

Green Action Team Meeting

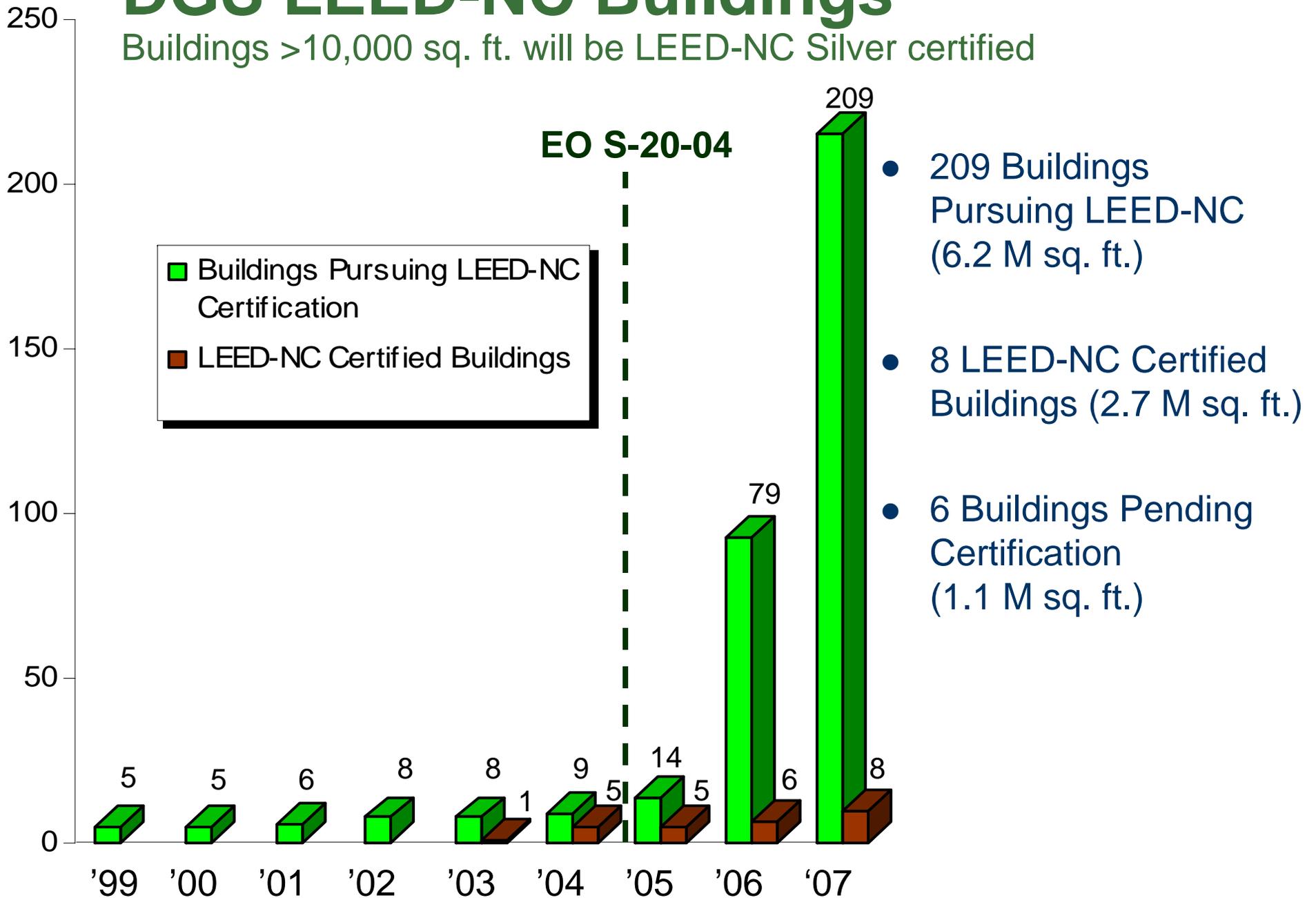
Oct. 31, 2007

Status of Major Deliverables

Green Building Initiative
(Exec Order S-20-04)

DGS LEED-NC Buildings

Buildings >10,000 sq. ft. will be LEED-NC Silver certified

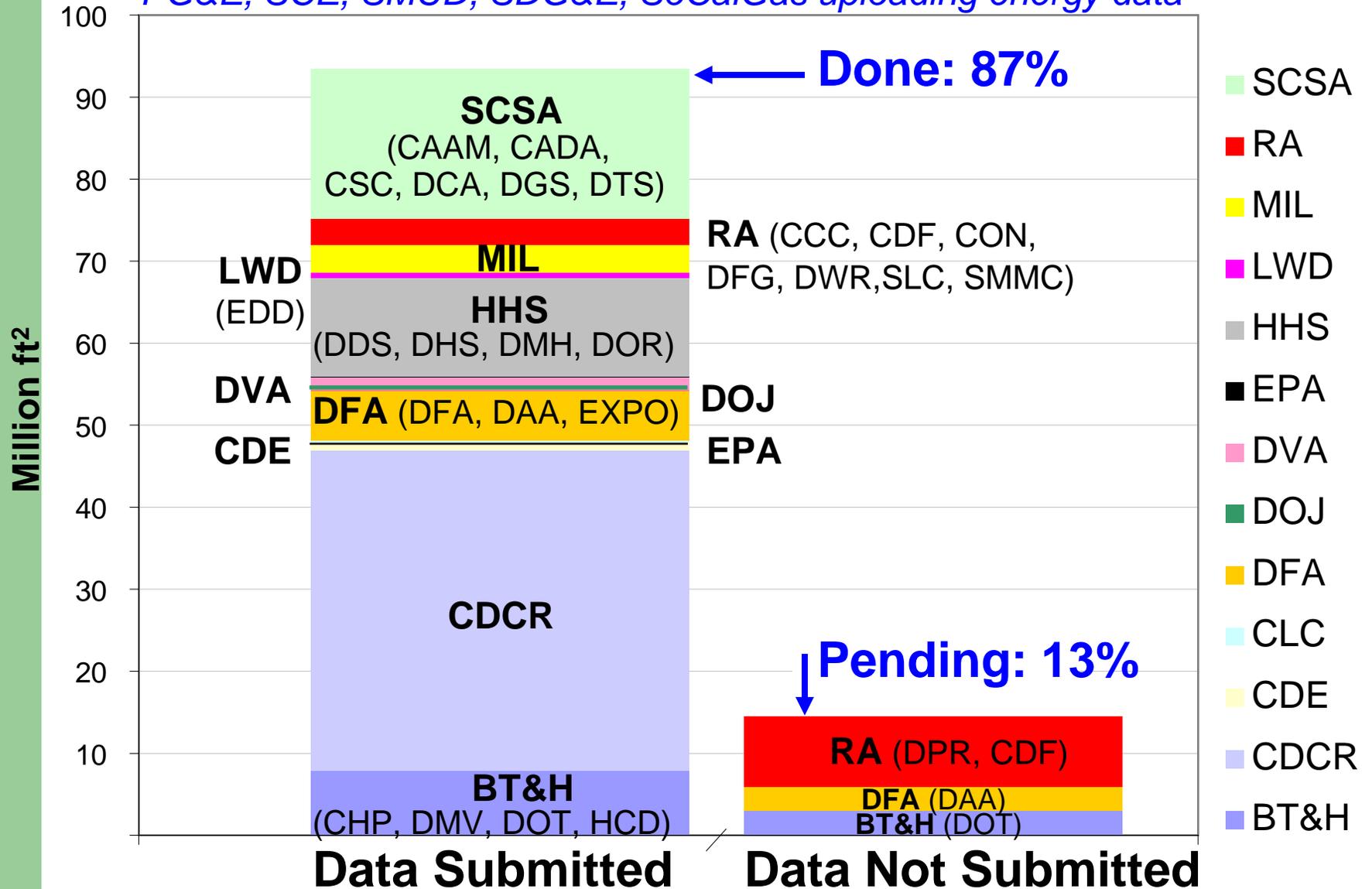


LEED-NC - Statewide Program

- **Other Agencies** -13.5 M sq. ft. over 8 years
- **Average Energy Savings** - 14% to 40% >Title 24
 - 8 Certified Buildings average 35% savings
- **More Environ. Benefits** – Reduced GHG, Water, Waste, Improved Air Quality
- **Buildings under 10,000 sf** – LEED Standards
- **LEED-NC Training**
 - 105 trained during Fall 2007
 - Extending training to other agencies Winter 2007
 - 10 LEED Accredited Professionals so far

Benchmarking - Status by Agency

Portfolio Manager accounts created for all but DPR (Parks & Rec)
 PG&E, SCE, SMUD, SDG&E, SoCalGas uploading energy data



Tracking the 20% Savings Goal

The screenshot shows the Energy Star Portfolio Manager interface. The main header includes the Energy Star logo and the text "PORTFOLIO MANAGER". Navigation links include "ACCOUNT INFORMATION" and "CONTACTS". The breadcrumb trail is "Home > My Portfolio".

Portfolio Averages	
Baseline Rating: 82 Facilities Included: 80	Current Rating: 83 Facilities Included: 79
Portfolio Adjusted Percent Energy Reduction: 20% Facilities Included: 160	

Averages are weighted by Total Floor Space.

Retro-Commissioning Program - All state-owned buildings greater than 50,000 sq.ft. RCx on a 5 year cycle

- **Phase I (2006/07) – 25 projects (+ 3 PG&E BTU)**
 - 9 projects completed reports and in various stages of implementation
 - Investigative reports for 2 projects (DPR and DFA) completed by SMUD (working with agency on implementation)
 - Investigative reports for 11 projects due by 11/30/07
 - 3 projects require upgrading of equipment/systems prior to finishing investigation (underway or working with agency)
- **Phase II (2007/08) - 20 projects; begin 12/07**
 - Funding solutions needed for CalTrans, Science Center, and Military projects

Results-to-Date for 2006-07 RCx Projects

- **Estimated electricity savings: 12.2 % or 12 million kWh/yr***
- **Natural gas savings (therms/yr): 19.1%**
- **Annual energy savings: \$1.6 million**
- **Estimated GHG emissions avoided: 5,400 metric tons**

(*9 completed projects)

Retrofit Program - Low rated buildings implement cost effective efficiency retrofits - Retrofits to yield 12% of 20% goal

- State/IOU Partnership Aug 06 - \$17 Million+ in incentives
- Energy Efficiency Forum Sep 06 - program policy
- Potential projects already identified – statewide work plan
 - RCx Projects
 - IOU Site visits
 - Agency Deferred Mx
- Model ESCO performance contract language – not complete
- Financing – Energy \$Mart (G\$Mart) – available
- Program redirection Oct 31 – expedite feasible projects using streamlined (not performance based) model contract
 - Identify projects and issue contracts by 1/08

Distributed Generation - Solar Power Purchase Program

- **Phase I - 4.2 MW**
 - Last project (Ironwood) Complete 4/08
- **Phase II – 24MW/32 Facilities**
 - 3 RFP's Issued Oct 12/13
 - Bids Due Nov 30; Contracts 3/08
- **Next Steps**
 - Phase III – Master Services Agreement
 - Solar Farms - Customer Retail Wheeling
 - Solar Thermal Hot Water
 - Carbon Footprint Reduction
 - Chilled Water Option

Distributed Generation - Fuel Cells

- **Back-Up Power**

- Stanford Mansion – 20KW; PG&E/SMUD/State Funding
- Telecom Microwave Monitoring – 30KW; in evaluation
- Up to 300 potential sites

- **Co-Generation**

- Corcoran Prison – digester gas fuel; PG&E Study due 11/07
- Folsom Prison – digester gas fuel: SMUD funding Study
- Up to 40 potential sites

LEED-EB (Existing Buildings)

- All state buildings over 50,000 Sq. Ft. (210) certified by 2015

- **2 complete (CalEPA and CA Dept. of Education)**
- **Volume certification initiated for 58 DGS operated buildings**
- **Training underway in 5 of 16 agencies**
- **LEED-EB Best Practices Manual online; implementation underway in 22 DGS buildings**
- **Ziggurat LEED-EB certification underway (leased)**
- **32 million sq. ft.**
- **Est. 220,000 metric tons of CO₂ will be reduced**

Resources online with www.green.ca.gov/greenbuildings:



Green California
Sustainable • Energy Efficient • Green Buildings • Green Buying



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California Best Practices Manual: Better Building Management for a Better Tomorrow

The guidelines and policies in this manual are designed to be used by building management personnel at the California Department of Education building in Sacramento.

The manual is also being made available to other state of California agencies, as well as the general public, as an example of a policy manual that meets the criteria of several [LEED-EB](#) (Leadership for Energy and Environmental Design-Existing Building) credits requiring management policies.



Education Building,
Sacramento

[California Best Practices Manual](#) Version 2.0 (10MB) August 2007

Other LEED-Existing Building Tools

[California Best Practices Manual TEMPLATE](#) (Downloadable Zipped Files) **New** October 2007

[Building Operations Plan](#) (SAMPLE)

[LEED-EB Checklist \(PDF\)](#)

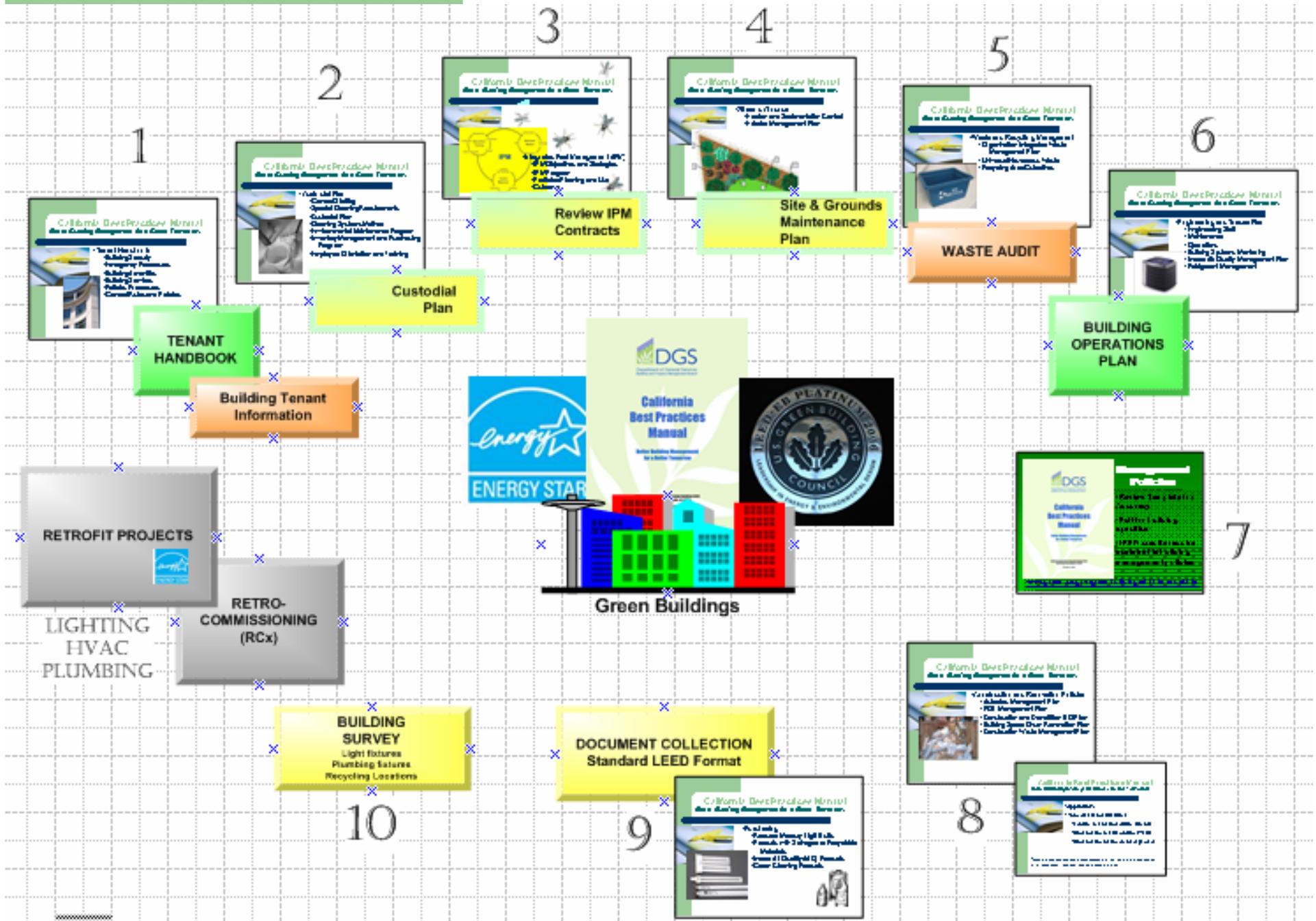
[LEED-EB Checklist \(XLS\)](#)

[LEED-EB: Going for Platinum at the CA Department of Education Building. Slide Presentation.](#) (13MB)

- [LEED Certified Buildings](#)
- [LEED Rating System](#)
- [New Construction](#)
- [Existing Buildings](#)
- [Commissioning and Retro-Commissioning Buildings](#)
- [Better Building Management for a Better Tomorrow \(Best Practices Manual\)](#)
- [Commissioning Toolkit for Small Buildings](#)
- [Benchmarking & Baseline Buildings](#)
- [Energy Consumption](#)
- [Energy Efficiency Projects](#)
- [Energy Efficiency Standards](#)
- [Energy Programs](#)
- [Energy Star Challenge](#)
- [Leasing](#)
- [LCCA \(Life Cycle Cost Assessment\)](#)
- [Real Estate Leadership Council](#)
- [Sustainable Schools](#)



Module 1: Implementation of Management Policies, Tasks 1-10



Green Leasing - Seek Energy Star Leases for buildings over 5,000 s.f. beginning in 06 (new leases) and 08 (existing leases)

- **65 of 1,855 buildings Energy Star rated**
- **Lessors continually encouraged to pursue Energy Star with their buildings.**
- **All build-to-suit leases - LEED-NC Silver; 3 projects currently in construction; DMV Clovis first completed.**
- **2 Retro-commissioning projects in progress**
- **2,000+ letters sent advising lessors of the California's preference for Energy Star**
- **1,160 additional letters and e-mails sent to general commercial market advising of California's Energy Star preference; asking for the real estate community's support**

Innovative Energy Efficiency Partnership Program for DGS Leased Facilities

- **Enovity's 2006-2008 PG&E-funded Incentive Program**
 - Targets DGS' Client Agency leased buildings
 - 1,297,800 kWh savings potential identified
 - 17,150 therms savings potential identified
 - \$520,000 estimated implementation cost for all measures identified
 - 2.6 years cumulative payback for all measures (without incentives)
 - 820 metric tons of CO2 savings identified

Green Schools: Net Zero Energy Goal (Grid Neutral)

- Right-size the system
 - Utility rules and regulatory requirements
 - Establish Zero Net energy Goal
- Identify Energy Saving Opportunities
 - Know the building's Baseload
 - Implement Energy Efficiency measures
 - Assessment of Zero Net Energy Goal
- Energy Management System (EMS)
 - Ensures continued energy savings
 - Assists in optimal operations of systems
 - Prompts timely maintenance of systems

Green Schools: High Performance School Grants

- **Prop 1D – \$100 million for incentive grants**
- **Adopted “CHPS” criteria**
 - **Sustainable Sites**
 - **Water**
 - **Energy**
 - **Materials**
 - **Indoor Environmental Quality**
- **Regulations effective October 1**
- **Projects under review**
- **First funds to be released in January**

High Performance – Current Energy Landscape

- **1,000 School Districts**
- **10,000 facilities**
- **6 million students**
 - **@400 watts per pupil . . .**
 - **2,400 Megawatts per school hour**
 - **\$401,000 per school hour**

High Performance – Benefits

- **Improve student results**
 - Reading & math scores increase by more than 20 percent
- **Reduce operating expenses**
 - Reduce energy use by 33 percent
 - Reduce water use by 32 percent
 - Average “Green” School saves \$100K/year

AB 2160 – Commercial Building Strategies

- Signed September 2006; Author Ted Lieu, D-Torrance
- **Energy Commission report to Green Action Team by 1/1/2008**
 - **Life Cycle Cost Analysis (LCCA)** model for **state** buildings
“cost-effectiveness of state building design and construction decisions and their impact over a facility’s life cycle”
 - “**Financing and project delivery mechanisms**” for **state** green bldg projects
 - **Obstacles to and incentives for** furthering green building in the **private commercial sector**

Contact Information

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Project Website

www.energy.ca.gov/greenbuilding/ab2160/

Green Leasing Pilot

- **SoCalGas funded innovation program** – Navagant Consulting
- **Four Pilot Projects**
 - Green Affordable Housing
 - Zero Carbon Communities
 - Green Leases
 - Water-Energy, Recycled Water
- **Green Leases Pilot:** Develop model green lease provisions and practices by 7/08

Climate Action Team: Green Bldg Subgroup

– Integrate CAT and GBI program efforts

- Membership – All stakeholder agencies
- Tasks:
 - Compile GHG reduction strategies for ARB Scoping Plan
 - Develop Green Building Protocol to quantify GHG reductions
 - Provide tools and assistance to assess/quantify strategies
- Activities underway - CPUC, CEC, DGS, ARB, DOT, HCD, CIWMB, CDCR
 - Strategies worksheet
 - Review/update of early actions and economic analysis
- Next Deliverable – 1st draft scoping plan input – Feb 08