ANNUAL ENERGY SAVINGS (KWH) | ACTUAL ENERGY SAVINGS TO DATE |
|--------------------------------------------------------|------------------------------------|-----------------------------------------|-------------------------------|
| CDCR Wasco State Prison Reception Center               | 2.000                              | 4,365,579                               | See Note Below                |
| CDCR California State Prison – Solano                  | 1.500                              | 2,801,670                               | See Note Below                |
| CDCR California Men’s Colony – San Luis Obispo         | 1.000                              | 2,186,093                               | See Note Below                |
| CDCR California State Prison – Sacramento              | 1.500                              | 3,181,186                               | See Note Below                |
| CDCR High Desert State Prison – CA Correctional Center | 2.000                              | 4,413,369                               | See Note Below                |
| CDCR California Correctional Center                    | 2.000                              | 4,413,369                               | See Note Below                |
| CDCR California State Prison & SATF- Corcoran          | 5.500                              | 12,148,604                              | See Note Below                |
| CDCR Mule Creek State Prison                           | 2.000                              | 4,221,936                               | See Note Below                |
| DMH Atascadero State Hospital                          | 1.000                              | 2,382,090                               | See Note Below                |
| DMH Coalinga State Hospital                            | 1.500                              | 3,704,514                               | See Note Below                |
| <b>Total Phase III</b>                                 | <b>28.500</b>                      | <b>62,026,842</b>                       | <b>N/A</b>                    |

Note: CONTRACTS EXECUTED. SITE LICENSE AGREEMENTS UNDER NEGOTIATION. CONSTRUCTION TO START LATE 2012/EARLY 2013.