



Recommendations from the Green Building Task Force

December 17, 2010

A Joint Initiative of the
City and County of Sacramento



VALLEY VISION



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Acknowledgements

First and foremost, this work would not have been possible without the commitment and dedication of the volunteer Task Force Team members. Thank you! Task Force members spent significant time and energy studying research documents and meeting materials, completing homework assignments, and persevering through long meetings and complex discussions (with granola bars, fruit snacks and coffee as their only relief).

A similar amount of effort went in to supporting this project with high quality, unbiased information. This project benefited from the generous in-kind research support from Saskia Van Gendt and Karen Irwin at U.S. Environmental Protection Agency Region 9. Liz Grubin at ICF International also provided research support through the U.S. Department of Energy's technical assistance program for Energy Efficiency Conservation Block Grant recipients. Both partner organizations never flinched at our tight timelines, and they continuously delivered high quality research products.

This work was funded by the U.S. Department of Energy, using a portion of the Energy Efficiency Conservation Block Grants provided to the City of Sacramento and Sacramento County.

A team of staff members from the County, City and Valley Vision supported this project as the Steering Committee, including Dave Defanti and Peter Ucovich from Sacramento County; Jamie Cutlip, Erik DeKok and Ed Short from the City of Sacramento; and Emily Dransfield, Suzanne Linville and Kristine Mazzei from Valley Vision.

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Executive Summary

The Sacramento Green Building Task Force developed an impressive array of recommendations to help guide the City of Sacramento and Sacramento County in their efforts to achieve sustainability objectives in the built environment. Many of these recommendations have the added advantage of bolstering regional green job and business growth goals identified by the public and private sectors partners in the Green Capital Alliance and Mayor Johnson's Greenwise Initiative. In convening this Task Force both jurisdictions have adopted a proactive approach to identify locally-supported ways to green the built environment, which accounts for approximately 40% of greenhouse gas emissions. Current state policies reinforce the need for implementation of a comprehensive strategy to support green building because significant emissions reduction requirements and ambitious targets for energy and water savings cannot be met with simple, one-off solutions.

The collection of recommendations presented in the following document identify ways to achieve energy and water savings in both new and existing buildings using a variety of approaches—spanning code and process improvements, education and marketing, financing and incentives, and new mandatory requirements. Recommendations focus on “greening” the structures themselves rather than making land use suggestions, and target both residential and commercial buildings.

The Task Force tended to support raising awareness about green building benefits and creating process improvements and incentives that would increase uptake of new practices within the retrofit and new construction communities. Seven out of the eighteen recommendations rely on education and marketing approaches to build consumer awareness. Some of these recommendations suggest ideas such as increasing the public recognition of green projects happening within the region, requiring a “Did You Know” checklist about energy-savings improvements as part of the permitting process, supporting the creation of a Green Building Professionals Guild, and highlighting home energy ratings as part of the Multiple Listing Service (MLS) for local real estate.

Five process-based improvements were identified to help the green building sector save time and resources when interfacing with both jurisdictions. For example, these recommendations include a focus on things such as reviewing and improving current zoning and development codes to match sustainability objectives, ensuring jurisdiction staff are trained on green building techniques and products to minimize unnecessary delays in the approval process, and synching up all of the agencies that can impact the ability to apply Low Impact Development Standards on the ground.

In addition to process improvements, the notion of incentivizing desired projects was roundly supported. Four recommendations focus on creating incentives and showcasing financing opportunities for green building projects and improvements. Some suggested incentives include plan check and impact fee reductions, as well as structural incentives like increased density allocations or reduced parking requirements. The finance recommendation emphasizes the need to link interested customers to a variety of financing tools for green building improvements, and the desire to have a comprehensive portal to fill this need at the regional or state level.

Two items present new mandatory requirements that stand out as the sole regulatory components within this package of recommendations. The first applies only to new development and spells out the phasing in of the more stringent form of CALGreen (known as Tier 1) over three years. CALGreen is the new statewide green building code, and Tier 1 allows jurisdictions to adopt a set of more rigorous green building requirements.

The second mandatory requirement is the only item that has been forwarded with mixed support from the Task Force members, and fostered lively debate during the final meeting with stakeholders. This component focuses on the development of a Residential Energy Conservation Ordinance (RECO), which requires energy audits for existing homes based on certain triggers and timing. The intent of this RECO is to generate the greatest number of home audits to educate homeowners about energy and money saving opportunities, and to do so without placing undue burden on any specific group of stakeholders involved in meeting this goal. Multiple concerns were raised by the realtor community about triggering audits at point of sale, including hurting an already struggling housing market and the inefficiency of reaching only the 2% of homes that sell per given year.

As part of the Task Force process City and County staff, outside researchers and subject experts shared findings from other metropolitan areas that have convened green building advisory groups and implemented some of their suggested recommendations. Many of the recommendations presented here are not new, but this body of work represents a unique formulation of ideas that have been customized with local knowledge and are grounded in this area's own economic and social realities. At this point decisions about the future implementation of these recommendations rest with the elected officials in the City and County of Sacramento, as well as all of the private sector and nonprofit partners that can play a role in making these green building suggestions a reality.

Task Force Purpose

The mission of the Green Building Task Force is to review, evaluate, and recommend specific strategies to the Sacramento City Council and Sacramento County Board of Supervisors that will increase the implementation of green building practices and move our community towards achieving key sustainability objectives.

The project is jointly funded by the City's and County's Energy Efficiency & Conservation Block Grants (EECBG). The City and County have been working together to convene the Green Building Task Force because they each face policy requirements related to greenhouse gas emissions reductions, they share a commitment to increasing sustainability and green job creation, and both recognize the importance of developing consistent programs and standards to minimize confusion in the marketplace. While the Green Building Task Force is namely a City and County sponsored project, the hope is that the Task Force work embodied in this document will serve as a resource for other jurisdictions, particularly for those within the Sacramento Region considering adopting green building programs and policies.

Additionally, this work supports the economic development priorities that have been set by the Green Capital Alliance, a partnership of workforce, education and business development partners that have been supporting the expansion of the clean energy economy in the Sacramento region.

In 2010 the Green Capital Alliance identified green building as a strategic growth opportunity for the region based on economic cluster research and collaborative planning with more than 80 private and public sector leaders.

Green Building Definition

The City and County defined the issue of “Green Building” with a broad enough lens to include existing and new construction in the commercial and residential sectors. Further specificity was added to the definition by providing the following guidelines:

Green buildings adopt a whole-systems approach to design and construction. They maximize resource efficiency, health, and productivity, and special attention is paid to energy and water use, minimizing waste, using sustainable materials and improving indoor air quality. While land use decision-making is recognized as critically important to sustainable development in the region, the focus on the Task Force is to create recommendations that targeted the site and structure of the buildings themselves.

Policy Objectives Driving Action

There are a number of policy requirements that have spurred the City and County into action. Both jurisdictions are focused on finding ways to reduce greenhouse gas emissions, address climate adaptation, and promote energy efficiency. Their activities are intimately linked to the policy drivers described below. But the motivation for action is not purely environmental—it is also related to turning around the region’s economy. While Sacramento has experienced an impressive 87 percent job growth in its green sector¹, other metropolitan areas like Portland, OR and Austin, TX that have pursued sustainable building policies are seen as playing an active role in driving green job creation and building economic opportunity for local companies. Thus, economic development leaders are looking to local governments to further distinguish the region from its competitors by taking an aggressive approach towards greening the built environment.

California has a nationwide reputation and a well-documented track record for advancing green building standards since the introduction of Title 24 Energy Efficiency Standards in 1978.² The state’s current policy framework continues to advance ambitious climate and energy goals. In 2006 California passed Assembly Bill 32, the Global Warming Solutions Act, which mandates a reduction in greenhouse gas emissions to 1990 levels by 2020. In the Sacramento region the built environment accounts for approximately 40 percent of greenhouse gas emissions, and reducing home and business energy usage plays a central role in reaching this target. Senate Bill 375 added a new layer of implementation specificity in 2008 by establishing regional transportation-related emissions reduction targets, and incentivizing development that adheres to the sustainable community strategies established for each metropolitan region.

Organizations and agencies within California have also raised the bar with high expectations for future energy and water savings in the built environment. The California Public Utilities Commission published the *California Long Term Energy Efficiency Strategic Plan* in 2008 and set bold targets—pushing all new residential buildings to be “zero net energy” by 2020, followed by new commercial buildings reaching that standard in 2030.³ This has been matched with an equally robust water efficiency target explored in the *20x2020 Water Conservation Plan*, which was completed by a collection of state and federal agency partners this year.⁴ Per the guidance from Governor Schwarzenegger, the plan seeks a 20 percent per capita reduction in urban water demand by 2020 and identifies strategies for achieving this goal.

Local policy has also been driving action. As a component of the City of Sacramento's Sustainability Master Plan, the City Council adopted a voluntary green building program (Phase I) for private residential and commercial development in December 2007. At that time, staff presented an overview of green building, voluntary and mandatory programs, guidelines, checklists and rating systems, and potential incentives and requirements. Phase I of the Green Building Program included the adoption of Resolution 2007-945, which incorporated the following three components:

- 1) Adoption of existing green building guidelines, such as *Leadership in Energy and Environmental Design (LEED)* and *GreenPoint Rated*;
- 2) Adoption of the above associated checklists for voluntary program participation; and
- 3) Directed staff to create a public workshops and/or an advisory committee to guide future program development (Phase II).

In March 2009, the City's adoption of the 2030 General Plan included a requirement for staff to complete a Community-wide Climate Action Plan by July 2011, establish a Green Building ordinance and update an existing Residential Energy Conservation Ordinance (RECO) by July 2012.⁵ Similarly, the Final Environmental Impact Report prepared for Sacramento County's Draft 2030 General Plan calls for the second phase of its Climate Action Plan to be completed within a year of adopting its new General Plan.⁶ These requirements have focused attention on saving energy in the built environment.

Task Force Process Overview

Facilitating the Green Building Task Force has involved researching best practices and program models, conducting stakeholder outreach, engaging key informants in program design, gathering public input, drafting and refining recommendations, and identifying resources for implementation. Several of these steps overlapped in order to make the process efficient and to enable each of the elements to reinforce one another. A core group of City and County representatives met regularly to serve as the Steering Committee, helping to guide Valley Vision's work as the neutral facilitator and project manager for the Task Force.

The Task Force was instructed to identify policies and programs that should be in place to support green building goals for existing and new construction and to develop implementation recommendations that emphasize high-return actions and include practical guidelines for the timing and phasing of any new requirements. Specific topic areas such as energy efficiency and water use were shaped by research of best practices, Task Force input and information gathered through stakeholder interviews and outreach. Potential topics were also evaluated based on relevance to the region and alignment with existing and anticipated policies and legislation.

The Task Force work culminated in this report, which contains a series of recommendations within four broad categories, including:

- Code and Process Improvements
- Education and Marketing
- Financing and Incentives
- New Mandatory Requirements

While the Task Force recommendations were developed for application within the City and County of Sacramento, the recommendations are expected to have wider application to other cities and counties in the region.

Task Force Membership

A public meeting was held on April 22, 2010, providing an overview of the anticipated Task Force Process and scope. At this meeting, interested participants were encouraged to submit an application for consideration to serve on the Task Force. A call for applicants was also posted on the Task Force website and distributed to the 750 Green Capital Alliance e-news subscribers. All applications were reviewed to assess each candidate's direct experience in relevant topic areas, including knowledge of design, development and the building industry. Task Force members were ultimately selected to provide a broad representation of stakeholders in the region and a diverse array of perspectives.

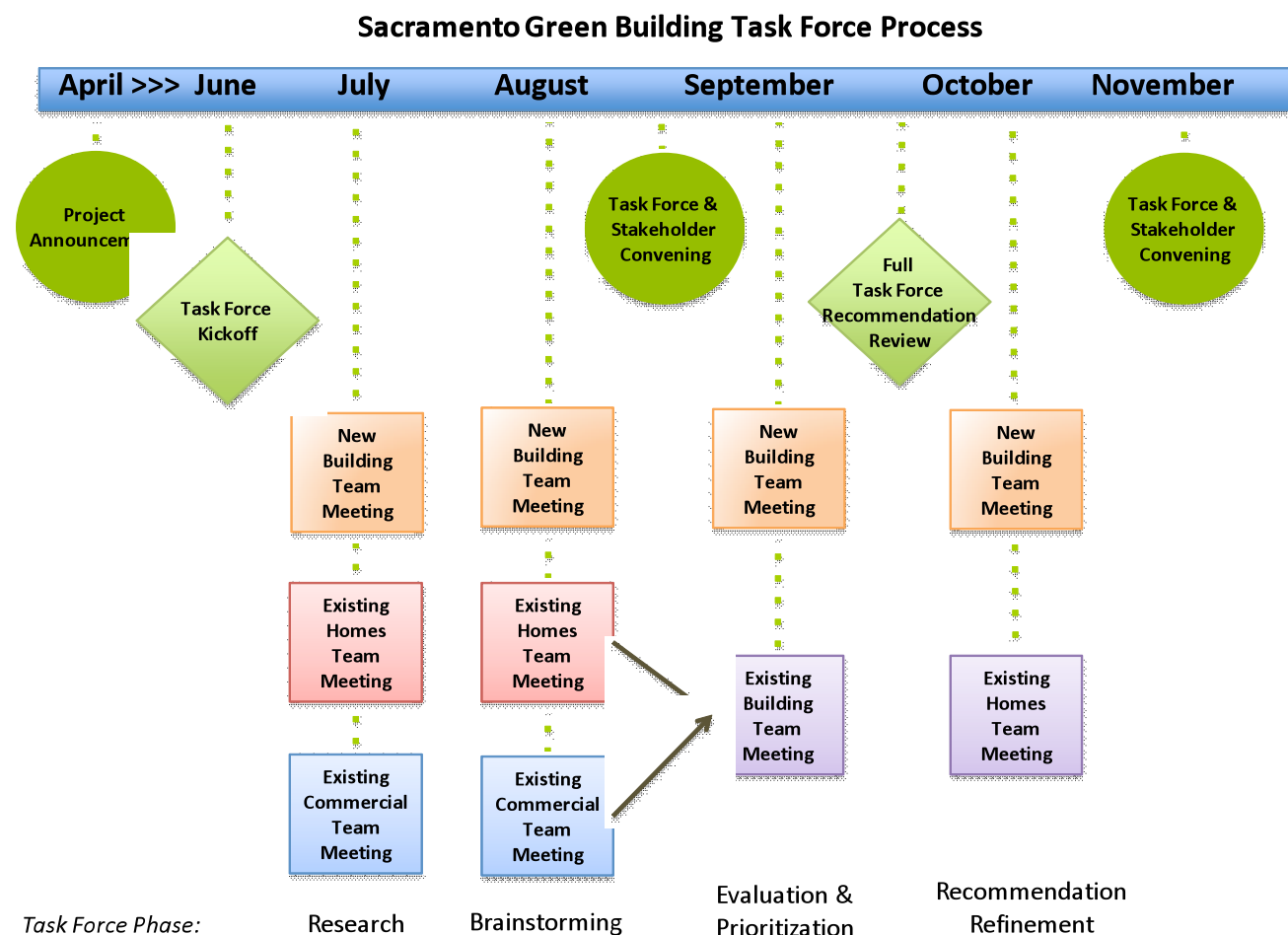
In an interest to ensure more active and engaged discussions, the Task Force was initially comprised of 34 members and organized into three Teams: New Construction, Existing Commercial and Existing Residential. Over time eight members withdrew due to scheduling constraints, and as the process progressed, it became evident that the Task Force would function more effectively if the group were divided into two primary focus areas. Thus, the Existing Commercial and Existing Residential Teams combined into one group that addressed the topic of Existing Buildings as a whole.

Task Force Timeline

A series of Task Force working meetings and public events were held throughout the spring and fall of 2010. The project adhered to the following timeline:

- Completed of key informant interviews and developed work plan (March);
- Project Announcement Meeting: Task Force scope of work presented to the public and membership applications solicited (April);
- Task Force Kickoff Meeting: Task Force members convened for first time, expert speakers to shared perspectives of green building policies and standards (June);
- Research Phase: Current conditions and best practice research presented to the Task Force (July);
- Brainstorming Phase: Conducted research and began drafting best-fit strategies for the Sacramento region (August);
- Evaluation & Prioritization Phase: Strategy ideas reviewed against agreed upon evaluation criteria (September);

- Recommendation Refinement Phase: Draft Task Force recommendations created (October); and
- Completion of final report including final recommendations (November).



Decision Making and Evaluation Criteria

In order for the decision-making process to be thorough and transparent, Task Force members were asked to go through the following three steps during their working meetings:

- (1) Participate in robust and inclusive discussion of ideas and possible programs and/or policies. Engage with an open mind and a willingness to adjust your opinions.
- (2) As a group, consider each idea through the lens of the various evaluation criteria:
 - a. Energy and/or water efficiency potential
 - i. Degree of impact on energy efficiency
 - ii. Degree of impact on water efficiency
 - b. Economic impacts
 - i. Potential for new job creation
 - ii. Potential for positive economic development impacts

- c. Cost of implementation
 - i. Cost to development community
 - ii. Cost for administering agency
- d. Cost effectiveness (ROI)
 - i. Capital costs vs. degree and dispersion of impacts
- e. Administrative and political feasibility
 - i. Ease of initiation for administering agency
 - ii. Likelihood of adoption by jurisdictions

(3) After sufficient deliberation, Task Force members were asked to formally register their opinion using the following gradients of agreement:

1	2	3	4	5
Block	Somewhat Oppose	Neutral	Somewhat Support	Strongly Support

The Task Force aimed to develop meaningful recommendations that engender a broad degree of support (mainly 4's and 5's), and nearly all of the recommendations received this type of support.

If one or more people felt strongly enough to actively “Block” a recommendation by voting with a **1**, the Task Force could choose to revisit the discussion to try to address remaining concerns and then measure the groups’ degree of agreement again. In collaborative processes, it is expected that some ideas and recommendations will result in mixed levels of support. If further deliberation could not reduce the amount of polarization, the Task Force committed to accurately representing the different opinions on the topic and leaving final decision-making in the hands of local elected officials.

Stakeholder and Public Involvement

As the first step of the project in March 2010, Valley Vision staff conducted one-on-one interviews with 25 stakeholders to assess opportunities and challenges related to green building and to vet the proposed process and timeline. The interviews also helped Steering Committee members identify areas of expertise and experience that would be beneficial to the Task Force. During the project announcement meeting in April 2010 and through the electronic newsletter, interested stakeholders were encouraged to apply to serve on the Task Force.

In May 2010 the Steering Committee selected a group of Task Force members that reflected a variety of expertise areas and viewpoints, and including a strong collection of individuals with direct green building experience. The Task Force was limited to 34 people in order to make the group a workable size, and ensure Task Force members would each have sufficient opportunity to share their perspectives during Team meetings. Applicants who were not invited to serve on a Task Force Team were strongly encouraged to participate in the open stakeholder meetings and to track and comment on the work progress using the project website.

Valley Vision developed and maintained a website where the Task Force’s meeting agendas, discussion notes, presentations and handouts were posted.⁷ The website also became a repository for information gathered about best practices and model programs, case studies and current research about trends in green building and sustainability. Interested parties were able to sign up for an electronic mailing list to receive project updates and invitations to public meetings. Drafts of the Task Force recommendations were also distributed through the electronic mailing list and posted on the website for public comment.

The process included three open stakeholder meetings (April 21, August 31 and November 10, 2010) where members of the public had the opportunity to comment on the scope of work, meet Task Force members, learn more about the process and best practices research, and provide input on draft recommendations. Each meeting attracted approximately 45 attendees from a variety of industries and backgrounds, and resulted in helpful feedback that shaped the contents of the recommendations and this final report.

Research Background & Partners

Robust decision-making about green building policies and programs demands a solid base of information. At the start of the process, Task Force members were provided with sample green building programs and recommendations from a variety of other metropolitan areas—each with unique approaches and benefits. These case studies from Austin, New York, Portland, San Francisco, Denver, and Seattle helped to frame initial discussions and seed the Task Force with ideas and possibilities.

Expert speakers were also engaged to lend their perspectives to the Task Force process. At their first full meeting in June, the Task Force heard presentations from:

- Panama Bartholomy, California Energy Commission—Policy History of green building in California;
- Bill Worthen, American Institute of Architects—CALGreen analysis and comparison to existing green building rating systems and standards like LEED, GreenPoint Rated and ASHRAE 189.1;
- Brian Sehnert, US Green Building Council, Northern California Chapter—Information about LEED and its relationship to other standards; and
- Bruce Mast, Build It Green—Information about GreenPoint Rated and its relationship to other standards.

This project also benefited from in-kind research support from staff at EPA Region 9 and ICF International. Additionally, City and County staff supported the Task Force with best practices research, and investigations into current policies and implementation realities. Several research documents were prepared including profiles of policy recommendations from other jurisdictions, case studies of Residential Energy Conservation Ordinances that have been implemented elsewhere, and side-by-side comparisons between major building performance rating systems (like LEED and GreenPoint Rated) and CALGreen. This research was shared with the Task Force and made available through the project website at www.sacgreentaskforce.org.

Task Force Recommendations

The Task Force outcomes include recommendations that apply to existing buildings, some that apply to new development, and some that are relevant to both existing buildings and new development. There are several types of recommendations in each of these areas including:

- Code and Process Improvements
- Education and Marketing
- Financing and Incentives
- New Mandatory Requirements

Task Force members developed the ideas, debated the details, filled in standard evaluation templates, and were asked to formally register their level of support with a vote. Looking at the full body of recommendations it is clear there is a strong emphasis on encouraging greater sustainability of the built environment by raising awareness and providing incentives to take action. Task Force members tended to believe more in providing “carrots” (incentives) rather than “sticks,” (regulations) and that increasing education and awareness is critical for success. Additionally, there was strong agreement that the recommendations of the Task Force need to compliment the programs already underway in the region, like the Sacramento Municipal Utility District’s (SMUD) Home Performance Program and others.

Recommendations Overview Table

The following Table (Table A) provides an overview of the full body of Task Force recommendations. The recommendations that begin with the number “1” apply to new construction, those beginning with a “2” apply to both existing and new buildings, and those starting with “3” focus on existing buildings. The Fully Supported Recommendations were vetted and approved by the Task Force, and validated using a voting system that indicated broad agreement. The Residential Energy Conservation Approach (RECO) represents an area of importance to many Task Force members, yet did not yield a fully supported recommendation despite rich discussion. The Task Force team agreed to submit the proposed RECO approach with special notation of the dissenting opinions so that decision makers could benefit from the record of outcomes and perspectives while determining the best path forward.

Table A: Summary of Green Building Task Force Recommendations

Fully Supported Recommendations					
ID	Type of Recommendation	Recommendation Title	Description	Sector: Residential/ Commercial	Implementing Agency/Partners
New 1.1	Mandatory Requirements	Implementation of CALGreen Codes	Reduces market confusion in the implementation of CALGreen and sets a road map for the implementation of higher standards (Tier 1 or Tier 2) in the future.	Cross-cutting	City/County of Sacramento
New 1.2	Code & Process Improvement	Regionally Consistent and Practicable Low Impact Development (LID) Standards	Remove barriers to implementation through code reform and the creating of standards (i.e.: street-section template) that are approved by all reviewing agencies. This also includes development of impact fee reductions as an incentive (see Recommendation 2.2, Impact Fee Reductions).	Cross-cutting	City/County of Sacramento
Existing & New 2.1	Code & Process Improvement	Green Development Code Update	Creates a comprehensive review and update of existing codes and policies to remove barriers relating to the implementation of green building strategies that are non-structural and to include green building strategies and incentives that are not currently in City Code.	Cross-cutting	City/County of Sacramento (Possible grant funding through HUD & CA Strategic Growth Council)
Existing & New 2.2	Financing & Incentives	Impact Fee Reductions	Impact fees for sewer, water, parks and other services are calculated based upon the “impacts” that those building will have on the public infrastructure. The goal is to align the fee structure with the performance of the buildings.	Cross-cutting	City/County of Sacramento; Service providers

Existing & New 2.3	Process Improvement	Alternative Means Requests (AMRs) Database	Creates a database framework for retaining AMRs with associated research and findings that can be accessed by local building staff within the region. This database will allow easy access to AMRs and applications, allowing staff to quickly assess what additional information/testing is needed, to monitor local green building projects, and could eventually be linked to a best practices green building forum.	Cross-cutting	City/County of Sacramento Partners: SVABO; BIA; Green Guild
Existing & New 2.4	Process Improvement	Sustainability priority for publicly subsidized development projects	The project selection process for publicly subsidized buildings will include sustainability as priority in both the bidding process and as an evaluation criterion for project selection. Public agencies and departments will be urged to send bids electronically rather than in paper. The selection criteria for projects could include, but is not limited to the level of LEED or other certification that the project is anticipated to receive. Project selection committees should weigh the level of sustainability along with other factors when determining the best overall project. RFP's should notify project proponents that sustainability would be a factor in the selection process.	Cross-cutting	City/County of Sacramento
Existing & New 2.5	Process Improvement & Education	Green Building Project Managers & Staff Training	<p><i>Option 1:</i> Mandatory staff training across the board to increase the understanding and comfort of staff in discussing, reviewing, and inspecting green building techniques and emerging products. or,</p> <p><i>Option 2:</i> Assign dedicated staff to track & understand green building technologies and as the primary points of contact for green building projects submitted for permits.</p>	Cross-cutting	City/County of Sacramento Partners: SVABO; BIA; Build it Green; Green Guild
Existing & New 2.6	Education & Marketing	Green Building Recognition and Education Program	May include home tours, public recognition at council meetings or other means to celebrate and raise awareness of green projects.	Residential	City/County of Sacramento; SMUD Partners: Market driven

Existing & New 2.7	Education & Marketing	Greening the Multiple Listing Service (MLS)	Recommendation to follow the National Association of Realtors in adding entry fields that address energy, water efficiency features and applicable home/building ratings on the local MLS.	Cross-cutting	Sacramento Multiple Listing Service (MLS); Sacramento Association of Realtors (SAR); SMUD
Existing & New 2.8	Education & Marketing	Create a Green Building Professionals Guild	Either creates a new professional organization or branch of an existing organization to support contractor education about green building techniques, products and resources.	Cross-cutting	BIA; CBPCA; USGBC; Build It Green; Green Sacramento; Office of Councilmember Kevin McCarty
Existing & New 2.9	Education & Marketing	Cost Benefits of Green Building	To raise awareness about cost savings payback for energy efficient buildings and create demand for energy efficient homes and commercial buildings.	Cross-cutting	Green Building Professionals Guild
Existing & New 2.10	Financing & Incentives	Application and Plan Check Fee Reduction/Alterations	Reductions in fees for buildings that meet a green building standard. The standard could be LEED Gold for commercial buildings and GreenPoint Rated for residential.	Cross-cutting	City/County of Sacramento
Existing & New 2.11	Incentives	Green Building Structural Incentive Program	Develop structural incentives that encourage and reward projects that voluntarily achieve high performing green building standards (i.e. LEED or GreenPoint Rated certification) beyond mandatory CALGreen requirements.	Cross-cutting	City/County of Sacramento agencies; SMUD

Existing 3-1	Financing & Incentives	Increase Awareness of Financing Options for Energy Efficiency Retrofits	Create a comprehensive resource of different financing options for both residential and commercial energy and water efficiency retrofits, and of the cost, benefits/savings associated with such upgrades.	Cross-cutting	Financing Community; SMUD; PG&E
Existing 3-2	Education & Marketing	Contractor and Homeowner “Did You Know?” Checklists	A checklist of “green things” a contractor or homeowner could consider incorporating into their project and information about available rebates, etc. Would require a homeowner/contractor signature at time of building permit submittal.	Residential	City/County of Sacramento Partners: SMUD; PG&E; Green Sacramento; Build It Green
Existing 3-3	Education & Marketing	Commercial Building Energy Disclosure	Aligned with AB1103, staff action to ensure that energy disclosure information provided to Portfolio Manager is also made available to the general public.	Commercial	City/County of Sacramento; SMUD; CEC
Existing 3-4	Education & Marketing	Green Lease Toolkit	Creates a model program that educates both building owner and tenants about the benefits associated with energy & water efficient buildings and how to properly operate them.	Commercial	SMUD, Unknown

Fully Supported Recommendations

All of the following recommendations (Recommendation 1.1 – Recommendation 3.4) were discussed by the Task Force teams and tested against the gradients of agreement that were part of the decision-making rules. These recommendations are identified as being “fully supported” because they received a majority of votes that indicated “support” and “strong support,” and there was an absence of any votes to “block” the proposal from moving forward. They are presented here in their standard template format, and following the sequence identified in Table A.

Task Force members completed a standard summary template and evaluation table for each recommendation. Within the table each evaluation criterion was rated on a scale of one to five stars, with one (★) generally being the lowest level of feasibility or impact and five (★★★★★) being the highest. In the case of financial impact, a score of one star would indicate the lowest cost associated with implementing a recommendation. In the case of administrative feasibility, a score of five would indicate a high likelihood of adoption and relative ease to do so.

Recommendation 1.1: Implementation of CALGreen Codes: Tier 1 “Early Action” Measures by 2012, Full Tier 1 Compliance by 2014

Type of recommendation: Mandatory requirement

Applies to: New Construction (Cross-Cutting: Residential and Commercial)

Objective: Reduce market confusion in the implementation of CALGreen and set a road map for the implementation of higher standards in the future.

Description: The State of California recently adopted new mandatory green building regulations (also known as “[CALGreen](#)”) for all new construction in the state. CALGreen is the nation’s first statewide green building standards code and will take effect January 1, 2011. Having a mandatory green building code will allow California’s builders to build to a certifiable green standard without having to pay costly fees for third-party programs. CALGreen is not intended to replace existing green building rating systems such as LEED or GreenPoint Rated, but will serve to set a new minimum baseline standard within the existing building code regulatory framework. Projects that are voluntarily pursuing third-party, green building certification such as LEED, GreenPoint Rated, or other equivalent rating systems, are strongly encouraged and will be eligible for incentives developed to support the full-body of Green Building Task Force recommendations.

In addition to setting new baseline mandatory green standards, CALGreen also includes more stringent additional measures that will help every builder, owner or local government to go even further. While the baseline mandatory standards will go into effect immediately in early 2011, local communities can take additional actions to green their buildings that will reduce greenhouse gas emissions, improve energy efficiency and conserve our natural resources. These additional measures are known as “Tier 1” or “Tier 2” actions, and specific findings must be made if local communities choose to enforce them in addition to the baseline mandatory standards in CALGreen (see Appendix 1).

The following approach is recommended to phase in all Tier 1 measures by 2014:

- **Phase 1: Enforce CALGreen baseline mandatory standards for 1 year, beginning January 1, 2011.** The City and County will enforce baseline mandatory CALGreen measures prior to considering any additional Tier 1 measures. During the initial implementation of CALGreen, local jurisdictions shall note areas for improvement and also study the success and challenges of other CA jurisdictions who have attempt to require additional Tier 1 measures on a mandatory basis. Additionally, CALGreen Tier 1 or Tier 2 measures and third-party rating systems such as LEED and GreenPoint Rated will be encouraged on a voluntary basis through ongoing education and incentives (see other GBTF Recommendations regarding incentives in this report).
- **Phase 2: Introduce a short list of “Early Action” Tier 1 Measures to be added to mandatory CALGreen provisions in by 2012.** As noted with check marks in Attachment 1, additional Tier 1 measures have been identified that are relatively easy to implement and would not impose significant additional costs, and will help to ease the transition to full Tier 1 becoming mandatory in 2014. City and County would need to make appropriate findings and seek approval from the State for certain energy efficiency related requirements, as applicable. Again, full compliance with Tier 1 or Tier 2 will be encouraged, however qualification for any incentives based on Tier 1 may be diminished as this phase begins (see other GBTF Recommendations related to incentives in this report). Projects voluntarily pursuing higher development standards through LEED, GreenPoint Rated or an equivalent third-party rating system will either be exempt from mandatory “Early Action” CALGreen Tier I requirements or shall show an equivalency of compliance at time of submission of plans for building permits. Incentives will continue for voluntary compliance with third-party rating systems like LEED and GreenPoint Rated.

- **Phase 3: Full CALGreen Tier 1 compliance required by 2014.** Any incentives that could be offered would only apply to projects achieving Tier 2 or LEED or GPR minimum ratings (or their equivalent as determined by jurisdiction staff). Note that if the State adopts more stringent CALGreen requirements by 2014, those mandates shall be evaluated on their efficacy and may satisfy the requirement to adopt more rigorous local standards. If the State does not adopt more stringent CALGreen standards, the City and County will move forward with mandatory Tier 1 compliance in 2014. Projects voluntarily pursuing higher development standards through LEED, GreenPoint Rated or an equivalent third-party rating system will either be exempt from mandatory CALGreen Tier I requirements or shall show an equivalency of compliance at time of submission of plans for building permits. Incentives will continue for voluntary compliance with third-party rating systems like LEED and GreenPoint Rated.

The following action steps will also be taken to ensure for a smooth transition and avoid creating confusion in the marketplace:

- A minimum of 3 months prior to any additional requirements during these phases, the jurisdictions shall hand out checklist(s), to all entities pulling permits, which identify what the new requirements will be. The purpose is to ensure, to the extent possible, that the market is aware of changes in code requirements prior to the regulations going into effect. (See also Recommendation 3.2 Contractor and Homeowner “Did You Know?” Checklists).
- Sacramento County and City shall work with others jurisdictions in the region towards regional consistency in enforcement and verification of both CALGreen baseline mandatory standards and Tier 1 or 2 measures. The purpose is to ensure that contractors and the public have an even playing field throughout the region.

Evaluation: 1.1 – Implementation of CALGreen Codes

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★★	Basic CALGreen requirements only include compliance with current Title 24 energy efficiency standards. Implementation of more stringent requirements above Cal Green minimum (Tier 1 or 2) would result in energy savings of 15% to 30% beyond current Title 24 EE requirements.
Impact on water efficiency Rating: ★★★★★	CALGreen minimum requirements for water efficiency will result in 20% water savings reduction beyond regular building code, a significant improvement. Implementation of Tier 1 or 2 targeted at water would have an even greater impact on water efficiency (15% or 30%) above CALGreen minimum.

<i>Cost of Implementation</i>	
Cost to development comm. & stakeholders Rating: ★★	Implementation of additional requirements will be associated with some cost. The level of cost burden is dependent upon the specific regulations that will be implemented and the extent to which those regulations require more expensive products or installation processes. By implementing a phased approach based on Tier 1 by 2014, however, additional cost increases will be gradual and will allow time for testing new approaches and demonstration of best practices for projects already achieving high ratings beyond minimum requirements.
Cost for administering agency Rating: ★★★★★	The costs associated with the administration of additional regulations are likely to be covered in fees. To the extent that new regulations require additional review, new fees would need to be implemented.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★★	Uncertainty remains surrounding the implementation CALGreen. Overtime this uncertainty will be diminished. The phased approach allows for greater ease of implementation.
Likelihood of adoption Rating: ★★★	The first phase of the 3-phase approach is already mandatory statewide. Gradual implementation of additional Tier 1 measures is likely to gain broad support, provided that appropriate incentives, education, marketing, and other tools are also in place.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★★	There is likely to be some impact in phasing in CALGreen basic and Tier 1 measures. New water efficiency, landscaping, indoor air quality, energy efficiency, and other features of new construction may drive innovation and entrepreneurship in the emerging green building sector.
Potential for positive economic development impacts Rating:	Similarly, some positive economic impacts can be expected in the region as the testing and deployment of new products could lead to additional investment in local businesses and industries, particularly in the solar industry for projects that are able to exceed minimum standards.

Recommendation 1.2: Regionally Consistent and Practicable Low Impact Development (LID) Standards

Type of recommendation: Code/Process Reform

Applies to: New Buildings (Cross-cutting)

Lead agency/organization(s): City/County of Sacramento

Objective: Create and adopt clear LID standards that remove barriers to implementation and can be applied consistently to projects

Description: Convene all agencies involved in reviewing and implementing LID practices to: (1) Identify and remove roadblocks to implementation of LID, and (2) Create clear policies and standards for LID that jurisdictions will apply consistently to projects. The Low Impact Development issues that need the greatest amount of attention include the following items:

Complete Green Streets:	Water Usage:	Fire flows:	Energy/Gas:	Parks, Open Space & Greening Fees:
<ul style="list-style-type: none"> • Pervious pavement / asphalt • Detention basin drains into aquifer • Bioswale / retention basin for storm drainage filtration • Landscape utilizes durable and drought resistant plants • Landscaping built into the right of way with tree planting cut outs or bulb out • Narrower than existing roadway standards • Accessible by all multi-modes of transportation 	<ul style="list-style-type: none"> • Reduce or formalize the per person per EDU standard to reflect the type of development. • Further monitoring and enforcing usage through metering and charging for unreasonable use • SB 610 and the 20x2022 Water Conservation Plan create requirement that the jurisdiction approve a project with an adequate water supply based on actual conservation and not the existing Master Water Plans • Enforce a 20% reduction 	<ul style="list-style-type: none"> • Allow non-potable water for fire suppression systems • Further water reduction measures • Landscape water reduction through strictly enforced model landscape design guidelines. • Grey Water Systems • Waste water • 50% Low Flush Toilets • Subdivision level Centralized Waste Water Facilities 	<ul style="list-style-type: none"> • Create Subdivision level energy production districts • Opportunities for Solid Waste reduction through energy to waste 	<ul style="list-style-type: none"> • Reduce city-wide Quimby requirements • Further reduce Landscape impact fee through creating additional density bonus multipliers. • Reduce fees on a project by project basis based on the conservation savings of the project verses the expected fees suggested in the CIP. • Complete fee waivers for LEED Gold or greater projects.

Complete Green Streets:	Water Usage:	Fire flows:	Energy/Gas:	Parks, Open Space & Greening Fees:
<ul style="list-style-type: none"> Reduce the bike lanes and increase the amount of bike routes Parking areas verses parking lots or immediate on street parking Utilize Alley ways as building frontage Curb / curb cuts in drainage swales could be eliminated and replaced with permeable concrete 	over the next 10 years.			

Evaluation 1.2 — Regionally Consistent and Practicable Low Impact Development (LID) Standards

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★	Widespread implementation of LID will lead to modest energy savings by reducing the amount of wastewater to pump and/or treat
Impact on water efficiency Rating: ★★★★★	LID can have a major impact on water efficiency through drought tolerant landscaping, allowing water to percolate into the soil and recharge groundwater aquifers, reducing runoff, etc.
<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★★★★★	Best case: stakeholders would save money by having a more efficient/consistent process to navigate along with fewer barriers in the way of implementing LID. Worst case: there would be little to no cost to stakeholders, other than costs associated with their potential participation in the convening to identify/remove barriers and create policies/standards.
Cost for administering agency Rating: ★★★	Staff time necessary to participate in convening, amend codes/ordinances to remove barriers and adopt new standards, and educate pertinent staff. Additional oversight may be necessary ensure compliance with new requirements.

<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★★	Work associated with convening and amending codes/ordinances can be relatively lengthy and complex. However, once codes/ordinances are in place, administration should be straightforward.
Likelihood of adoption Rating: ★★★★★	Relatively high. Creates more certainty for both staff and development community, removes roadblocks to implementation and creates inter-jurisdictional consistency.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★	Relatively low, although jobs may be retained or created if implementation of LID becomes mainstream.
Potential for positive economic development impacts Rating: ★★	Developers that choose to do LID will benefit from consistent standards and a more efficient process that save time and money; infrastructure needs should be reduced (e.g. smaller drainage pipes) leading to additional cost and material savings.

Recommendation 2.1: Green Development Code Update

Type of recommendation: Code & Process Improvement

Applies to: Existing and New Buildings (Cross-Cutting)

Lead Agency: City/County of Sacramento (Possible grant funding through HUD & CA Strategic Growth Council)

Objective: To conduct a comprehensive review and update of existing City/County codes and policies to remove barriers to implementing green building strategies.

Description: This recommendation includes a comprehensive review of existing City/County codes and policies to identify potential barriers to green building techniques and low-impact development strategies, and determine appropriate updates and revisions needed. Once appropriate changes have been identified, municipal codes will be revised and updated to encourage “greener” and more energy/water efficient building techniques.

Possible subject areas include: using recycled/reclaimed materials as non-structural building finishes, use of grey-water and rain-water harvesting onsite, site drainage and percolation, and use of drought-tolerant landscaping instead of turf, etc. Green building strategies and products that require testing and extensive review (i.e. due to structural and other life-safety concerns) will still require the filing of an *Alternative Means Request* (i.e.: straw bale and rammed-earth construction) and will be identified and clarified through this green development code update.

Evaluation 2.1 – Green Development Code Update

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★	Updating outdated and conflicts within the code could potentially result in more energy efficient buildings, however, implementing this measure alone will not directly result in energy savings.
Impact on water efficiency Rating: ★	Updating outdated and conflicts within the code could potentially result in more energy efficient buildings, however, implementing this measure alone will not directly result in water savings.

<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★★★★★	Little to no cost to stakeholders as the City/County will bear cost of review and update to codes.
Cost for administering agency Rating: ★	High, as this recommendation will require multiple staff and consultant resources to conduct the review, hold internal and stakeholder meetings, draft changes and bring forward to appropriate hearing bodies for formal adoption. Costs would need to grant funded and would most likely require additional in-kind, general funded staff work.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★	A comprehensive review of existing codes will need to be undertaken to identify sources of potential conflict, and any building codes changes would require formal findings to be created and submitted to the Building Standards Commission and/or the California Energy Commission.
Likelihood of adoption Rating: ★★★	The City's Zoning code is outdated and several inconsistencies exist with the City's new 2030 General Plan, and code revisions have been identified as a necessary and high-priority plan implementation program. As the County also has a newly updated General Plan, conceivably updates to their zoning code are also necessary.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★	No direct job creation is expected. Long-term job creation potential exists over the long-term, as noted below, once the development code update process is complete.
Potential for positive economic development impacts Rating: ★★★	Removing barriers and conflicts within municipal code will encourage easier implementation of green building and potentially reduce the processing time associated with the review and permitting of green building strategies and techniques. Similarly, by clarifying the AMRs process applicants will have a predictable and transparent process for the review of innovative building techniques and products.

Recommendation 2.2: Impact Fee Reductions

Lead Agency or Organization: City/County of Sacramento/Service providers

Type of recommendation: Financing and Incentives

Applies to: Existing & New Buildings (Cross-Cutting)

Objective: To provide scaled impacts fee that more accurately reflect the impacts associated with all types of building including Green Building, such that those building practices that result in real lower impacts have lower fees.

Description: Impact fees for sewer, water, parks and other services are calculated based upon the “impacts” that those building will have on the public infrastructure. The goal is to align the fee structure with the performance of the buildings. Buildings that are built more efficient, and have smaller or less impacts on the public infrastructure, should be charged a fee that is commensurate with that impact. The idea is that there are certain green building practices that can be directly tied to impacts on public infrastructure. (Example: Low flow faucets, waterless urinals would result in lower impacts on the public sewer system and thus should have an impact fee that is lower than the standard fee.)

The goal is not an arbitrary reduction in the impacts fees, but an alignment of the fees with the impacts. Thus, the market can choose to build lower impact buildings, which have relatively lower fees, or build traditional buildings and pay relatively higher fees.

Evaluation 2.2 – Impact Fee Reductions

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★	There is no impact fee for energy usage, thus this measure is unlikely to result in energy savings.
Impact on water efficiency Rating: ★★	Impacts fees are collected for both water and sewer. These two fees are highly coupled with the performance of the building as it relates to water consumption and sewage. Sewage from a building has a direct positive correlated to water consumption. To the extent that the reduction in fees covered additional cost to builders to install more efficient features, the result would be more water efficient buildings.

<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★	Unclear what the cost to stakeholders would be.
Cost for administering agency Rating: ★	To implement a program would likely require full nexus studies for prescriptive measures associated with water reduction. The potential exists that master plans would need to be revised to account for changes in assumptions for the built environment. Additionally, financial assumptions and models for service providers are built on the master plans and utilized for bonding and financing capacity. Changes in the master plans may result in negative impacts to the service provider's financial ratings and may have adverse impacts on the ability of the service providers to raise capital.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★	See comments above. The likely necessity for a nexus study reduces the ease of initiation. Nexus studies can be extremely expensive, and it is unclear whether or not the results would demonstrate a substantial reduction in fees. However, if a service provider was in the process of updating fees, they could include additional analysis for Green building at little additional cost.
Likelihood of adoption Rating: ★★★★★	If a nexus study was completed adoption is likely.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★	None
Potential for positive economic development impacts Rating: ★	None

Recommendation 2.3: Alternative Means Requests (AMRs) Database

Lead Agency or Organization: City/County of Sacramento, SVABO, BIA, Green Guild

Type of recommendation: Process Improvement

Applies to: Existing & New Buildings (Cross-Cutting)

Objective: The goal is to increase the ease of using alternative techniques and products to develop green buildings. The City/County wants to encourage innovation and early market adoption but must balance this with regulatory review for life and safety compliance.

Description: This recommendation includes the creation of a regional database and information-sharing framework for retaining Alternative Means Requests that can be accessed by local building staff within the region. The database will catalog and retain Alternative Means Requests (AMRs) with associated research and findings. Such a database will allow easy access to AMRs and applications, allowing staff to quickly assess what additional information/testing is needed, to monitor and update local green building projects example sand could eventually be linked to a web-based public green building "best practices" forum. Development of the AMR database will actively build a regional body of knowledge that can aid in identifying obstacles and provide information for future green building incentive development.

Evaluation 2.3 – Alternative Means Requests (AMRs) Database

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★	The direct impact of this policy on energy efficiency is relatively low. The goal is to spur market transformation and ease the building review process by more effectively categorizing, archiving and sharing AMRs.
Impact on water efficiency Rating: ★	The direct impact of this policy on water efficiency is relatively low. The goal is to spur market transformation and ease the building review process by more effectively categorizing, archiving and sharing AMRs.
<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★★★★★	None
Cost for administering agency Rating: ★★	Developing and maintaining a database will pose costs to the jurisdictions. There are both onetime and ongoing costs associated with development and maintenance of this recommendation.

<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★	The program would likely be relatively easy to administer, however creating the database and network may be challenging as there is no such program currently in place. Each jurisdiction will still need to evaluate any AMR relevant to the specific site and any AMRs need to meet or exceed current CA Building Standards.
Likelihood of adoption Rating: ★★★	While this recommendation could result in a powerful tool, finding resources to develop the database and being able to coordinate multiple jurisdictions may be difficult.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★	Limited potential for direct new job creation, however creating a database and the corresponding better communication between jurisdictions could result in a friendlier regulatory environment for innovative green building techniques and products.
Potential for positive economic development impacts Rating: ★★★★	Development of the AMR database will actively build a regional body of knowledge that can aid in identifying obstacles quicker and provide information for future green building incentive development. Creating an innovation-friendly regulatory environment may also provide opportunities for local companies to partner in testing and getting their building efficiency products/techniques to market quicker.

Recommendation 2.4: Sustainability Priority for Publicly Subsidized Development Projects

Type of recommendation: Process Improvement

Applies to: All projects receiving public subsidy, including redevelopment projects where the developer has been provided land at below market rate.

Objective: To ensure that public funds which are expended on development projects are used in an environmentally responsible manner.

Description: The project selection process for publicly subsidized buildings will include sustainability as a priority in both the bidding process and as an evaluation criterion for project selection. Public agencies and departments will be urged to send bids electronically rather than in paper. The selection criteria could include, but is not limited to the level of LEED or other certification that the project is anticipated to receive. Project selection committees should weigh the level of sustainability along with other factors when determining the best overall project. RFP's should notify project proponents that sustainability will be a factor in the selection process.

Evaluation 2.4 – Sustainability Priority for Publicly Subsidized Development Projects

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★★	Publicly subsidized projects make up a small portion of all development, but are often some of the largest and most visible projects, and can set a precedent for other development.
Impact on water efficiency Rating: ★★★	
<i>Cost of Implementation</i>	
Cost to development comm. & stakeholders Rating: ★★★★★	There is no mandatory obligation for the development community to propose a green project, so any additional costs for creating a more sustainable project should be rewarded by the potential for the project to be selected for public subsidy.
Cost for administering agency Rating: ★★★★★	Should be no different as publicly subsidized projects already go through an evaluative process. A shift to the practice of paperless bid communications could reduce waste and lower cost in public agencies and departments.

<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★★★★	Should be no different as publicly subsidized projects already go through an evaluative process.
Likelihood of adoption Rating: ★★★★★	High, since there is no new mandate.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★★	
Potential for positive economic development impacts Rating: ★★★★★	High profile green projects can rapidly boost the profile of the Sacramento region as a leader in sustainability, and thereby attract green companies and professionals to the region.

Recommendation 2.5: Green Building Project Managers & Staff Training

Lead Agency or Organization: City/County of Sacramento, BIA, Green Guild, Build It Green

Type of recommendation: Process Improvement & Education

Applies to: Existing & New Buildings (Cross-Cutting)

Objective: The goal is to improve development plan review and permitting through educating and assigning dedicated staff to track and understand how to work with the latest green technologies and green building innovations, and to serve as the primary points of contacts for projects with less common green features.

Description: This recommendation strives to make continuing education a priority for both the applicant and City/County staff on green building features and techniques while encouraging building innovation.

Achievement of this recommendation could be accomplished in several ways by either assigning key staff members to review and shepherd green projects through the City/County planning and permitting process thus creating green building “experts” on staff, or by generally increasing the level of training and staff understanding of building techniques and products.

As an extension of the first option, or as a separate stand alone measure, key staff members assigned as green building project managers would meet quarterly with an advisory body of local professionals (an Innovation Committee) to share knowledge and objective evaluations of green building techniques and products. This advisory group could be a subgroup or augment the capability of an existing advisory group such BIA’s Remodelers Council, Build It Green’s Green Professionals Guild or through the local USGBC Chapter.

Under the second option, a broad approach to staff training could occur through mandatory attendance at educational workshops/presentations, tours of green building, shadowing 3rd party energy auditors and inviting industry partners or the Innovation Committee to present new products and building strategies at regularly scheduled plan check and inspector meetings. Increasing staff understanding of green building techniques and products could conceivably result in quicker processing times due to the ability to overcome potential obstacles due to unfamiliarity.

Evaluation 2.5 – Green Building Project Managers & Staff Training

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★	Educating staff could potentially result in more energy efficient buildings; however, implementing this measure alone will not directly result in greater energy efficiency.
Impact on water efficiency Rating: ★	Educating staff could potentially result in more energy efficient buildings; however, implementing this measure alone will not directly result in greater water efficiency.
<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★★☆☆	Low cost to stakeholders, may result in need to increase building fees for additional City/County work associated with dedicated staff.
Cost for administering agency Rating: ★★★	Would require additional FTEs and costs associated with training; in addition, supporting an advisory committee will result in additional costs relating to supplies, meeting facilities, etc.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★	Increased training that incorporates tours and outside workshops/presentation may be difficult due to limited staff capacity, difficulty of scheduling and maintaining adequate coverage in the field and in the office.
Likelihood of adoption Rating: ★★★	If a partnership can be established to assist with the advisory committee capacity and with developing staff training this recommendation seems it may be feasible.

<i>Economic Impacts</i>	
Potential for new job creation Rating: ★	Limited potential depending if having dedicated staff are the preferred option or not. No private sector job creation.
Potential for positive economic development impacts Rating: ★★	Increasing staff understanding of green building techniques and products could conceivably result in quicker processing times due to the ability to overcome potential obstacles due to unfamiliarity.

Recommendation 2.6: Green Building Recognition and Education Program

Lead Agency: City/County of Sacramento, SMUD

Type of recommendation: Education & Marketing

Applies to: Existing & New Buildings (Cross-cutting)

Objective: The purpose is to raise residents' awareness and to celebrate green building and high performing building examples developed within the community.

Description: Task Force members feel that there is a significant need for homeowner education about opportunities to make their homes more efficient, and that comprehensive home rating programs for existing buildings need to become more widely understood and utilized.

One way to build familiarity is to launch a program celebrating local developers and projects that achieve certification through 3rd Party Green Building Rating programs (i.e. LEED, GreenPoint Rated). Recognition could be given as a regular feature at City Council/Board of Supervisors meetings, at other public meetings and through the commitment of local official's attendance at open house celebrations.

Similarly, local media could partner with the City/County to help highlight these projects. Other opportunities include the City/County partnering with local organizations to hold green building home/business tours and block parties. The goal would be to trigger neighbor-to-neighbor discussions about energy and water improvements and the associated cost savings over time and increased comfort of their building.

Evaluation 2.6 – Green Building Recognition and Education Program

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★	Creating a Green Building Recognition program could potentially result in more energy efficient buildings; however, implementing this measure alone will not directly result in greater energy efficiency.
Impact on water efficiency Rating: ★	Creating a Green Building Recognition program could potentially result in more energy efficient buildings; however, implementing this measure alone will not directly result in greater water efficiency.
<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★★★★★	Little to no costs beyond those associated with normal marketing activities such as open house events, tours, etc.
Cost for administering agency Rating: ★★★	Depending on the scope of recognition program; the costs can range from little to none for public recognition at City Council/Board or Supervisor meetings, to more substantial costs for website/publication coordination, and even higher additional costs for active staff participation and coordination of open houses, tours and other celebration events.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★★★	Fairly easy to administer with the exception of a few larger events that will take considerable staff time and coordination with partnering organizations to implement.
Likelihood of adoption Rating: ★★★★★	Provides an opportunity for greater coordination of multiple partners to champion for local green projects in addition to raising community awareness of such projects.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★★	Little to no direct job creation but may play a role in helping to create greater awareness and market demand for green projects.
Potential for positive economic development impacts Rating: ★★★★★	Will support the region's image as a hub for green technology and sustainability. Program could attract additional media attention, and support regional branding efforts.

Recommendation 2.7: Greening the Multiple Listing Service (MLS)

Type of recommendation: Education & Marketing

Applies to: Existing and New Buildings (Cross-cutting)

Lead organization(s): Sacramento Multiple Listing Service (MLS); Sacramento Association of Realtors (SAR); SMUD willing to help

Objective: To elevate homebuyers' awareness of building energy efficiency by adding check boxes and data entry fields to the MLS. This would allow prospective buyers to easily see if a property has features that increase energy and/or water efficiency.

Description: During their discussions, the Task Force identified a need to educate the public about energy efficiency features in existing buildings, especially pre-Title 24 housing stock. The Multiple Listing Service (MLS) was identified as a potential tool to raise awareness about energy efficiency features since most homebuyers use this database to access information about available properties. The Task Force developed a recommendation to follow the National Association of Realtors recommendations for adding entry fields to the MLS that address energy and water efficiency features and any applicable home ratings or certifications. These fields would also be highlighted in green to make identification of energy efficiency or other “green” features easier. Using the SoCal MLS data entry form as a model, the list of “green” building attributes available for use when listing a property would be expanded in the Sacramento region MLS. In addition to providing a space to upload any documents associated with a home rating or certification, the following information would be included in the listing report:

- Green Building Certification (yes or no)
- Certifying Body
- Year of Certification
- Green Certification Rating

In addition to modifying the MLS data entry form, energy efficiency features would be displayed together in the online listing and printed report. Participation would be voluntary and at the discretion of agents who are listing properties. There should not be ongoing costs associated with implementing this recommendation. Over time, data from MLS could be used to determine if homes with energy ratings or several energy efficient features sell more quickly or for a high price than properties without these features. Studies of real estate markets in the Pacific Northwest show that this has been the case for property listings that include a third party certification or rating. Implementing this recommendation could ultimately increase regional demand for energy efficient homes.

Evaluation 2.7 – Greening the Multiple Listing Service (MLS)

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★	This recommendation would not directly impact energy efficiency, but it could help to increase market demand for buildings with “green” features.
Impact on water efficiency Rating: ★	This recommendation would not directly impact water efficiency, but it could help to increase market demand for buildings with “green” features.
<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★★★★★	No cost to stakeholders (real estate agents, prospective homebuyers). SMUD is supportive and willing to help develop the MLS entry form.
Cost for administering agency Rating: ★★	Possible up front cost to modify the local MLS database. No anticipated costs for maintenance.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★★★★	The Sacramento Association of Realtors has expressed interest in becoming more “green” and agreed to be a champion for this recommendation. Ease of initiation should be high.
Likelihood of adoption Rating: ★★★★★	Since this recommendation involves voluntary disclosure of a home’s energy efficiency features and third party certification (if applicable), the likelihood of adoption is high.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★	This recommendation would not create new jobs, but could increase the demand for third party home ratings or certifications.
Potential for positive economic development impacts Rating: ★	This recommendation would not create new jobs, but could increase the demand for third party home ratings or certifications.

Recommendation 2.8: Create a Green Building Professionals Guild

Type of recommendation: Education & Marketing

Applies to: Existing and New Buildings (Cross-cutting)

Lead organization(s): BIA; CBPCA; USGBC; Green Sacramento; Build it Green; Office of Councilmember Kevin McCarty

Objective: To support contractor education about energy efficiency and green building techniques by initiating a Build It Green Building Professionals Guild in Sacramento.

Description: The Task Force identified a need for additional training opportunities for contractors interested in learning about green building features, and recommended establishing a Green Building Professionals Guild to serve the Sacramento region. Green Building Professionals Guilds (GBPGs) provide a place for building professionals to receive green building education and training and share their first-hand experiences with green products and practices. Anyone who works in the building industry or another industry that helps support the market for green building may participate in the Guild; Build It Green Membership is encouraged but not required. Guild meetings can also provide continuing education units for Certified Green Building Professionals (CGBPs) seeking recertification.

Representatives from Build It Green, SMUD and other interested parties are currently in discussion about funding and launching a guild in the Sacramento region. Special consideration is being given to making sure the guild is open to all and does not promote only one entity's tools, products or training. While the Existing Buildings Team was very enthusiastic about the recommendation, members of the New Development Team expressed a preference for better coordination among existing entities already providing training and networking opportunities in the region, such as the Building Industry Association, the Northern California Chapter of the U.S. Green Building Council, utility training programs, etc.

Evaluation 2.8 – Create a Green Building Professionals Guild

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★	Contractors or property owners may incorporate green features into a project after learning about them through training offered by the guild.
Impact on water efficiency Rating: ★	Contractors or property owners may incorporate green features into a project after learning about them through training offered by the guild.
<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★★	Assume there could be a cost to stakeholders (contractors, property owners) to attend trainings.
Cost for administering agency Rating: ★★	Resources for funding and staffing need to be secured. SMUD, BIG and other interested parties are discussing implementation.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★★	If funding were secured, the Guild would be easy to implement.
Likelihood of adoption Rating: ★★★	The Guild is likely to launch if it is an open forum that promotes a variety of green building methods, products and services.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★	The Guild could help with training, professional development and marketing for green building professionals.
Potential for positive economic development impacts Rating: ★★	This could help raise awareness and support for regional energy efficiency programs increasing their effectiveness and penetration into the region.

Recommendation 2.9: Cost Benefits of Green Building

Type of recommendation: Education/Marketing

Recommendation title: Cost benefits of green buildings

Objective: To raise awareness about cost savings payback for energy efficient buildings and create demand for energy efficient homes and commercial buildings.

Description: The Task Force identified a need to educate the public about potential cost benefits associated with green buildings and address the perception that building green is significantly more expensive. In addition to lowering operating costs, energy efficiency features can also improve comfort for building occupants. Studies indicate that increased costs for building green can be recovered through increased rents, higher occupancy rates and lower operating costs. Direct operational savings can be attained through energy efficiency, while the overall level of all aspects of sustainability, as measured by a LEED certification, for example, can have a value beyond just cost savings.

The most effective way to reach commercial real estate owners and investors is through the organizations such as BOMA, ULI, and ACRE. Inviting speakers such as Mark Jewell of RealWinWin or Scott Muldavin of the Green Building Finance Consortium could help to raise the green financial literacy of local owners, investors and developers. For homebuyers and renters, green home tours and a broader media campaign for “Live Green Sacramento” could be an effective way to create demand. The same tactics could apply to commercial tenants—work with the existing Sacramento green business initiative to raise awareness about choices in real estate.

Resource: Green Building Finance Consortium’s “Value beyond cost savings: underwriting sustainable property investment”.

Recommendation 2.9 – Cost Benefits of Green Building

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★	Increased awareness of the broad environmental benefits associated with green buildings, including energy efficiency, could increase market demand for these features.
Impact on water efficiency Rating: ★★	Increased awareness of the water efficiency benefits associated with green buildings, including energy efficiency, could increase market demand for these features.

<i>Cost of Implementation</i>	
Cost to development comm. & stakeholders Rating: ★	No cost and possible economic benefits to stakeholders.
Cost for administering agency Rating: ★★	The administering agency needs to be identified. There could be nominal costs involved with developing and disseminating the educational materials.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★	Administration requirements depend upon the approach to education. If it is through existing organizations it would be more straightforward, if it involves an entirely new program, like Green Home Tours, it could be much more complicated.
Likelihood of adoption Rating:	Unknown.
<i>Economic Impacts</i>	
Potential for new job creation Rating:	Unknown. Anticipate jobs supporting green building industries as market demand for green product increases.
Potential for positive economic development impacts Rating:	Unknown.

Recommendation 2.10: Application and Plan Check Fee Reduction/Alterations

Type of recommendation: Financing and Incentives

Applies to: Existing and New Buildings (Cross-cutting)

Lead Agency or Organization: City/County of Sacramento

Objective: Reductions in fees for buildings that meet a green building performance standard that exceeds minimum CALGreen requirements. The standard could be LEED Gold for commercial buildings and Green Point Rated for residential.

Description: The customer will submit plans that are expected to achieve a minimum level of green building certification (e.g. LEED Gold for Commercial or Green Point rated for residential) to the City or County building department. At the time of submittal they shall pay the full fee, and will have two options:

1. They can request an expedited review, by a third party. This review shall occur; the customer will pay the additional charge for the third party review up front. Following the test out, of the building, if that building performs as designed, the customer will receive a refund for the additional cost of the third party review.
2. The customer can request a fee reduction. Following the completion of the building and test out, if the building performs as designed, the customer will receive a refund, roughly equivalent to the cost of the third party review, and identified in choice one.

If the building is designed and built to the standards established, the customer will have received the benefit of either expedited review at no additional cost, or fee reduction.

Evaluation 2.10 – Application and Plan Check Fee Reduction/Alterations

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★★	Depending on the existing standard, the type of construction, the number of projects that see value in the measure and exercise it, this feature, could have a fair impact on energy.
Impact on water efficiency Rating: ★★	Depending on the existing standard, the type of construction, the number of projects that see value in the measure and exercise it, this feature, could have a fair impact on water.

<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★★	Costs for stakeholders are only associated with the delta in costs for the project. The final cost difference for the project is highly dependent on the type of project and measures employed.
Cost for administering agency Rating: ★	This measure would require that the County/City find other revenue sources to make up for the lost revenue associated with fee reduction and third party review.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★	It is unclear how the respective jurisdictions would make up for lost revenue. The only two viable sources are grant funding or general fund. At this point in time general funds for both City and County do not appear to be able to support subsidizing review or permitting fees.
Likelihood of adoption Rating: ★	Without a clear funding source, the likelihood of adoption is near zero with the current financial position of both jurisdictions. However, this does present a potential opportunity for grant funding should such funding become available.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★	Limited potential depending on the level of additional expedited reviews.
Potential for positive economic development impacts Rating: ★	Somewhat limited.

Recommendation 2.11: Green Building Structural Incentive Program

Type of recommendation: Marketing & Incentives

Applies to: New & Existing Buildings (Cross-cutting)

Lead Organizations: City/County agencies, SMUD

Objective: Develop structural incentives that encourage and reward projects that voluntarily achieve high performing green building standards (i.e. LEED or GreenPoint Rated certification) beyond mandatory CALGreen requirements.

Description: An incentive program could be developed to encourage greener building projects. In some cases, incentives could be structured so that a staff level approval rather than review /approval by the Planning Commission is required for the type of incentives identified below that currently require Planning Commission level planning entitlements.

- Expediting the permitting/approval process: local agencies could choose to expedite review and approval processes for projects that demonstrate a commitment to meet higher standards noted above, thereby reducing overall project costs due to shortened length of review time.
- Density bonuses: Density bonuses provide an opportunity to tie incentives to specific local public policy priorities. Some cities/counties have allowed for percentage increases in Floor Area Ratio (FAR) or other measures of density contingent upon certification or proof of building green.
- Parking reductions/waivers : Parking reductions or waivers could be granted where projects meeting location efficiency and alternate mode availability criteria (e.g. WalkScore or TransitScore), demonstrated shared parking is available, or enhanced bike/pedestrian design features are provided that will reduce vehicle trips to/from the site.
- Additional sign allocations: allowing additional sign area or an additional sign for commercial projects that achieve a minimum threshold of certification under the LEED, GreenPoint Rated or similar program.

Evaluation 2.11 – Green Building Structural Incentive Program

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★	The direct impact is difficult to quantify for expedited processing or fee reductions. The SMUD Savings by Design program for commercial buildings requires at least 10% above Title 24 Energy Efficiency standards to qualify for whole-building approach. Building to higher standards to qualify for incentives will result in positive impacts to building energy efficiency. In case of density bonuses/parking reductions, there are also potential reductions in fuel usage from reduced vehicle-miles-traveled and/or trips, although this would be difficult to quantify.
Impact on water efficiency Rating: ★★	Direct impact difficult to quantify for most of the incentives at this time, however building to higher standards to qualify for incentives will result in positive impact.
<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★★★	Applicants who desire rapid review & approval process may be asked to pay higher costs in exchange for expedited services, unless public agencies are willing to allocate existing funding or obtain outside resources. Design incentives, fee subsidies, development bonuses or reductions based on corresponding green features will have direct positive impact on stakeholders. Need further study/analysis to determine ranges of costs & benefits.
Cost for administering agency Rating: ★★★	Costs to the permitting agencies to provide expedited permit review could be recovered through higher fees, Consultant plan review (paid by applicant), or through a direct subsidy to cover the increased costs from various sources (General Fund, grants, other). Some costs to agencies to develop ordinance allowing bonuses for height/bulk/parking/signs, and some long-term impact associated with potential additional time/costs during review process due to community resistance in infill areas.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★	Expedited review could be difficult to administer given current staffing levels, however depending on willingness of hearing bodies to allocate additional resources, there may be opportunities to create initial pilot programs. Density bonuses, parking waivers, sign allocations: additional studies and ordinances would need to be developed.
Likelihood of adoption Rating: ★★★	Savings by Design already in place, so some opportunities for incentives already exist for commercial buildings. Expedited review and fee reductions unlikely to gain wide acceptance unless willingness of elected officials and/or public to allocate resources to provide additional funding to cover costs. Density bonuses and parking waivers likely to gain some support, although further studies would be needed.

<i>Economic Impacts</i>	
Potential for new job creation Rating: ★★	If combined with other recommendations, this would enhance job creation commensurate with services required to meet higher standards.
Potential for positive economic development impacts Rating: ★★	Some potential.

Recommendation 3.1: Increase Awareness of Financing Options for Energy Efficiency Retrofits

Type of recommendation: Education & Marketing

Applies to: Existing (Cross-cutting)

Lead agency/organization(s): Financing Community, SMUD, PG&E

Objective: The purpose is to raise building owner and prospective buyer awareness of alternative ways to finance energy and water-savings improvements so that more people take advantage of these opportunities.

Description: There are a variety of financing tools and economic incentives available right now to support making energy improvements, and it is possible that many of these tools are not being utilized because of a lack of awareness. An online, regularly updated resource that profiles all of the available financing mechanisms along with their program parameters and eligibility requirements would help to remedy this situation. It should also provide information and links to current financial incentives that can be applied to improvement projects.

New rebates and tax incentives can reduce the cost of energy improvements by more than 30%. An online, regularly updated resource that profiles all of the available incentive programs along with their program parameters and eligibility requirements would help to remedy this situation.

This resource should be easy to find for building owners who are researching how to complete energy improvements. It should also become widely known and utilized by the local contracting community, so that they can direct interested customers to the information. Lastly, this could be a helpful source of information for realtors and other individuals who work one-on-one with owners and prospective buyers and for homeowners themselves.

Connections will need to be made with web based information resources that are coming online in the near future, including the rollout of SMUD's Home Performance Program website, PG&E's resources, and the statewide portal known as Energy Upgrade California. There may be an opportunity to link education efforts with the Contractors' State Licensing Board's website. It should be noted that both the City and County of Sacramento have contributed funding in 2010 to support the expansion of SMUD's residential rebate programs.

Evaluation 3.1 – Increase Awareness of Financing Options for Energy Efficiency Retrofits

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★	Building owners and purchasers that avail themselves of financing will be making energy/water improvements to their structure (potential impact would need to be quantified)
Impact on water efficiency Rating: ★★	Building owners and purchasers that avail themselves of financing will be making energy/water improvements to their structure (potential impact would need to be quantified)
<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★	None
Cost for administering agency Rating: ★★★	Costs to update information on a regular basis (quarterly?) Maintenance of a web-based resource on green financing; may be linked to existing online resources Design and printing costs for any additional collateral to advertise the resource
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★	This is a straightforward research task, but will require some interviewing to better understand the options available and how well they deliver on their promises
Likelihood of adoption Rating: ★★★★★	Since there are already efforts underway to link consumers with means to complete energy and water efficiency retrofits, a tool that makes it easier to find information about financing options has a high likelihood of adoption.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★★★	High levels of uptake of new financing tools will drive consumers to invest in building improvements, which could lead to demand for home auditors and skilled constructions workers.
Potential for positive economic development impacts Rating: ★★★	Green building is one of the region's economic development focus areas, and improved financing alternatives supports the expansion of this sector

Recommendation 3.2: Contractor and Homeowner “Did You Know?” Checklist

Type of recommendation: Education & Marketing,

Applies to: Existing Residential

Lead agency/organization(s): City/County of Sacramento; Green Sacramento; SMUD; PG&E; Build It Green

Objective: To elevate awareness of green building features, techniques and products among contractors and property owners.

Description: The Task Force identified a need to increase awareness about green building features, techniques and products and a need to educate consumers about potential rebate options available. Education about cost savings and associated comfort and health benefits is also important. To that end, the Task Force recommends developing a list of green building features, techniques and products to increase awareness of best practices among contractors and property owners. The checklist would be accompanied by information from local utilities and other financing entities about programs and rebates available for energy and water efficiency retrofits (either existing marketing materials or the tool developed under Recommendation 3.1).

Once the checklist is developed, each jurisdiction would be responsible for making sure it is distributed when the building permit application process is initiated. The contractor or builder would then need to review the checklist with the property owner, identify any green features included in the project and obtain a signature to show that the checklist was reviewed. While reviewing and signing the checklist would be mandatory, a contractor or homeowner could choose which features or products, if any, to incorporate into the project. The signed checklist would then be submitted to jurisdiction staff when plans are submitted for review and approval.

Evaluation 3.2 – Contractor and Homeowner “Did You Know?” Checklist

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★★	Contractors or property owners may incorporate low or no cost energy efficiency features into a project after learning about them through the checklist.
Impact on water efficiency Rating: ★★★	Contractors or property owners may incorporate low or no cost energy efficiency features into a project after learning about them through the checklist.
<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★	No cost to stakeholders (contractors, jurisdictions, property owners).
Cost for administering agency Rating: ★	Very low costs associated with printing copies of the checklist.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★★★★	It would be easy to make the checklist available to contractors and property owners.
Likelihood of adoption Rating: ★★★★★	If the checklist is used as an educational tool, there is high likelihood that this recommendation would be adopted.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★★	Increased demand for energy and water efficiency features in homes may create new jobs.
Potential for positive economic development impacts Rating: ★★	Implementing this recommendation could increase demand for energy efficiency features and green products in homes and existing buildings.

Recommendation 3.3: Commercial Building Energy Disclosure

Type of recommendation: Commercial Education and Marketing Requirement

Applies to: Existing Commercial

Lead agency/organization(s): City/County of Sacramento; SMUD; CEC

Objective: Achieve upgrade of commercial properties over time, through market transformation associated with energy usage disclosures.

Description: Leveraging the existing requirements associated with AB1103 energy benchmarking, the jurisdiction(s) shall ensure that the information uploaded to Portfolio Manager will be easily accessible to the general public. This information should be in such a form that it is searchable and can be utilized by prospective buyers of properties and tenants. Providing access to this information to a prospective tenant or buyer could eventually create demand in the market for energy and water efficient buildings.

In early 2010, the City of Seattle adopted a new ordinance to help meet the city's goal of reducing energy consumption by 20% buildings. The new ordinance requires large commercial and multi-family property owners in Seattle to annually measure, or benchmark, energy use and provides the City with ratings to allow comparison across different buildings. Building owners will also be required to share energy usage and ratings with prospective buyers, tenants and lenders during the sale, lease or financing of properties.

Evaluation 3.3 – Commercial Building Energy Disclosure

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★★	Through disclosure, market awareness will be raised regarding the energy efficiency of commercial properties. This act of education and disclosure will lead to natural market transformation resulting in continual upgrades of properties in the greater Sacramento region.
Impact on water efficiency Rating: ★★★	Through disclosure, market awareness will be raised regarding the water efficiency of commercial properties. This act of education and disclosure will lead to natural market transformation resulting in continual upgrades of properties in the greater Sacramento region.

<i>Cost of Implementation</i>	
Cost to development comm. & stakeholders Rating: ★★★★★	The total cost to stakeholders is negligible in the short run. This activity leverages existing requirements of AB1103, to transform the market place for commercial properties through education and awareness.
Cost for administering agency Rating: ★★★★★	AB1103 requires information to be uploaded into Portfolio Manager; it is unclear how accessible this information will be to the general public. Costs could be associated with converting Portfolio Manager data into an accessible and user-friendly resource.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: unknown	The implementation should be relatively easy. The goal is to leverage existing databases (Portfolio Manager) to allow information to be exchanged in the market place.
Likelihood of adoption Rating: ★★★★★	Relatively high; a low barrier to entry and relatively low cost should lead to adoption of the policy. Implementation will be dependent upon the level of work necessary to ensure that the information is provided in a user-friendly format.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★	This recommendation would not create a significant amount of new jobs.
Potential for positive economic development impacts Rating: ★★★	There may be moderate economic development impacts associated with this recommendation if energy disclosure creates an increase in demand for related products and services.

Recommendation 3.4: Green Lease Toolkit

Type of recommendation: Education/Marketing; Commercial

Applies to: Existing Commercial

Lead organization(s): Private sector building owners/managers, BOMA, tenant associations, other organizations

Objective: To educate prospective tenants and building owners about the benefits of energy and water efficiency features in commercial buildings.

Description: The Task Force identified a need to educate building owners and prospective tenants about the benefits associated with energy and water efficient buildings. Additionally, the Task Force discussed the importance of educating both owners and tenants about the benefits of energy and water efficiency features in commercial and multifamily residential buildings. Several examples exist of green leases that promote a partnership between the building owner and the tenant and ensures that both parties contribute to efficient building operations. The toolkit and associated educational materials could be provided to property management companies and commercial leasing brokers to share with prospective tenants.

Model Programs:

Jones Lang LaSalle Green Office Toolkit: <http://www.joneslanglasalle.com/microsites/GreenOfficeToolkit/>

California Sustainability Alliance Green Leases Toolkit: http://sustainca.org/green_leases_toolkit

Using Green Leases to Improve Building Performance: <http://greeneconomypost.com/green-leases-improve-building-performance-8003>.

Evaluation 3.4 – Green Lease Toolkit

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★	This recommendation could help increase market demand for buildings with energy efficiency features, which would encourage building owners and developers to include these features in their buildings.
Impact on water efficiency Rating: ★★	This recommendation could help increase market demand for buildings with water efficiency features, which would encourage building owners and developers to include these features in the buildings.
<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★	No cost to stakeholders (real estate agents, prospective tenants, building owners, developers).
Cost for administering agency Rating: ★★	There would be nominal costs associated with developing educational materials.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★★★★	Providing the educational materials would be relatively easy.
Likelihood of adoption Rating: ★★★★★	If this recommendation involves voluntary education only, there is high likelihood of adoption.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★	This recommendation would not create new jobs.
Potential for positive economic development impacts Rating: ★	Implementing this recommendation could increase regional demand for energy efficient buildings over an extended period of time.

Residential Energy Conservation Ordinance Input

A topic that garnered a mixed degree of support from the Task Force was structuring a Residential Energy Conservation Ordinance (RECO). Simply put, this recommendation would require that homes have an energy audit at certain “trigger points,” with the intention of educating owners about current home energy performance and options for making improvements that will produce energy and cost savings. RECOs have been instituted in other areas to achieve home energy performance goals, with a similar program being implemented in Austin, TX. The City of Sacramento has had a RECO-type ordinance in City Code⁸ since the early 1980’s that requires energy audits and upgrades at point of sale, although it is not currently enforced. The County of Sacramento does not currently have a RECO ordinance. The City of Sacramento’s General Plan requires a review and update to the ordinance by July 2012; City staff recognized an opportunity to gather expert perspectives on this issue from the Task Force during the October 20th Existing Buildings team meeting.

After engaging in a lively discussion on this item and producing a split vote, the Existing Buildings team opted to include this proposed RECO approach with the overall package with clear notation of the dissenting opinions. The Point of Sale trigger was strongly opposed by the real estate community within the Task Force membership itself, and these concerns were further amplified by other realtors in the community at the final stakeholder meeting. The concerns that have been raised are profiled below, along with the viewpoints in support of a proposed RECO format.

Residential Energy Conservation Ordinance Description

Residential Energy Conservation Ordinance (RECO)

Type of approach: Code/Process Reform

Applies to: Existing residential

Objective: To require energy audits (HERS II) for existing homes at various trigger points, which will increase consumer awareness of home performance and the measures that can be implemented to increase energy and water efficiency.

Description: This recommendation requires energy audits for existing homes based on certain triggers and timing. The intent of this recommendation is to create a multifaceted approach that will capture the greatest number of homes without placing undue burden on any specific group of stakeholders involved in meeting the goal. The recommendation contains two components that would be phased in over time.

First Component (2012)

1. As of January 1, 2012 the City/County will initiate periodic mandatory HERS II audit requirements for existing homes, starting with the lowest performing (i.e. all units built prior to 1978 by decade).
2. As of January 1, 2012 mandatory HERS II audits will also be required when a permit is pulled for a project that either:
 - A. Is valued at \$10,000 or more; or
 - B. Involves improvements that would create a logical, cost-effective point at which energy efficiency upgrades could also be done
 - HVAC change out
 - Roof replacements
3. Homeowners would demonstrate compliance by obtaining the services of an outside 3rd party certified HERS II rater, and submitting an official copy of the audit for review and approval by the City/County. Alternately, the City/County could provide the HERS II audits for a fee and verify compliance on site, subject to funding and staffing availability.

Second Component (2015)

1. A mandatory HERS II audit will also be required at point of sale for existing homes and single units within condominium complexes, except for the following:
 - A. Foreclosed properties
 - B. Homes that have received an audit within the past 5 years
 - C. Homes that are less than 10 years old
2. An evaluation of performance against targets and an assessment of the regulatory and market environment will be conducted to determine the need to modify these requirements.

Evaluation: Residential Energy Conservation Ordinance (RECO)

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★★★★	<p>Anticipated energy savings from the RECO would likely be very significant; however the exact range of savings depends on likely rates of homeowners who actually choose to install upgrades pursuant to audit. SMUD's Home Performance Program (HPP) is the most recent local example of estimated energy savings per home that is audited and upgrades installed. Energy savings of approximately 29% per unit was anticipated for all levels of audits and upgrades. A more conservative estimate of average efficiency improvement per unit might be closer to 20%, given that the scale of cost-effective improvements may be reduced considerably without ongoing rebates.</p> <p>Currently, SMUD is offering to subsidize the costs of a HERS II audit down to \$99 (typical cost is about \$300-\$400), and additional rebates are available for varying levels of upgrades through the Home Performance Program (HPP). However, absent any ongoing audit subsidy or upgrade rebates, and without further clarity as to whether any Property Assessed Clean Energy (PACE) financing program will be moving within the County in the future, it's difficult to assess what participation rates might be under a mandatory audits scenario.</p>
Impact on water efficiency Rating: ★/★★★★	
<i>Cost of Implementation</i>	
Cost to stakeholders Rating: ★★	<p>The cost of a HERS II rating may be a barrier for some homeowners. However, currently the SMUD Home Performance Program includes funding to significantly reduce the costs of energy audits to \$99. Additionally, some contractors may be willing to waive the cost of the audit if upgrades are installed pursuant to the audit's findings.</p>
Cost for administering agency Rating: ★★★	<p>Depending on the type of compliance and enforcement provisions included in the revised/implementing ordinances, significant oversight could be necessary from City/County building department staff (both front counter and inspection staff) to ensure compliance with new requirements. If 3rd party certified audits are submitted for review and approval, with periodic inspections for quality control, administrative costs could be reduced.</p>

<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★	Significant additional staff resources would likely be required. Building department or other agency staff would have to learn new regulations, receive training & certification in HERS II, determine best way to administer and ensure compliance, and identify means to recover costs associated with administration. Would require additional time at front counter to explain requirements to customers and significant time to ensure compliance
Likelihood of adoption Rating: ★★	Until options for funding the administration and enforcement of the revamped RECO program have been fully explored, it's difficult to say what likelihood of adoption will be, given constraints on City and County resources.
<i>Economic Impacts</i>	
Potential for new job creation Rating: ★★★★★	Direct job creation: requiring audits/ratings will create jobs for professionals licensed to conduct such audits/ratings. SMUD estimated that retrofits of approximately 15,150 units through their Home Performance Program would result in the creation of approximately 1,100 jobs.
Potential for positive economic development impacts Rating: ★★★	Relatively high potential for new job creation will have a positive economic development impact. In addition, information could drive sellers and buyers wanting to improve their home's performance to emerging markets and technologies (efficient HVAC units and windows, low flow toilets, solar PV, etc.) thereby stimulating these market segments.

RECO Discussion Background and Perspectives

Task Force Team Discussion Background

The Existing Buildings team meeting on October 20, 2010 focused on discussing a variety of approaches for creating a Residential Energy Conservation Ordinance (RECO) and a Commercial Energy Conservation Ordinance (CECO). The Steering Committee opted to focus the final team meeting on discussing this issue because several task force members had raised ideas about various regulatory approaches that had not been fully vetted by the team, and the City is facing a RECO update requirement in 2012 that they felt would benefit from Task Force input. RECOs and CECOs are ordinances that require energy and/or water efficiency audits, and may also require certain upgrades pursuant to the audit findings. Some existing ordinances require that the audit and/or upgrades be completed at time of sale, building permit, or other key trigger points.

Prior to the meeting, Task Force members received research describing different “trigger points” for RECOs and their potential advantages and disadvantages, a document highlighting case studies from cities that have adopted a RECO, and a memo outlining three common trigger point alternatives for a RECO:

- Pulling a building permit
- Periodic requirements by date certain
- Point of sale

During the October 20th meeting the City noted that the goals of updating their current RECO include educating the public about energy and water efficiency, retrofitting as many houses as possible, and making progress toward meeting regional GHG reduction targets. While CECO alternatives were also up for discussion the group focused their discussion on a RECO, because they felt the commercial arena will be addressed by the energy disclosure requirements mandated by Assembly Bill 1103 (described in a later section of this report).

The group was asked to consider each of the RECO trigger points and provide input on their effectiveness and drawbacks. Additionally they were asked to discuss the advantages and disadvantages to mandating audits, as well as the pros and cons of requiring improvements pursuant to the audit. Task Force members seemed to reach early agreement that any suggested improvements should be made on a voluntary basis, regardless of an audit’s trigger point or findings.

The group discussed each of the trigger points for the audit and ultimately decided that incorporating all three triggers and using a phased approach would achieve the highest degree of market penetration and would help spread the “burden” of implementation. Because it appeared the group had reached a place of agreement on the structure and value of including a RECO component, this multi-trigger approach was drafted and voted upon. The point of sale trigger was phased in last in an attempt to mitigate concerns raised by the realtor community, but this provision was not sufficient to garner their ultimate support for the proposal.

The majority of the group voted to advance the proposed RECO format that was discussed during the meeting, with the exception of two members. A breakdown of votes is as follows:

1	2	3	4	5
Block	Somewhat Oppose	Neutral	Somewhat Support	Strongly Support
2 people		2 people	5 people	2 people

As part of the decision making process, team members who voted to block a recommendation were asked to articulate their concerns. The team members who voted to block the RECO expressed the following concerns:

- The need to perform home energy audits would be addressed through the first phase of the process rendering the point of sale audits unnecessary;
- Only 2% of existing homes sell per year and requiring audits at point of sale would not reach a significant segment of the marketplace; and
- Point of sale audit requirements puts an undue burden on the realtors because it adds a new layer of complexity to the sale closing process.

After noting these concerns and deciding that further discussion would not yield new consensus, the group opted to move the proposed RECO forward along with clear notation of these dissenting opinions.

Input from the November 10th Meeting with Stakeholders

On November 10, 2010 the Task Force hosted a public meeting to present the full set of recommendations and hear comments from interested parties. A significant number of real estate community members were in attendance and the RECO was a central focus of input provided at the meeting. Comments in favor of and against this item were shared during a respectful, yet spirited discussion. The following table captures the perspectives on this issue, and should help inform future decision-making on this topic.

Comments in Support of the Residential Energy Conservation Ordinance	Concerns Raised about the Residential Energy Conservation Ordinance
<p><i>General Comments</i></p> <ul style="list-style-type: none"> • Requiring audits at different trigger points spreads the burden and does not target a single stakeholder group unfairly. • The point of financing and refinancing are the best times to do energy efficiency work on existing homes. • This may be an opportunity to bring realtors, contractors and utilities together to leverage resources and increase the consumer's opportunity to do this kind of work. • Right now there is an opportunity to better serve customers by removing barriers and providing incentives. • Providing a space for HERS II scores in a MLS home listing may negate the need to mandate audits, because consumers will begin asking for them. <p><i>Point of Sale Comments</i></p> <ul style="list-style-type: none"> • Excluding foreclosures but not bank owned re-sales from the point of sale requirement is equitable. • The California Energy Commission is planning to require point of sale energy audits soon; this may be a way to prepare for the inevitable and be proactive in the region. • The phasing within the recommendation gives realtors a three-year running start to prepare for point of sale audits. 	<p><i>General Comments</i></p> <ul style="list-style-type: none"> • People are generally opposed to a mandate regardless of what it actually requires. • People will push back about the mandatory, date-certain provision because it is invasive. <p><i>Point of Sale Comments</i></p> <ul style="list-style-type: none"> • Triggering audits at point of sale is not effective if only 2% of existing homes sell per year. • Point of sale requirements pose an extra burden for real estate agents and an industry that is already hurting. • Any extra steps or costs for homebuyers are not a good idea in this market. • Requiring point of sale audits could increase poor workmanship and unpermitted jobs • Realtors are already proactive about educating clients and providing financing and incentives for voluntary improvements, and thus question the need for a mandatory approach. • Buyers will demand upgrades of a home that receives a poor audit, so this will make it more difficult and costly to sell property. • The cost of an audit could be prohibitively expensive for the buyer or the seller. • Including the point of sale provision threatens the good will between stakeholders and faith in the process, and may ruin opportunities for collaboration with the real estate community on the successful implementation of other Task Force recommendations.

Consideration of an Alternative Approach to a RECO

The discussion during the November 10th meeting surrounding RECO was, at times, emotionally charged and this topic was the focal point of the meeting's allotted time for discussion. Several attendees expressed concern that strong opposition to the point of sale trigger component of the RECO could overshadow the rest of the Task Force's body of work, which focused on voluntary educational and marketing strategies to increase energy and water efficiency.

Following the November 10th meeting, two Task Force members with concerns about the polarizing effects of a mandatory RECO approach met for further discussions in an effort to present an alternative to a mandatory approach for home energy audits. To this end, they drafted an additional recommendation focused around creating a Green Building Stakeholder Alliance (a detailed version of the recommendation is included as Appendix 2). A primary focus of the goal is to foster a positive, incentive based approach to reaching the region's green building objectives without adopting a regulatory approach. A desired outcome is to create an effective alliance of public and private parties that would dramatically improve the deployment of existing programs, create the space for innovative partnerships and reduce the need for relying on regulatory-based approaches.

The Steering Committee met with the two Task Force members to discuss the proposed recommendation and to better understand its intended outcomes. On December 8th the new recommendation was sent to the full body of Task Force members via email with a request to review the recommendation and register their level of agreement within a week of time. Of the 26 Task Force members, nine members responded with a majority in agreement with or taking a neutral stance about the new recommendation. One member was Somewhat Opposed and no one registered a Block. The table below summarizes how Task Force members indicated their levels of agreement:

1 Block	2 Somewhat Oppose	3 Neutral	4 Somewhat Support	5 Strongly Support
	1 person	1 person	2 people	5 people

Task Force members also provided comments about the recommendation, including:

- I am supportive of the new recommendation but in no way see it as a replacement for the RECO.
- I am in favor of the recommendation's focus on collaboration.
- We are in complete support of the alliance and would love to be part of the group. Creating awareness of existing funding sources and education resources can only be good for the region.
- Continuing education is needed but should not supplant other efforts. The group could be no more than a continuing advisory group with no funding, power authority or other resources to implement any of its recommendations.
- If the new GBTF approach is successfully implemented and meeting the goals it should negate the need for a RECO.

Additionally, with regard to the proposed RECO the Task Force members were asked to address the following question: “*What are your current thoughts about the importance of having a regulatory approach like the RECO idea discussed by the Task Force to achieve the region’s green building goals?*” Eight Task Force members responded with the following comments:

- The RECO recommendation should stand and I am concerned it will become useless if diluted any further.
- I am still in support of a RECO.
- I somewhat support a RECO but feel that there would be a great deal of opposition, in the current market, from homeowners due to the additional cost of an audit. This could increase the number of unpermitted jobs and create a need for greater enforcement. It is important for the City and County to be proactive before CEC audit requirements come into effect.
- I believe a RECO should be coupled with a substantial education program that provides ready access to information and resources. A point of sale trigger should still be included but should not be the main trigger.
- I would not support any regulatory recommendation that places extra burden on the housing and real estate market. This recommendation is not helpful to the region.
- There are incentives and financing tools available for energy efficiency upgrades that should be used to meet our goals without a RECO type policy (comment made by 2 Task Force Members).
- The focus should be on finding a less invasive way of evaluating a home’s energy efficiency without requiring someone to allow an auditor into the home.

Moving forward this input and the additional recommendation should help both the City and County as they consider the various approaches for achieving green building outcomes. There are mixed opinions on the value and triggers for a potential RECO, and it will be up to the elected officials to find the right balance for their respective communities.

Existing Programs that Support Success

Fortunately, the City and County of Sacramento are not working in isolation—there is a broad collection of policies and programs that are helping to accelerate the adoption of green building practices statewide and within the region. More than \$41 million of ARRA stimulus funding is focused on improving energy efficiency in the region⁹. These complementary efforts come in many shapes and sizes—ranging from new statewide building regulations to incentive-based programs spearheaded by utilities and private sector partners.

Statewide Policies and Programs

The following statewide programs complement the series of recommendations being proposed by the Green Building Task Force.

New CALGreen Building Code

Starting in January 2011, all new development in California will need to comply with CALGreen, the new statewide green building code.¹⁰ CALGreen establishes a minimum mandatory set of green building requirements, and focuses on five categories of standards: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. In addition to raising the minimum building code

standards, CALGreen encourages jurisdictions to adopt optional, enhanced mandatory measures that reach beyond the minimum standards established by CALGreen. These more aggressive standards are known as CALGreen Tier 1 and Tier 2, and require a layering of additional prerequisites and electives for California building code compliance. Adoption of CALGreen Tier 1 or Tier 2 is up to the discretion of each individual jurisdiction and requires a filing of findings based upon local climatic, topographical or geological conditions including local environmental conditions to the California Building Standards Commission and/or California Energy Commission.

Assembly Bill 1103 Energy Benchmarking Legislation

Passed in 2007, California Assembly Bill 1103 requires that commercial building owners disclose the most recent year's Energy Star Portfolio Manager benchmarking data and ratings to a prospective buyer, lessee, or lender beginning January 2011.

The United States Environmental Protection Agency (U.S. EPA) Energy Star Portfolio Manager is an interactive, online tool that tracks and ranks buildings for energy and water consumption and compares to other similar buildings using a score of 1 - 100.¹¹ This benchmarking system awards buildings with a rating of 75 or higher with an Energy Star Label, streamlines energy management for individual buildings and groups of buildings, and, accordingly, aids in the documentation of changes in energy performance over time. By extension, the Energy Star Portfolio Manager also enables the verification of energy consumption reduction, which is essential to accurately determine if California's energy efficiency goals have been met.

Additionally, AB 1103 requires that electric and gas utilities upload records of energy consumption data of all nonresidential buildings to which they provide service for the past 12 months. Utilities will be required to upload the energy consumption data for a building in a manner that preserves the confidentiality of the customer. Assembly Bill 531 allows the Energy Commission to implement the requirements of Assembly Bill 1103 in stages. Draft regulations indicate initial implementation will start with buildings over 50,000 square feet and phase in requirements for progressively smaller buildings over two years.¹²

Weatherization Programs for Low Income Residents

There are two low-income weatherization programs funded through American Recovery and Reinvestment Act (ARRA) of 2009: the Low-Income Home Energy Assistance Program (LIHEAP) administered by the State Department of Community Services and Development (CSD), and the federal Department of Energy Weatherization Assistance Program (DOE WAP) with which the CSD strategically leverages its funds. The DOE WAP reduces heating and cooling costs for low-income families by improving the energy efficiency of their homes, and ensures their health and safety.¹³ The program focuses on households with elderly residents, individuals with disabilities, and families with children. In addition to weatherization, LIHEAP also features the Home Energy Assistance Program (HEAP) which subsidizes an eligible client's utility bill to help offset the cost of heating and cooling, and the Energy Crisis Intervention Program (ECIP) which provides assistance to low-income households that are in a crisis situation.¹⁴ An energy efficiency assessment is required to apply for either of these programs.

In the Sacramento area, the nonprofit Community Resource Project (CRP) manages the delivery of these programs.¹⁵ The goal of the Housing Division at Community Resource Project is to improve energy efficiency and reduce the impact of energy costs on a family's household budget.

Within the Housing Division, the weatherization program is dedicated to modifying homes to reduce energy consumption and optimize energy efficiency. Their weatherization staff includes licensed contractors and certified personnel who install insulation, dual-paned windows and sliding glass doors, weather-stripping, Energy Star appliances, CFL light bulbs, low-flow showerheads, heating and cooling systems, and many other energy efficiency measures in hundreds of income-qualified households throughout Sacramento, Sutter, and Yuba Counties. Notably, the program can work for both renters and homeowners. ARRA funding has enabled an expansion of the weatherization program, creating and retaining 42 full time jobs and providing an opportunity to serve more than 750 households as of September 2010.¹⁶

Energy Upgrade California

Energy Upgrade California is a statewide energy and water efficiency and renewable energy generation retrofit program serving single- and multi-family residential and commercial buildings. The program, which initiated a soft launch in fall 2010, coordinates federal, state, utility, and local government retrofit programs. Through standardization of outreach, customer incentives, and contractor and participant qualifications, Energy Upgrade California unifies efforts across the state to increase energy and water efficiency while also saving building owners money and providing jobs.

Energy Upgrade California offers a comprehensive website as a one-stop resource for customers, providing information on building retrofit benefits, financing alternatives, available incentives, and home energy ratings. The website also is a source point to submit and track project applications, and find a qualified contractor. The program offers information on workforce development, and standardizes contractor qualifications and quality assurance across various retrofit programs. County-specific web portals enable information to be tailored by location throughout California, while also ensuring a single clearinghouse for program administrators (local government agencies, utilities, etc.) to maintain content, share data, and generate reports.¹⁷

Savings By Design

In the Sacramento region, both PG&E and SMUD support the statewide Savings By Design program, which encourages high-performance nonresidential building design and construction.¹⁸ The program offers technical support and financial incentives to improve energy performance in new buildings. Free design assistance is available to building owners and design teams to fit the needs of the project, and may include equipment recommendations, consultation on enhanced design strategies, and a report on how to facilitate design modifications. Financial incentives of up to \$150,000 are available to building owners up to help defray the costs of energy improvements, if their project exceeds Title 24 Energy Efficiency standards by 10 percent. Design teams may also be rewarded with financial incentives teams up to an additional \$50,000 for building designs that reach certain efficiency benchmarks. The program also provides resources to help train architects, engineers, lighting designers and developers about new techniques and technologies to improve building efficiency. On average, SMUD and PG&E work on at least 20 Savings by Design projects per year. In the last two years alone, the Savings by Design team has achieved over 13.5 million kilowatt hours of savings on 47 buildings, totaling over 2.5 million square feet of new construction or major rehabilitations.

Local Programs

State-level initiatives are supported with a suite of local and regional programs that focus on incentivizing building owners to increase energy and water efficiency. The level of local investment in making homes and commercial buildings more energy efficient and cost-effective to operate is unprecedented, especially the degree of focus on retrofitting existing buildings. Furthermore, there is a growing regional commitment to sustainability that has been bolstered by Sacramento Mayor Kevin Johnson's regional Greenwise Initiative.

SMUD Home Performance Program

SMUD's Home Performance Program (HPP) is designed to help reduce consumer utility costs and increase effective energy use by combining rebates, tax credits, and financing options for residential energy efficiency upgrades.¹⁹ To take advantage of the program, a homeowner is required to have a home energy assessment completed by a SMUD-Qualified Energy Professional or by an Independent Home Energy Rater (HERS II Rater). This assessment is currently offered at a utility-subsidized price of \$99 (normally \$500) until the funds are depleted. The energy assessment provides a written report evaluating areas for improvement in a home's energy consumption, indoor air quality and comfort levels and recommends cost-effective improvements that will yield the most effective result. The HPP allows customers to choose an approach to best fit their budget and energy goals, through either the Basic or Comprehensive Option. For each, the customer is provided with a list of SMUD-Qualified Energy Efficiency Contractors specifically licensed and trained to complete the selected upgrades. The SMUD contractor can also assist the customer in filing for financing through the utility, which offers a competitive residential loan program from \$5,000-\$30,000.

To take advantage of the Basic Option of the Home Performance Program, a home must possess a need for, and ultimately achieve, upgrades involving air sealing and weatherization, insulation, and duct sealing, with an emphasis on increasing the building envelope's efficiency.²⁰ Through the Basic Option, annual energy savings are estimated up to 20 percent, with up to \$1,000 in rebates, and up to \$1,500 possible tax incentives. Meanwhile, the Comprehensive Option takes on a whole-house approach, strategically incorporating upgrades identified in the energy assessment to most effectively improve energy efficiency and comfort in the home.²¹ Eligible improvements include upgrades to windows, water heating, lighting, appliances, and heating and cooling systems. Energy savings must achieve a minimum of 20 percent to qualify for the rebates, which increase with higher energy saving improvements. The Comprehensive Option rebates range from \$2,000-\$5,000, and also qualify for up to \$1,500 possible tax incentives.

The Home Performance Program also includes several innovative activities to expand energy efficiency retrofits to a broader population. The program has committed to leverage funding from the Community Resource Project (CRP) to weatherize and retrofit 850 homes that are located primarily in economically disadvantaged areas and are owned by qualifying low-income customers. Furthermore, the funding from the Sacramento Housing and Redevelopment Agency (SHRA) will also enable the purchase, rehabilitation, and resale of roughly 300 foreclosed properties to income-qualified buyers. The HPP has also assigned funding from a Build America cooperative agreement between Consol and the Department of Energy to implement a neighborhood-scale retrofit approach, expected to reach 2,000 homes. This portion of the program will include testing energy efficiency packages at volume-discount prices. Lastly, SMUD

will pilot a novel, comprehensive multi-family retrofit model, providing an estimated 2,000 homes with escalating incentives to overcome owner-tenant barriers.

In all, SMUD's Home Performance Program will provide retrofits for approximately 15,000 homes by March 2012 and create over 1,100 jobs.²²

Sacramento Ramp Up Neighborhood Performance Program

SMUD also leads the Sacramento Ramp Up Neighborhood Performance Program (also known as the Better Buildings Program), which is focused on providing energy efficiency retrofits on a neighborhood-scale in Sacramento City and County. Through the program, which is set to launch in February 2011, SMUD will test neighborhood engagement strategies in pre-determined geographically selected neighborhoods. The Ramp Up Program will provide a variety of incentives for energy efficiency retrofits in building types including single family, multi-family, low income, small commercial, and large commercial buildings. The program aims to achieve 20 percent market penetration in each neighborhood selected and 20 percent energy saving in each retrofit. The Ramp Up Program is part of the EECBG funding by the Department of Energy, and is a joint effort of Los Angeles County, Association of Bay Area Governments, and California Center for Sustainable Energy.

SMUD Home of the Future Program

SMUD's Home of the Future (HoF) program designs and builds new houses in the Sacramento region to serve as models for an energy-efficient home.²³ In partnership with the National Renewable Energy Laboratory, local builders, and numerous providers of building products and services, the program aims to reduce average annual energy use and utility bills by 80 percent, and achieve net-zero electric use. The HoF program demonstrates state-of-the-art construction strategies and techniques and energy efficiency measures to the local building community and general public. SMUD's first HoF home was completed in Folsom in 2010, and became the Sacramento region's first LEED Platinum Home. The HoF program is expected to produce one to two model homes each year.

Sacramento Association of Realtors' ECO Program & Energy Efficient Mortgages

Local realtors have become important partners in supporting the retrofitting of existing homes, and encouraging buyers to consider using the Energy Efficient Mortgage program (a program of the Federal Housing Administration, or FHA).²⁴ The Sacramento Association of Realtors' Energy Conservation Opportunity (ECO) Program provides a \$2,000 grant to help clients increase the energy efficiency of their older homes.²⁵ Requirements to qualify for the ECO Program include stipulations that the homebuyer must do an Energy Efficient Mortgage, that the house must have been built in 1978 or prior (Pre-Title 24), and there must be a minimum of \$4,000 in energy efficiency upgrades (or maximum allowed based on purchase price). The ECO grant program has an eight-step application process including a HERS rating.²⁶ This program is a response to economic pressures on current homeowners, which may prevent or deter homebuyers from purchasing an older, energy inefficient home needing significant energy upgrades.

According to FHA, Energy Efficient Mortgages "recognize that reduced utility expenses can permit a homeowner to pay a higher mortgage to cover the cost of the energy improvements on top of the approved mortgage."²⁷ FHA provides mortgage insurance for a person to purchase or

refinance a principal residence and incorporate the cost of energy efficient improvements into the mortgage. The borrower does not have to qualify for the additional money and does not make a down payment on it. The mortgage loan is funded by a lending institution and insured by FHA. While this financing tool has been available nationwide since 1993, multiple Task Force members feel it could be more widely utilized in the Sacramento region to support homeowners in making cost-effective energy improvements. Task Force Recommendation 1.2 addressed the need for increased education about available financing options.

Greenwise Initiative

Acknowledging the incredible foundation for regional collaboration in Sacramento and the great promise for a future that includes a focus on the economy, the environment, and education, Greenwise Sacramento was launched by Sacramento Mayor Kevin Johnson in May 2010.²⁸ The vision of Greenwise Sacramento is to transform the Sacramento region into the Emerald Valley – the greenest region in the country and a national hub of green technology. As part of the process an invitation was extended to leaders from business, non-profit, academic, civic and governmental sectors to convene once a month from May through December and establish a shared vision for the region’s future. This effort to coordinate, align and leverage around a common vision has resulted in participation by hundreds of community members. Inspirational keynote speakers have included Governor Arnold Schwarzenegger and First Lady Maria Shriver, youth activist Alec Lorz, social entrepreneur Van Jones, New York Times columnist and author Thomas L. Friedman, environmental law attorney Robert F. Kennedy, Jr., Chez Panisse owner Alice Waters and Portland Mayor Sam Adams.

The Greenwise Sacramento Initiative focuses on five key policy areas: energy; waste & recycling; water & nature; urban design & green building; and green & clean technology. These areas match the strengths and opportunities in the region and are fundamental drivers of economic and environmental health. Regional goal setting will establish a bold vision for implementation through 2020. Short-term action strategies to be accomplished by 2013 will also be set by the policy committees in the five key areas. Four guiding principles inform the work of the hundreds of Greenwise Sacramento volunteer advisors: strengthening the regional economy; creating green jobs; adopting innovative policies; and raising the region’s Green IQ. A social justice framework has also been established to guide Greenwise Sacramento’s implementation so that disadvantaged communities are included in Greenwise Sacramento’s initiatives.

The outcome of the Greenwise Sacramento initiative will be Greenwise Sacramento Regional Action Plan with a bold set of sustainability goals, performance measures, and implementation strategies that can be pursued productively in the months and years ahead. In the years ahead the region will continue to collaborate to engage, finance, plan, construct, and improve upon the implementation strategies included in Greenwise Sacramento’s Regional Action Plan.

Linkages to Economic Development Priorities

In 2006 two-dozen regional economic development partners, led by the Sacramento Area Commerce and Trade Organization (SACTO) and the Sacramento Metro Chamber, agreed as part of the Partnership for Prosperity project to focus on growing the clean energy cluster in the Sacramento region. That partnership further solidified with the establishment of the implementation organization known as the Green Capital Alliance, and between 2007 and 2010 the number of green technology firms based in the region increased threefold. In 2010 the Green

Capital Alliance partners identified segments of the industry cluster that present new business and job growth opportunities—and one of the four key segments is Green Building.²⁹

According to Collaborative Economics research, the Green Building segment of the region's green economy employed more than 1,200 people in 2008 and was second-fastest growing segment since 1995 (experiencing over 350 percent employment growth during that time period).³⁰ Furthermore, the region has a much higher concentration of Green Building jobs as compared to other parts of the state (more than double the state average). The Green Capital Alliance is developing strategies to build upon these numbers in the future, and is supportive of programs and policies that advance sustainable and energy efficient building design, construction, and development.

Another part of the clean energy sector strategy research process, completed by the Center for Strategic Economic Research, involved the evaluation of the competitive positioning of the Sacramento region as compared to other metropolitan areas vying to be hubs for clean energy sector growth. An important factor in marketing the region as an ideal location for green business growth and development is the ability to demonstrate that the local marketplace is imbued with a sustainability ethic. A commitment to green building is often used as a proxy to gauge the overall sustainability of a region, because data indicators are readily available for comparison (such as the per capita amount of LEED-certified office space, percentage of solar-powered homes and offices, etc.). While Sacramento fares well in many of these comparisons, the region's accomplishments are strongly buoyed by State of California investments in green building projects in the capital.

Moving forward, Green Capital Alliance partners have identified a need for redoubled efforts on behalf of local government to establish strong and consistent green building policies and incentives that leverage the foundation of green building accomplishments already happening in the area. Fortunately, there is a workforce ready to take on this charge. Working with local utilities, community colleges and universities, the Sacramento Employment and Training Agency has invested over 2.8 million dollars in 2010 to train and certify a green building workforce in Sacramento County.³¹ This newly available workforce is dependent upon an impetus for business demand, and the existing regional programs and Task Force recommendations could go a long way in creating the conditions for business growth.

Next Steps

This report of Task Force recommendations was circulated to members and stakeholders for review and comments between November 18th and December 2nd, 2010. No substantive comments were received during the open feedback period. The Steering Committee did circulate an additional recommendation (Appendix 2) developed by two Task Force members for review by the full Task Force, and sought further input on the importance of including a RECO approach to advance green building objectives. Outcomes from that solicitation are included in the "Residential Energy Conservation Ordinance Input" section of this report.

Following the completion of this final report, City and County staff members will further analyze the recommendations, and develop their staff proposals for implementation to be presented to their respective elected bodies during the first half of 2011. Ultimate decision-making about how to best address these recommendations rests in the hands of the City Council and the County Board of Supervisors.

Appendix 1: CALGreen Tier 1 Prerequisites and Electives

CALGreen Tier 1 – Residential Prerequisites & Elective Measures

To achieve CALGreen Tier 1 status for residential projects, the following must be met:

1. All mandatory measures of mandatory CALGreen requirements under Chapter 4 – Residential;
2. Tier 1 prerequisites (17 total); and
3. Eleven (11) elective measures =
 - a. Two (2) in Planning & Design;
 - b. Four (4) in Energy Efficiency;
 - c. Two (2) in Water Efficiency & Conservation;
 - d. Two (2) Material Conservation & Resource Efficiency; and
 - e. One (1) in Environmental Quality.

Residential Prerequisite Measures for Tier 1, Division A4.6

Category	Prerequisite	Description/Notes	Adopted in 2012
Planning & Design 1.1	Section A4.106.2.3 - Topsoil Protection	Topsoil must be protected from erosion or saved for reuse	
Planning & Design 1.2	Section A4.106.4 - Permeable Paving	Not less than 20% of the total parking, walking, or patio surfaces shall be permeable.	✓
Planning & Design 1.3	Section A4.106.5 - Cool Roof	Install roof construction that has a thermal mass over the roof membrane with a weight of a least 25 lbs/sf.	✓
Planning & Design 1.4	Two Electives	Comply with at least two elective measures selected from Division A4.1	
Energy Efficiency 2.1	Exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards by 15% ¹	Note: 2008 requirements are 15% above 2005 T24, resulting in 30% better within a 3-yr timeframe	✓
Energy Efficiency 2.2	Four Electives	Comply with at least four elective measures selected from Division A4.2	
Water Efficiency & Conservation 3.1	Section A4.303.1 – Indoor Potable Water Reduction ²	The maximum flow rate at a kitchen sink faucet shall not be greater than 1.5 gallons per minute at 60 psi.	

¹ Adopted by City of West Sacramento

² Adopted by City of West Sacramento

Water Efficiency & Conservation 3.2	Section A4.304.4- Outdoor Potable Water Reduction	Reduce the use of potable water to a quantity that does not exceed 65% ETo times the landscape area.	✓
Water Efficiency & Conservation.3.3	Two Electives ³	Comply with at least two elective measure selective from Division A4.3	
Material Conservation & Resource Efficiency 4.1	A4.405.3.2- 20% Reduction in Cement use	Use fly ash, slag, silica fume or rice hull ash	
Material Conservation & Resource Efficiency 4.2	Section A4.405.3 -Recycled Content, 10%	Use materials with not less than a 10% recycled of the total value, based on the estimated cost of materials on the project.	
Material Conservation & Resource Efficiency 4.3	Section A4.408.1 - 65% Reduction in Construction Waste	Diversion of construction waste to salvage or recycle facilities. This is 15% above base-level CALGreen requirements.	
Material Conservation & Resource Efficiency 4.4	Two Electives	Comply with at least two elective measures selected from Division A4.4	
Environmental Quality 5.1	Section A4.504.2 - Resilient Flooring	80% resilient flooring systems must comply with the low VOC-emission requirements.	✓
Environmental Quality 5.2	Section A4.504.2 - Thermal Insulation		✓
Environmental Quality 5.3	One Elective	Comply with at least one elective measure selected from Division A4.5	

³ Adopted by City of West Sacramento, A4.304.1 - Low-water consumption irrigation systems that minimize use of spray type heads.

Recommended Residential Elective Measures for Tier 1, Division A4

For a full discussion of all voluntary Tier Elective measures, please reference Appendix A4 of the CALGreen Code at <http://www.bsc.ca.gov/CALGreen/greencode.htm>

Category	Prerequisite	Description/Notes	Adopted in 2012
Division A4.1 – Planning & Design			
Site Preservation	A4.104.1 - Supervision and Education	Individuals with oversight authority on the project who are trained/green accredited can teach green concepts to other members of the development staff & ensure training is provide to all parties associated with the development of the project.	
Deconstruction and Reuse	A4.105.1 - Salvage Materials	Existing buildings on the site are deconstructed rather than demolished and salvaged materials are reused.	
Division A4.2 – Energy Efficiency			
Performance Approach	A4.203.1 - Energy Performance ⁴	Exceed T24 by 15%.	
Building Envelope	A4.204 - Radiant Roof Barriers	Install radiant roof barrier that is tested according to ASTM C-1371-98 or ASTM E-408-71 (2002) and certified by the Department of Consumer Affairs.	
HVAC Design, Equipment and Installation	A4.207.9 - Whole House Fan	Install a whole house fan with insulated louvers or an insulated cover.	✓

CALGreen Tier 1 – Commercial Prerequisites & Elective Measures

To achieve CALGreen Tier 1 status for Commercial projects, the following must be met:

1. All mandatory measures of mandatory CALGreen requirements under Chapter 5 – Commercial;
2. Tier 1 prerequisites (14 total); and
3. Four (4) elective measures =
 - a. One (1) in Planning & Design;
 - b. One (1) in Water Efficiency & Conservation;
 - c. One (1) in Material Conservation & Resource Efficiency; and
 - d. One (1) in any category (*WILDCARD*)

⁴ Adopted by City of West Sacramento

Commercial Prerequisite Measures for Tier 1, Division A5.6

Category	Prerequisite	Description/Notes	Adopted in 2012
Planning & Design A5.1a	Section A5.106.5.1 & Table A5.105.5.1.1 - Designated fuel efficient vehicles parking	Provide 10% designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles: i.e.: 0-9 total parking spaces =1 dedicated space; 151-200 = 19 spaces; 201+ = 12%	✓
Planning & Design A5.1b	Section A5.106.11.2 & Table A5.106.11.1. - Cool Roofs	Use roofing materials having a minimum 3-year solar reflectance and thermal emittance.	✓
Planning & Design A5.1c	One Elective	Comply with one elective measure from this division.	
Energy Efficiency A5.2	Exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards by 15%	Note: 2008 requirements are 15% above 2005 T24, resulting in 30% better within a 3-yr timeframe	✓
Water Efficiency & Conservation A5.3a ⁵	Section A5.303.2.3.1 - Indoor potable water reduction	30% savings as measured by either each fixture meeting this or a calculation of 30% reduction compared to the building "water use baseline" as established in Table A5.303.2.2	✓
Water Efficiency & Conservation A5.3b	Section A5.304.4 - Outdoor potable water reduction	Reduce the use of potable water to a quantity that does not exceed 60 % of ETo times the landscape area.	✓
Water Efficiency & Conservation A5.3c ⁶	One Elective	Comply with one elective measure from this division.	
Material Conservation & Resource Efficiency A5.4a	Section A5.405.4 - Recycled Content, 10%	Use materials with not less than a 10% recycled of the total value, based on the estimated cost of materials on the project.	
Material Conservation & Resource Efficiency A5.4b	Section A5.408.3.1 -65% reduction in construction waste.	Diversion of construction waste to salvage or recycle facilities. This 15% above base-level CALGreen requirements.	✓
Material Conservation	One Elective	Comply with one elective measure from this division.	

⁵ Adopted by City of West Sacramento

⁶ Adopted by City of West Sacramento, A5.304.2.1 – Separate meters or submeters shall be installed for indoor and outdoor landscape water use, for areas 500 sf or more.

& Resource Efficiency A5.4c			
Environmental Quality 5.1	Section A45.504.4.7 - Resilient Flooring		
Environmental Quality 5.2	Section A5.504.4.8- Comply with the thermal insulation requirements meeting 2009 CHPS low-emitting materials list in	80% resilient flooring systems must comply with the low VOC-emission requirements.	
Environmental Quality 5.3	One Elective	Comply with one elective measure selected from any division.	

Recommended Commercial Elective Measures for Tier 1, Division A5

For a full discussion of all voluntary Tier Elective measures, please reference Appendix A5 of the CALGreen Code at <http://www.bsc.ca.gov/CALGreen/greencode.htm>

Category	Elective Measure	Description/Notes	Early Adoption?
Division A5.1 – Planning & Design			
Site Development A5.106.2	Storm Water Design	Design storm water runoff rate and quantity in conformance with Section A5.106.2.1 and storm water runoff quality by Section A5.106.3.2 or by local requirement, whichever are stricter.	
Site Development A5.106.3	Low Impact Development	Reduce peak runoff in compliance with Regional Water Control Board and by implement at least 2 LID strategies (i.e. Cisterns, bioretention green roofs, etc.).	
Site Development A5.106.11	Heat Island Effect	Use any combination or strategies to reduce roof and non-roof heat island effect. NOTE: Adjust existing City Code to require other materials or parking options to address heat island effect.	
Division A5.1 - Energy Efficiency			
Prescriptive Approach – A5.204.2	Energy Monitoring	Provide submetering or equivalent combination of sensor measurements and thermodynamic calculations to record energy data for each major system.	
Renewable Energy A5.211.3	Green Power	Calculate the renewable on-site energy systems to meet at least 1% of the electric power calculated as the product of the building service voltage and amperage specified by the electrical service overcurrent protection device rating or kW (whichever is greater).	

Appendix 2: Green Building Stakeholder Alliance Recommendation

Proposed Recommendation: Green Building Stakeholder Alliance

Lead Agency or Organization: To be determined (see below)

Type of recommendation: Education and Marketing

Applies to: Existing and New Construction (Cross-Cutting: Residential and Commercial)

Objective: Develop an alliance of diverse stakeholders, including both public and private parties, that meet regularly to improve the success of existing green building programs, cross-pollinate their efforts and develop effective working partnerships to design and support future programs. One of the initial goals of this approach is to retrofit as many buildings as possible by leveraging existing programs and providing education and information about available financing structures.

Description: There is recognition that this region has a number of new green building incentive programs that have begun in recent months, yet there is not enough awareness of these programs, nor enough cross-pollination between programs and stakeholder groups for them to reach their full potential. This recommendation focuses on forging an alliance of diverse stakeholders whose interests are aligned (including realtors, contractors, lenders, utilities, and public agencies) and who would benefit from a better understanding of the existing programs that help support energy efficiency retrofits and other greening strategies.

The alliance would meet on a regular basis (likely monthly) to host discussions to identify and fill knowledge gaps among stakeholders and potential users of the programs. It should enable the group of stakeholders to fine tune existing programs to make them more successful, and provide the venue to develop new, innovative approaches. The alliance will develop a shared education plan that will address identified needs and raise consumer awareness. Additionally, these meetings will provide the space for networking and business-to-business development opportunities.

The goal is to foster a positive, incentive based approach to reaching the region's green building objectives without adopting a regulatory approach. The hope is that an effective alliance will dramatically improve the deployment of existing programs and create the space for innovative partnerships, and hence could reduce the need for relying on regulatory-based approaches.

Evaluation:

<i>Energy and Water Savings Potential</i>	
Impact on energy efficiency Rating: ★★★	Improved communications and implementation partnerships could accelerate the deployment of and facilitate solutions to logistical coordination issues existing regional energy efficiency programs (like SMUD's Home Performance Program and the Sacramento Association of Realtor's ECO Program). This collaborative alliance could also help create new programs and innovative approaches for moving forward.
Impact on water efficiency Rating: ★★	The alliance could focus some of their efforts on developing water efficiency-focused programs, and elevating awareness of the issue across stakeholder groups.
<i>Cost of Implementation</i>	
Cost to development comm. & stakeholders Rating: ★★★★★	There is little to no cost to stakeholders, beyond volunteering their time to participate.
Cost for administering agency Rating: ★★★	Implementation will require some project funding for the management of the alliance in order for the partnership meetings to be well-designed and results-oriented. It is possible this group will also want to maintain online communications and produce education materials.
<i>Administrative Feasibility</i>	
Ease of initiation for administering agency Rating: ★★★	The biggest challenge will be to garner funding to support an alliance in a tight fundraising environment. This might be addressed by utilizing the administrative structure and facilities of the Realtor Association or the region's utility companies.
Likelihood of adoption Rating:	

<i>Economic Impacts</i>	
Potential for new job creation Rating: ★★★	This depends upon the efficacy of the alliance in accelerating green building and energy efficiency program participation. Enhancing the participation of individual stakeholders and articulating the advantages that could be achieved through promoting energy efficiency measures, the retrofitting process of the homes in our community this could be greatly expedited. This could create many employment opportunities.
Potential for positive economic development impacts Rating: ★★★	This depends upon the efficacy of the alliance in accelerating green building and energy efficiency program participation, the level of innovation and overall visibility of the program within and beyond the region.

Endnotes

- ¹ The Sacramento Region experience 87 percent growth in green jobs between 1995-2008, faster than all other regions in California. Available Online: Next 10. *Many Shades of Green: Diversity and Distribution of California's Green Jobs*. Rep. Collaborative Economics, 2009. Web. 03 Nov 2010. <http://nextten.org/next10/publications/green_jobs.html>.
- ² California's per capita energy consumption has stayed relatively flat since the 1970's while the rest of the US has continued to increase steadily over time. This trend is commonly referred to as the Rosenfeld Curve, named after the California Energy Commissioner who spearheaded efficiency measures to help produce this outcome. Available online: Sudarshan, Anant, and James Sweeney. *Deconstructing the "Rosenfeld Curve"*. Publication. Stanford University, 1 June 2008. Web. 03 Nov. 2010. <<http://www.stanford.edu/group/peec/cgi-bin/docs/modeling/research/Deconstructing%20the%20Rosenfeld%20Curve.pdf>>.
- ³ *California Long Term Energy Efficiency Strategic Plan*. California Public Utilities Commission, Sept. 2008. Web. 03 Nov. 2010. <<http://www.cpuc.ca.gov/NR/rdonlyres/D4321448-208C-48F9-9F62-1BBB14A8D717/o/EEStrategicPlan.pdf>>.
- ⁴ *20x2020 Water Conservation Plan*. Rep. California Department of Water Resources, Feb. 2010. Web. 03 Nov. 2010. <<http://www.water.ca.gov/wateruseefficiency/sb7/docs/20x2020plan.pdf>>.
- ⁵ "Climate Action Plan." *Sacramento 2030 General Plan*. City of Sacramento. Web. 03 Nov. 2010. <http://www.sacgp.org/climate_action_plan.html>.
- ⁶ "Climate Action Plan." *Sustainability Programs*. County of Sacramento, California, USA. Web. 04 Nov. 2010. <<http://www.sustainability.saccounty.net/ClimateActionPlan/default.htm>>.
- ⁷ *Sacramento Green Building Task Force*. Web. 03 Nov. 2010. <<http://sacgreentaskforce.org>>.
- ⁸ "Energy Conservation Standards for Existing Residential Structures", Sacramento City Code, Chapter 15.76. Web. 15 Nov 2010. <<http://qcode.us/codes/sacramento/>>.
- ⁹ The \$41 Million total includes \$7.2 Million for Community Resource Project's Weatherization Assistance Program; \$19.9 Million for SMUD's Home Performance Program; \$11.9 to local jurisdictions as Energy Efficiency Conservation Block Grants; and \$2.8 Million to the City and County of Sacramento as part of DOE's Retrofit Ramp Up program. Web. 15 Nov. 2010. <<http://maps.google.com/maps/ms?ie=UTF8&hl=en&oe=UTF8&msa=0&msid=117669966725753948124.000465048deac6ad8461b&ll>>
- ¹⁰ CALGreen. *California Building Standards Commission*. State of California. Web. 03 Nov. 2010. <<http://www.bsc.ca.gov/CALGreen/default.htm>>.
- ¹¹ *Portfolio Manager Overview*. Energy Star, U.S. Environmental Protection Agency. Web. 03 Nov. 2010. <http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager>.
- ¹² Mayer, Robin. *Implementing Assembly Bill 1103, Revised May 2010*. Publication no. CEC-400-2010-004-SD. California Energy Commission, May 2010. Web. 03 Nov. 2010. <<http://www.energy.ca.gov/2010publications/CEC-400-2010-004/CEC-400-2010-004-SD.PDF>>.

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- ¹³ Weatherization Assistance Program (DOE WAP), U.S. Department of Energy. Web. 03 Nov. 2010. <<http://www1.eere.energy.gov/wip/wap.html>>.
- ¹⁴ Low Income Home Energy Assistance Program (LIHEAP), U.S. Department of Health and Human Services. Web. 03 Nov. 2010. <<http://www.acf.hhs.gov/programs/ocs/liheap/>>.
- ¹⁵ Community Resource Project. Web. 03 Nov. 2010. <<http://www.cresource.org/>>.
- ¹⁶ Community Resource Project. Web. 14 Nov. 2010. <http://www.cresource.org/beckmarks_statistics.html>
As of September 30, 2010, the Community Resource Project has retained and created 41.67 full time equivalency positions in response to increased work as a result of Recovery Act funding. This figure includes jobs retained and created directly by CRP and those jobs retained and created by the subcontractors hired to help execute the Recovery-Act-funded contract.
- ¹⁷ Energy Upgrade California. Web. 03 Nov. 2010. <<http://www.energyupgradecalifornia.org/>>.
- ¹⁸ Pacific Gas and Electric Company, San Diego Gas and Electric, Southern California Edison Company, Southern California Gas Company, and Sacramento Municipal Utility District. *Savings By Design*. Web. 03 Nov. 2010. <<http://www.savingsbydesign.com/overview.htm>>.
- ¹⁹ SMUD Home Performance Program. *SMUD.com*. Web. 03 Nov. 2010. <<http://www.smud.org/en/residential/home-performance/Pages/default.aspx>>.
- ²⁰ SMUD. *Home Performance Program Basic Option*. Web. 03 Nov. 2010. <<http://www.smud.org/en/residential/home-performance/Documents/HPP-Infosheet-Basic.pdf>>.
- ²¹ SMUD. *Home Performance Program Comprehensive Option*. Web. 03 Nov. 2010. <<http://www.smud.org/en/residential/home-performance/Documents/HPP-Infosheet-Comprehensive.pdf>>.
- ²² SMUD. *Technical Program Proposal and Cost Information*, SMUD Home Performance Program. Vol. 2. 2009.
- ²³ SMUD. *Home of the Future Program*. Web. 15 Nov. 2010. <<http://smudshomeofthefuture.org>>.
- ²⁴ "Energy Efficiency Mortgage Program." *HUD FHA Insured Energy Efficiency Mortgages*. Homes & Communities, U.S. Department of Housing and Urban Development, Aug. 2009. Web. 03 Nov. 2010. <<http://www.hud.gov/offices/hsg/sfh/eem/energy-r.cfm>>.
- ²⁵ Sacramento Association of Realtors. *ECO: Energy Conservation Opportunity Program*. Sacramento Association of Realtors. Print.
- ²⁶ The Home Energy Rating System (HERS) is a statewide program established by the California Energy Commission to certify home energy rating services in California. The goal of the program is to provide reliable information to differentiate the energy efficiency levels among California homes, and to guide investment in cost-effective home energy efficiency measures. "Phase II" of the program expands the framework to establish a systematic process for the delivery of whole-house home energy ratings, and is commonly referred to as HERS II. Available Online: *Home Energy Rating System Program (HERS)*. California Energy Commission, State of California, Oct., 2010. Web. 04 Nov. 2010. <<http://www.energy.ca.gov/HERS/index.html>>.

²⁷ *US Department of Housing and Urban Development*. Web. <<http://www.hud.gov/offices/hsg/sfh/eem/energy-r.cfm>>.

²⁸ *Greenwise Sacramento*. Web. 03 Nov. 2010. <<http://greenwisesacramento.org/>>.

²⁹ This Green Capital Alliance work to create a Clean Energy Sector Strategy is supported by a \$200,000 Regional Industry Clusters of Opportunity grant from the California Workforce Investment Board.

³⁰ Collaborate Economics is a research firm located in San Mateo, CA that provides advisement to civic entrepreneurs. The firm provides technical assistance for the Regional Industry Clusters of Opportunity grant and delivered this data in October 2010.

³¹ Figures provided by Sacramento Employment and Training Agency (SETA). Web. <<http://seta.net/>>.