

Marin Climate & Energy Partnership

Progress Report I

Submitted by Richard Schorske, Climate Action Director

On behalf of the Marin Climate & Energy Partnership

DRAFT v. 2 | December 8, 2008

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Partnership Background

A. Planning and Development: In the Fall of 2007, leaders from Joint Venture Marin, Marin Municipal Water District (MMWD), and the County of Marin received a grant of planning funds from the Marin Community Foundation (MCF), for the purpose of convening Marin's 11 incorporated cities and key public agency partners to jointly develop the Marin Climate and Energy Partnership (MCEP). These partners developed a partnership structure and workplan to advance the goal of achieving greenhouse gas reductions in alignment with AB 32 targets. Partners also applied for a \$75,000 grant from the Bay Area Air Quality Management District (BAAQMD) for the purpose of hiring a Climate Action Director, and pledged additional support in the amount of \$2,000 from each member jurisdiction.

The Bay Area Air Quality Management District awarded a \$75,000 planning grant in early 2008, and on November 13, 2008, the partnership entered into a year-long contract with Richard Schorske as its full-time Climate Action Director. Mr. Schorske was formerly the Director of the Marin Workforce Investment Board, a co-founder of Joint Venture Marin, and played a key role in the initial funding and development of the Partnership. The period of this report covers the initial weeks of Partnership activity (from November 1st through December 3, 2008.)

C. Membership: Partner Members include the eleven incorporated Marin cities and towns (Belvedere, Corte Madera, Fairfax, Larkspur, Novato, Mill Valley, Ross, San Anselmo, San Rafael, Sausalito, and Tiburon), the Marin County Community Development Agency, the Marin Municipal Water District (MMWD), and the Transportation Authority of Marin (TAM).

D. Administrative/Fiscal Structure: The Marin General Services Authority (MGSA) is the fiscal agent for the Partnership. The MGSA is a Joint Powers Authority that consists of the County and all of the incorporated cities and towns of Marin. The City of Novato, which was the initial applicant entity for the BAAQMD grant, completed an agreement (in early November, 2008) with BAAQMD and MGSA to transfer authority for BAAQMD grant oversight to MGSA.

Task: 1.1: Hire Climate Action Director

Hiring Process: As indicated above, the Climate Action Director position was filled in October 2008, with the appointment of Richard Schorske. In the course of the search process, more than 40 resumes were reviewed, and twelve people were interviewed. Members of the Hiring Committee included: Paul Helliker, General Manager of MMWD; Bob Brown, Community Development Director of San Rafael; Paul Berlant, Executive Officer of the Marin GSA; Yvonne Roberts, City of Novato Management Analyst; Robert Pendoley, Assistant Town Manager, Corte Madera; and Christine O'Rourke, Special Projects, City of Ross.

Contract Development & Timing: The Marin GSA entered into a 50 hour bridge contract with Mr. Schorske in mid-October to complete an initial needs assessment with the cities, and to refine the Climate Action Director workplan. Mr. Schorske began his full-time work with the Partnership on November 14, 2008.

Attachments in Appendix A: The position announcement, resume, and workplan for Mr. Schorske are included in Appendix A.

Task 2.1: Reduce Energy Use in Municipal Buildings

Relationship with Marin Energy Management Team: The Climate Action Director is helping to accelerate energy use reductions by working closely with the Marin Energy Management Team on the energy efficiency (EE) and renewable energy (RE) projects outlined below. The Energy Management Team is a collaborative of Marin County, Marin cities, and other public agencies funded largely through Public Goods Charges of the California Public Utilities Commission. The Climate Action Director will assist MEMT and city staff to provide financing and other support for municipal energy projects already in the pipeline for completion this year. A table indicating the projects that MCEP will help to advance is provided below.

Forms of Support Provided by MCEP: The Climate Action Director is helping to accelerate implementation of GHG-reducing EE and RE projects by:

- 1. Assisting staff to prioritize high-ROI energy efficiency and renewable energy measures in their Climate Action Plans.** Many of the cities in Marin have worthwhile retrofit projects with strong payback periods that are not yet implemented. To ensure that these projects are clearly presented to decision-makers, the Marin Climate and Energy Partnership is reviewing energy audits completed over the last several years *and highlight the GHG-reduction potential of pending projects in the context of the Climate Action Plans* that are being developed by every city in Marin in CY 2009.
- 2. Assisting in project fund development:** The Climate Action Director is proactively assisting cities to access Marin Community Foundation Climate Initiative resources as part of their GHG reduction efforts.
- 3. Facilitating Achievement and Documentation of Savings:** The Marin Energy Management Team has surveyed most of the Marin's municipal buildings to perform energy audits and developed in-depth EE and RE recommendations for many of the most important facilities; provided technical and financial information needed to make informed decisions; and provided bid packages, specifications, and board presentations to help decision-makers understand their options. Unfortunately, due to staffing and funding limitations, many cities have not been able to make use of the energy usage data that MEMT has compiled to *drive ongoing energy conservation efforts at the facility level*. Currently, most cities simply send their energy bill to the accounts payable or finance department, and they do not have an ongoing energy

management plan or staff function. Many cities do not even have a way to track energy consumption to the specific building or department level. However, studies indicate that much of the “bang for the buck” in energy conservation efforts is achieved not merely by replacing fixtures and HVAC systems, but by *continuous monitoring of energy use by key stakeholders*. Accordingly, the Climate Action Director is working with each of its city liaisons *to help develop cross-departmental “green teams”* that will set energy benchmarks, and help drive policies and procedures to achieve measurable energy (and GHG) savings.

At the capital project level, the Climate Action Director is working closely with Marin Energy Management Team and city liaisons to support implementation and track progress on the following key EE and RE projects currently in the pipeline. Many of these projects have not yet been bid and therefore cost data is not yet available. Future reports will contain both cost data and GHG reduction data, as project results are reported. In addition, we anticipate that additional projects proposed in 2009 will be included in the MEMT and MCEP support and tracking process.

Marin Municipal Energy Efficiency & Renewable Energy Projects (likely in Aug. 2008 – Dec. 2009)				
Project Location & Type	Savings Projected			Est. Date
	kWh (Gross)	kW (Gross)	Therms (Gross)	
Larkspur - Various I (lighting & HVAC)	31,588	12.42		12/1/2008
Larkspur - Various II			620.93	12/1/2008
Marin Center - Auditorium (various)	73,270		1,775.00	6/1/2009
Novato - Arts Center (lighting)	619	0.26		4/30/2009
Novato - Corp Yard (lighting)	89,544	0.00		4/30/2009
Novato - Hamilton Community (lighting)	55,869	12.09		4/30/2009
Novato - Hamilton Gym (lighting)	847	0.33		4/30/2009
Novato - Senior Ctr (lighting)	41,503	10.18		4/30/2009
Novato - Teen Center (lighting)	2,969	0.99		4/30/2009
San Rafael - City Hall (various)	4,205			10/1/2008
Novato Fire - Administration (various)	44,075			12/1/2008
Corte Madera - Corp Yard (various)	2,880			6/1/2009
Corte Madera - Multiple Sites (various)	20,623			6/1/2009
Fairfax - Multiple Sites (various)	49,055			9/1/2008
Larkspur - IT	10,000	1.00		12/1/2008
Novato - IT	35,000	3.50		6/30/2009
San Rafael - IT Verdiem	40,000	4.00		9/1/2008
Corte Madera - IT	20,000	2.00		9/1/2008
Fairfax - IT	8,000	0.80		9/1/2008
San Anselmo - IT	10,000	1.00		9/1/2008
Marin Municipal Water District - IT	40,000	4.00		12/1/2008
Marin County - 120 N. Redwood (VFD)	19,000	0.00		4/30/2009
Total	599,048	53	2,396	

Task 2.2: Establish Green Purchasing Collaborative

Initial Collaborative Development Efforts: To support the development and implementation of a cross-jurisdictional Green Purchasing Collaborative, the Climate Action Director has taken the following steps:

1. **Surveyed City Managers** and/or lead city staff re. their interest in Green Purchasing and key issues to be addressed
2. **Identified lead city representatives** to our Ad Hoc Green Purchasing Task Force
3. Identified a “simple template” and a “comprehensive template” of model EPP policies for consideration by participating cities
4. **Hosted a Task Force meeting to identify priority targets** for “green purchasing” and to solicit information and direction from relevant city staff
5. **Solicited the assistance of the Green Purchasing Institute** (Alicia Culver, Executive Director) **to help develop target product lists and specifications**, building on the Institute’s previous work with the Bay Area Green Business Collaborative, and other cities and counties in the Bay Area and beyond. A specific proposal for assistance from the Institute is currently in development and will be reviewed by project partners in December, 2008.

Key Challenges to be Addressed: The most common obstacles reported by participating cities are: 1) the decentralization of purchasing functions across departments; and 2) a lack of staff and technical expertise to perform all of the tasks needed to effectively add environmentally preferable products and services to the full spectrum of contracts municipalities issue every year. In Marin, our nine small municipalities (all with populations of 15,000 and fewer – most with 5,000 or fewer) and our two medium sized municipalities (San Rafael and Novato – in the 50,000 person range) are under extreme staffing pressure, and many are facing immediate mid-year cuts in operating budgets.

Strategies to Address Challenges: The Climate Action Director is implementing these key strategies in partnership with lead city staff through the next reporting period:

1. **Assisting in development of cross-departmental “green teams”** to address green purchasing efforts
2. **Disseminating model policies** that have already been adopted by other local governments
3. **Focusing EPP efforts on a few high-priority product categories** each year
4. **Specifying independently green-certified products** using reliable organizations – such as Green Seal and the Electronic Products Environmental Assessment Tool (EPEAT)
5. **Buying EPPs through established state contracts and cooperatives** such as US Communities’ Go Green partnership
6. **Providing training and briefings** as needed by technically qualified consultants

7. **Identifying vendors** that will assist with recycling, training, and reporting functions
8. **Identifying resources to support the green purchasing function** at the city level and in partnership with related organizations, including Marin County’s Energy Management Team and Sustainability Team.

Product Areas Identified for Prioritization in 2009 Efforts: The following product categories were identified as priority focus areas by the Green Purchasing Task Force at their December 1, 2008 kick-off meeting:

- Vehicles
- Paper & printing supplies
- Office equipment
- Lighting
- PC power management
- Janitorial supplies
- Public works maintenance items (e.g., lubricants, etc.)

Timeline: The following draft timeline has been developed for the Green Purchasing Collaborative to guide next steps in the project. This timeline will be further refined at the Collaborative’s January, 2009 meeting.

Marin Green Purchasing Collaborative	
Activity	Proposed Timeline
1. Survey city efforts and identify city staff leads	Completed
2. Identify and distribute model policies	Completed
3. Host kickoff meeting to establish priority actions	Completed
4. Identify consultant & develop draft EPP workplan	12/02/08 – 12/20/08
5. Refine & adopt EPP/ Green Purchasing Workplan	1/1/09 – 1/15/09
6. Refine model policies for consideration by Councils	1/1/09 – 3/30/09
7. Develop target product lists, specifications, supply sources, and ordering protocols	1/1/09 – 3/30/09
8. Pilot test relevant products and refine city-level ordering and contract protocols	2/1/09 – 4/30/09
9. Adopt model policies and ordering protocols	4/1/09 – 8/30/09
10. Begin to collect and report data on costs, GHGs, and energy savings	5/1/09 – 12/30/09

Ad Hoc Marin Green Purchasing Collaborative		
City	Person	Department
Ross	Christine O'Rourke	City Manager's Office
Belvedere	Becky Eastman	Finance
	Felicia Wheaton	Planning
Fairfax	Michael Rock	Town Manager
Mill Valley	Carol Misseldine	Sustainability Initiative
Larkspur	Nancy Kaufman	Planning
	Rebecca Ahrens	Finance
Novato	Jennifer Goldfinger	City Manager's Office
	Renee Harvee	Purchasing/ Finance
	Kathy Robinson	Planning
Tiburon	Heidi Bigall	Finance
San Anselmo	Janet Pendoley	Finance
San Rafael	Bob Brown	Community Development
Marin County	Craig Tackabery	Public Works
Marin Energy Mg't Team	Connie Meron	MEMT
	Tim Rosenfeld	MEMT

Task 2.3: Reduce Energy Use in Residential and Commercial Buildings

The Climate Action Director has surveyed cities regarding the status of their Green Building Ordinances and identified several cities as having ordinances that are at or near the state-of-the-art among California communities. These include Novato, San Rafael, Mill Valley, Larkspur, and the County of Marin. Other communities are also working to strengthen their ordinances. In January, MCEP will be convening planning and building officials from relevant jurisdictions to identify pathways to accelerated “greening” of building ordinances, and to provide technical assistance and resources as appropriate. The Partnership will be utilizing resources from a variety of entities, including Build it Green, LEED, the Homebuilders Association of Northern California, and the Accountable Development Corporation (ADC). Guidelines for developing a model ordinance are being distributed to cities based on the excellent work of the Accountable Development Corporation. The recommended approaches include not only building ordinance enhancements as such, but also consideration of sustainable energy financing strategies, residential energy conservation ordinances (RECOs) and other approaches to reduce energy and GHGs in buildings.

APPENDIX A: Partnership Overview (handout)

Marin Climate & Energy Partnership | Executive Summary v. 7 | 10.01.08

A. Mission of the Marin Climate & Energy Partnership: The mission of the Marin Climate & Energy Partnership (MCEP) is to reduce greenhouse gas (GHG) emission levels to the targets of Marin County and local municipalities, while also meeting the criteria air pollutant reduction goals of the Bay Area Air Quality Management District in compliance with the standards set by AB32.

B. MCEP Partner Members: Partner Members are each of the eleven Marin cities and towns, the Marin County Community Development Agency and the Marin Municipal Water District (MMWD). Partner Member cities and towns include Belvedere, Corte Madera, Fairfax, Larkspur, Novato, Mill Valley, Ross, San Anselmo, San Rafael, Sausalito, and Tiburon. The Transportation Authority of Marin has also expressed an interest in becoming a Partner Member.

C. MCEP Supporters: In addition to the Partner Members, MCEP has the benefit of support from the Marin Energy Management Team (a collaboration of Marin cities, school districts, & public agencies operating under the County of Marin) and ICLEI Local Governments for Sustainability.

D. Steering Committee: The Steering Committee of MCEP will include one representative from each Partner Member and one representative from each MCEP Supporter. The Steering Committee will follow established MCEP policies regarding group process, funding, hiring and adoption of reports.

E. Chair/Vice-Chair Positions: The Steering Committee will nominate one Partner Member representative to act as Chair of the Committee and a second Partner Member representative to act as Vice-Chair. Responsibilities of the Committee Chair include preparing meeting agendas and maintaining MCEP contact information. Responsibilities of the Committee Vice-Chair include taking meeting minutes. Chair and Vice Chair positions will be limited to one-year renewable terms.

F. Partnership Background/History: Planning for the MCEP development process was initiated in early 2007 under the auspices of Joint Venture Marin. In March of 2007, leaders from Joint Venture Marin, MMWD, and the County of Marin submitted a request for planning funds to the Marin Community Foundation (MCF), for the purpose of convening cities and public agency partners and initiating development of the Partnership. In August of 2007, MCF provided financial support for the planning process, with MMWD serving as fiscal agent for the planning period. In October of 2007, representatives of all 11 Marin cities, the County, and MMWD agreed to jointly:

- Develop the mission, work plan, and structure of the MCEP.
- Apply for a \$75,000 grant from the Bay Area Air Quality Management District (BAAQMD) for the purpose of hiring a Climate Action Director

- Provide support in the amount of \$2,000 from each member jurisdiction.
- Work together with other member jurisdictions to identify the resources needed to sustain the Climate Action Director position in FY 2009-10 and FY 2010-11.

In mid-2007, ICLEI – Local Governments for Sustainability, a nonprofit support organization which has worked with some Marin localities on greenhouse gas (GHG) inventories for the past several years, also secured resources from MCF for the purpose of completing baseline emissions inventories. This work is currently scheduled to be concluded in the fall of 2008.

Activities for 2008-09: MCEP will undertake these activities, beginning in 2008-09:

- 1. Expand tested approaches to achieve regional reductions in greenhouse gas emissions:** Measures will include accelerated development of green building ordinances, energy efficiency measures (already in motion via the Marin Energy Management Team), cleaner vehicle fleets, vehicle miles traveled (VMT) reduction initiatives (such as accelerated use of 511 Rideshare and enhanced Safe Routes to School), planning for accelerated Electric Vehicle (EV) and Plug-in Hybrid (PHEV) deployment, and other measures to be identified.
- 2. Institutionalize long-term climate protection through the planning process:** MCEP will work to integrate GHG reduction into local General Plans as these are updated. The San Rafael and Belvedere Plan updates will be the focus of work in 2008-09.
- 3. Accelerate deployment of “climate friendly” goods and services:** MCEP will expand use of green-certified building products, reuse and recycling, and waste-reduction initiatives, and establish a Green Purchasing Collaborative to economize purchases.
- 4. Achieve economic & social co-benefits by establishing Marin as a center for GHG-reducing “green” technologies.** MCEP will help to accelerate employment in the GreenTech sector and deployment of GHG-reducing technologies through partnerships developed with local enterprises, Joint Venture Marin, and other stakeholders.
- 5. Develop and disseminate innovative financing vehicles to ensure that promising GHG reduction strategies and technologies are rapidly deployed:** MCEP will work closely with the Marin Energy Management Team and other stakeholders to identify viable models for long-term financing of GHG reducing activities and technologies.

G. Resources and Staffing: MCEP has developed resources to support first year operations – including the work of a full-time Climate Action Director -- from the Bay Area Air Quality Management District (BAAQMD), and from Partner dues. Beginning in FY 2008-09, BAAQMD will provide \$75,000 in support of the Climate Action Director position, and MCEP partners will provide an additional \$26,000 toward the position and other operating costs. Partnership members will work with the Climate Action Director to develop a resource plan to extend the Climate Action position through at least FY 2010-11 (as indicated in the BAAQMD grant workplan), and to help fund GHG reduction initiatives. Potential funding sources include BAAQMD, state and federal sources, local philanthropy, and ongoing local jurisdiction support.

H. Administrative/Fiscal Structure: To make efficient use of existing administrative structures, MCEP entered into an agreement (on November 17, 2007) for the Marin General Services Authority (MGSA) to act as fiscal agent for the Partnership. The MGSA is a Joint Powers Authority that consists

of all of the incorporated cities and towns of Marin. Its seven-member Executive Board consists of the City Managers of Ross, Belvedere, San Rafael, and Novato, the Deputy County Administrator for Marin County, and the Directors of Public Works for Mill Valley and Larkspur. MGSA has responsibility for a variety of cross-jurisdictional programs, including street lighting, taxi regulation, and broadband wireless. (See www.MarinGSA.org) The responsibilities of Marin GSA are to provide fiscal and administrative oversight of MCEP contracts, in alignment with the MCEP workplan, goals, and mission.

I. Dues Structure: MCEP members agreed to an initial dues structure (for FY 2008-09) of \$2,000 per year for each Partner Member. These funds (totaling \$26,000) will be used to fund startup costs related to the partnership development and hiring process, the Climate Action Director position and project operating expenses. The dues structure will be reviewed in two years time (February 2010) for consideration within upcoming fiscal budgets. At that time, MCEP members will determine if additional contributions are warranted to advance member goals.

J. Participation: In March of 2008, the City Manager of Novato and the Executive Officer of the MGSA acting on behalf of the Partnership as a whole, distributed a Letter of Participation to all 11 City Managers, the County Administrator, and the MMWD and TAM executive officers, requesting designation of a lead representative to the Partnership, and affirmation of their agreement to the mission, goals, and dues of the organization. As of July, 2008, the following individuals have been designated as voting members or alternates on the Partnership Council.

Marin Climate & Energy Partnership – Confirmed Membership (as of June 2008)				
Belvedere	Wheaton	Felicia	Assistant Planner	450 San Rafael Ave. Belvedere, CA 94920
Corte Madera	Pendoley	Bob	Planning Director	300 Tamalpais Dr. Corte Madera, CA 94925
Fairfax	Roberts	Yvonne	Management Analyst	142 Bolinas Rd. Fairfax, CA 94930
Larkspur	Kaufman	Nancy	Planning Director	400 Magnolia Ave. Larkspur, CA 94939
Mill Valley	Misseldine	Carol	Sustainability Coordinator	26 Corte Madera Ave. Mill Valley, CA 94941
Novato	Robinson	Kathy	Management Analyst	75 Rowland Way Novato, CA 94945
Ross	O'Rourke	Christine	Special Projects Planner	P.O. Box 320 Ross, CA 94957
San Anselmo	Stutsman	Debra	Town Administrator	525 San Anselmo Ave. San Anselmo, CA 94960
San Rafael	Brown	Bob	Community Development Director	1400 Fifth Ave. San Rafael, CA 94915
Sausalito	Graves	Jeremy	Community Development Director	420 Litho Street Sausalito, CA 94965
Tiburon	Tyler	Laurie	Associate Planner	1505 Tiburon Blvd. Tiburon, CA 94920

Marin County	Pena	Omar	Sustainability Team	3501 Civic Center Dr. San Rafael, CA 94903
Marin Municipal Water District (MMWD)	Helliker	Paul	General Manager	220 Nellen Ave. Corte Madera, CA 94925
Transportation Authority of Marin (TAM)	Steinhauser	Diane	Executive Director	750 Lindaro Street, Ste. 200 San Rafael, CA 94901
Non-Voting Members				
Marin Energy Mg't Team	Rosenfeld	Tim	Director	tim@MarinEMT.org 415 389-1348
Joint Venture Marin	Schorske	Richard	Managing Director	richards@dsnetwork.org 415 883-2581
ICLEI	Look	Wesley	Program Officer	wesley.look@iclei.org 510 844-0699 x. 322
Marin GSA	Berlant	Paul	Executive Officer	pvberlant@comcast.net (707) 217-8616

*Individuals named are acting as Voting Members on behalf of their jurisdictions, unless indicated otherwise.

APPENDIX B.

1. Job Announcement / Job Description for Climate Action Director Position

REQUEST FOR PROPOSAL

**Climate Action Director
for the Marin Climate & Energy Partnership
Responses due by: 12 p.m., Monday, April 28, 2008**

Overview: The Marin Climate and Energy Partnership (MCEP) is a collaborative of Marin's 11 incorporated cities and towns, including: Belvedere, Corte Madera, Fairfax, Larkspur, Novato, Mill Valley, Ross, San Anselmo, San Rafael, Sausalito, and Tiburon, the County of Marin Community Development Agency, the Marin Energy Management Team, the Marin Municipal Water District, ICLEI, and Joint Venture Marin. The Partnership mission is to advance GHG emissions reductions, in alignment with the targets of Marin County and local municipalities. The Partnership will contract with a Climate Action Director (beginning on July 1, 2008) to achieve these goals:

- 1. Reduce Energy Use in Municipal Buildings:** The Climate Action Director will help: a) facilitate renewable energy installation projects on municipal facilities, including energy efficiency and HVAC upgrades; b) coordinate surveys and audits; c) assist local governments in the preparing of grant proposals and other financing, and; d) help coordinate installations and document outcomes.
- 2. Establish a Green Purchasing Collaborative:** Facilitate the purchase and installation of energy-efficient "green" office equipment and supplies by forming a Green Purchasing Collaborative among MCEP partners. Identify climate-friendly and eco-efficient products and negotiate bulk purchase discounts.
- 3. Reduce Energy Use in Residential and Commercial Buildings:** Research existing green building policies and practices and work with local planning staff to develop and encourage adoption of model commercial and residential "green" building ordinances.
- 4. Reduce Emissions from Municipal and Private Vehicles:** Develop a plan for a City CarShare program serving Marin cities. Develop green fleet standards and specifications for low-carbon municipal fleets for use by partner municipalities and agencies. Assist MCEP partners and other interested stakeholders to develop a model plan to encourage use and purchase of electric vehicles.
- 5. Reduce Energy Use and Emissions from Waste:** Develop a plan and model ordinances for the expansion of municipal waste reduction, recycling and re-use programs, including construction materials.
- 6. Integrate GHG Mitigation in General Plans:** The Climate Action Director will promote the inclusion of sustainability principles and climate protection in city General Plan updates.
- 7. Funding:** Develop a multi-year funding strategy for the Partnership.

Application Information: To obtain a full copy of the RFP, contact Richard Schorske at richards@dsnetwork.org.

Qualifications: Experience and knowledge of innovative climate protection solutions and programs. Skillful presentation of information to groups and committees. Capacity to build consensus among diverse groups. Knowledge of climate protection and energy issues regionally and statewide.

Budget: MCEP has a budget of approximately \$95,000 to complete the first year scope of work called for in the Marin Climate Action Director RFP, inclusive of contractor expenses and overhead.

2. Workplan for Climate Action Director

DRAFT 2008-09 Climate Action Director Workplan (Nov. 14, 2008 - Nov. 13, 2009)

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov
Task 2.1: Reduce Energy Use in Municipal Buildings													
2.1.A. Support MEMENT data collection on RE and EE projects (complete update by 12/31, maintain as needed.)													
2.1.B. Prepare reports on project energy usage & cost savings before and after implementation of measures; payback information and summary of any co-benefits including emission reductions. (To be submitted 3x/year)													
Task 2.2: Establish Green Purchasing Collaborative													
2.2.A. Provide purchasing specs for climate-friendly, energy-efficient products, office supplies, equipment.													
2.2.B. Facilitate purchase & installation of energy-efficient green office equip & supplies via Purch. Collab.,.													
2.2.C. Create a reporting system to document GHG and cost savings of targeted products													
2.2.D. Provide summary report on Green Purchasing Collaborative activities – including members, and purchases made with associated energy/cost savings and emission reductions													
Task 2.3: Reduce Energy Use in Residential and Commercial Buildings													
2.3.A. Research model green building policies and practices for residential & commercial buildings													
2.3.B. With local planners, encourage adoption of commercial and residential "green" bldg ordinances													
2.3.C. Provide report on progress toward adoption of green building ordinances (staff reports, resolutions, etc.)													
Task 2.4: Reduce Emissions from Municipal and Private Vehicles													
2.4.A. Develop a plan for a City CarShare program serving Marin cities.													
2.4.B. Develop green fleet standards and purchase spcs for low-carbon fleets for use by partner agencies													
2.4.C. Develop a model plan for infrastructure and incentives to encourage use and purchase of EV's													
2.4.D. Report on vehicle projects, including: CarShare, green fleet and EV programs													
2.4.E. Create a reporting system to document GHG benefits and cost savings													

Task 2.5: Reduce Energy Use & Emissions from Waste														
2.5.A. Develop a plan and model ordinances for the expansion of existing municipal waste reduction, recycling and re-use programs, including construction materials.														
2.5.B. Provide a summary report on waste reduction plan, incl: status of implementation of waste reduction and recycling programs; list of measures with reductions (tons by type) summary of co-benefits & GHG reduction														
2.5.C. Create model ordinance(s) re. plastic bags, styrofoam, non-recyclable waste, re-use of const. materials														
Task 2.6: Integrate GHG Mitigation in General Plans														
2.6.A. Provide model language to Belvedere and San Rafael re. GHG-related elements of the General Plans														
2.6.B. Provide compilation of Calif. climate change & sustainability elements for local general plans														
2.6.C. Provide report on progress toward climate change & sustainability principles in gen.plans														
3.1 MCEP Resource Development														
3.1.A. Develop & execute fundraising to meet MCEP goal of \$35-\$70K+ in FY 08-09, \$100K+ in FY 09-10														
3.1.B. Complete two progress reports and one final report for BAAQMD														
3.2. GHG Action Plan Integration														
3.2.A.. Articulate proposed structure for MCEP coordination of climate action planning & funding for MCF														
3.2.B. Assist cities, counties, public agencies, and other relevant stakeholders to integrate GHG planning (ongoing)														

C. Resume of Climate Action Director (Richard Schorske)

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richards@dsnetwork.org • 415.883.2581 (voice) • 415.310-2407 (cell) • 415.883-2503 (fax)

Principal, E-Vision Partners, 2007-2008. As a sustainability consultant and civic entrepreneur, I have developed several new initiatives to address climate, clean energy, and sustainability issues locally, regionally, and statewide. These include:

- **Joint Venture Marin** -- This countywide leadership network (consisting of 25+ elected officials and civic & business leaders) is dedicated to identifying and achieving Marin County's highest-priority goals for sustainability. Recent Joint Venture projects include establishment of the Marin Climate & Energy Partnership (see below) and developing common metrics and goals to guide sustainability across the public and private sectors, inclusive of the "four E's" of the economy, the environment, education, and social equity. Also established the **Joint Venture Sustainability Roundtable Series** – a regular series of leadership dialogues on key issues pertaining to clean energy, climate, and sustainability. Participants include County Supervisors, Mayors, the Community College President, Kaiser Chief Administrator, and key public agency chief executives, as well as civic and business leaders.
- **Marin Climate & Energy Partnership (MCEP)** – This new collaborative of 11 cities, Marin County, and local transportation and water agencies, is committed to achieving an 80% reduction in 1990 levels of greenhouse gas emissions by 2050. Successfully raised over \$130K to fund MCEP start-up phase, with contributions from local cities, Marin Community Foundation, and the Bay Area Air Quality Management District.
- **The California Alliance for Plug-in Vehicles:** This cross-sector alliance has brought together industry leaders with EV and plug-in vehicle advocates to initiate development of a strategic plan for accelerated EV deployment in California. EV's represent a key opportunity to advance GHG reduction, and mitigate the impact of oil price increases and supply disruptions. Participants have included leading firms (Tesla, PG&E, Google, Project Better Place), leading NGO partners (Plug-in America, CalCars, Silicon Valley Leadership Group) and key policy influencers (UC Center for Sustainable Mobility). Funding for the strategic planning process is currently in development.
- **The Bay Area Community Choice Energy Technical Capacity Accelerator:** This effort, co-developed with Waterplanet Alliance in 2008, is providing information and technical assistance to localities interested in developing clean energy, distributed renewable energy, and energy efficiency programs via the Community Choice Aggregation model (AB 117.) In support of the Accelerator, I developed a comprehensive Leadership Training Manual on CCA issues, and am designing leadership workshops and colloquia, as well as county-specific outreach and awareness-building efforts.

Director, Workforce Investment Board (WIB) of Marin County, 2005 – 2007. Led strategy development, program design, and resource development for this 28-member Board of employer leaders, appointed by the Marin County Board of Supervisors. Accomplishments include: co-developing the business plan and helping launch the \$3M **Marin Simulation Center** (a high-tech center for healthcare workforce training at College of Marin); planning and hosting the 2006 and 2007 **Marin Jobs Summits**, during which 100+ employer leaders defined priorities for workforce and economic development in key sectors of the Marin economy (with emphasis on sustainability and the built environment); developing the **Marin CleanTech Summit** (which introduced many business leaders to the Marin Clean Energy effort); helping initiate the **Water Management and Technology Education Center**, a collaborative of MMWD, industry associations, and the College of Marin committed to training water and landscape professionals in water-efficient practices. Also developed funding from the Board of Supervisors and authored a Business Plan for the **Center for Sustainable Horticulture** at the College of Marin (CoM) which includes the new 2 acre Indian Valley Organic Farm & Garden, co-developed with Marin Conservation Corps and CoM.

California Charter Schools Association, Sacramento, CA. **Director of Leadership**, 2004 – 2005. Designed, funded, and administered leadership development programs for new charter school leaders. Created the California Charter Quality Institute, a week-long residential program for Principals and Executive Directors. Successfully raised over \$1M to launch the Quality Institute from The Broad Foundation, Girard Foundation, State Farm, and others. Supported the Association's quality school standards development and deployment process, and led visiting teams for schools undergoing quality performance reviews.

Founder, Fresno Academy for Civic & Entrepreneurial Leadership (2005 – present), I successfully developed the governing Board, wrote the Charter Petition (cited by the Fresno Unified School District Board of Education as the best charter school plan submitted to the District in the last ten years), and raised over \$650,000 in state, federal, and private grants for this new charter school, opening in Fall of 2009. The focus of the curriculum is on locally significant sustainability issues, including clean energy, green building, and civic leadership. Currently developing the school's project-based and sustainability-focused curriculum.

Schorske & Associates, Principal, 2000-2003. Developed workforce, education, and economic development initiatives for clients in education, government, and the private sector. Clients included: the San Francisco Mayor's Office of Children, Youth, and Families; the Silicon Valley Manufacturing Group (the original sponsor of Workforce Silicon Valley); the David and Lucille Packard Foundation; Food, Land, and People; NOVA (the North Santa Clara Valley Private Industry Council); the San Jose Workforce Investment Network, the Bay Area Partnership, the Fresno Workforce Investment Board, the Bay Area Council, and others. In addition to client engagements, I was the founder/developer of the **Fresno Design Sciences High School**, a small Early College High School (developed with Fresno City College and the Fresno Unified School District) focused on building-related careers and funded by the Gates Foundation; and **VentureConnect!**—a civic and entrepreneurial venture plan competition that brought together high school students in the five-county Bay Area with students from the Stanford University School of Business; and **Learn@World**, a five-week summer academy preparing youth to develop their own enterprises and advance their career goals. Funders included the Stupski Family Foundation, the Pacific Research Institute, Frank Howard Allen, and others.

Workforce Silicon Valley, San Jose, CA. **Executive Director**, 1995 – 1999. As the first Executive Director of this industry-led high school reform collaborative, developed and implemented a strategic vision for improving the education and workforce preparation system of Santa Clara County. Partners included three Community College Districts; 11 high school and unified school districts; a 24-person Board of Chancellors, Superintendents, civic, labor, and business leaders; and a 12 person staff. Accomplishments include:

- Leading the development of career academies and small "schools-within-schools"
- Developing joint high school/college/employer *Learning Collaboratives* which advanced student skill mastery in IT, Health/Biosciences, Financial Services, Engineering, and Multimedia. Negotiated articulation agreements and other joint high school/college programs to accelerate student attainment of college degrees and skill certificates.
- Provided training for 400 high school & college faculty to develop innovative curricula aligned to industry skill standards, and implement work-based learning programs and career academies
- Developed large-scale career awareness and work-based learning programs with local industry
- Secured grants of \$5M+ from the U.S. Departments of Education & Labor, leading corporations (including Solectron and Intel), and foundations (Packard, Nasdaq, Knight, Irvine, etc.)
- Successfully supervised federal and state program and fiscal audits
- Presented keynotes at national, state, and regional conferences

St. John's Urban Institute, San Francisco, CA. **Director of Strategic Development**, 1993 - 1995. Developed programs and funding for successful multi-site (K-12) school-linked health and social service programs for at-risk

youth in San Francisco's Mission District. Developed "Community Bridges" program designated as statewide model for all California Healthy Start program sites (based on the Beacon Schools model). Tripled agency budget and established relationships with prominent San Francisco philanthropists.

Innovative Housing, San Rafael, CA. **Director of Development**, 1990-1993, **Consultant**, 1988-1990. Developed and executed fundraising strategy and designed program initiatives for this five-county housing developer focused on workforce and transitional housing, and life-skills training for families at risk of homelessness. Doubled revenue over three years. Developed CDBG-funded programs in eight Bay Area cities. Developed major donor and direct mail programs. Supervised grants administration staff. Helped lead Board and major donor recruitment and relations.

FDC, San Rafael, CA. **Director of Education**, 1983-1988. Developed curricula and programs for public study groups serving 150 cities worldwide for international Buddhist institute. Supervised 12-person international team of curriculum developers, editors, and support staff. Established relationships with opinion leaders, foundations, and major donors, including successful cultivation of Laurence Rockefeller (Fund for the Enhancement of the Human Spirit.) Served as editor-in-chief for inter-faith journal.

Boston Publishing/Time-Life Books, Boston, MA. 1981 - 1982. **Researcher/Writer** on 14-volume history of the Vietnam War, which sold 20 million copies. Authored key chapters, conducted original research and interviews with key officers and high-level officials.

United States Senate, Washington, D.C. 1980. **Legislative Intern** with Senator William Proxmire (D, Wisconsin). Conducted legislative analysis and wrote position papers on environmental and energy policy. Authored twelve speeches delivered on Senate floor. Issues focus included: nuclear waste disposal and alternative energy fuels (coal syngas, biomass, waste-to-energy).

Institute of Public Administration, Washington, D.C. 1978 - 1979. **Research Associate** on federal study of urban mass transportation finance. Analyzed financing options for public transportation in major metropolitan areas.

EDUCATION

Wesleyan University, Middletown, CT. B.A. in intellectual history. Phi Beta Kappa. Robbins prize for top student in History. Editorial Board member of *The Hermes*, student journal on politics and public policy.

SERVICE

Board & Civic Engagement: Served as founding Board member of the **Bay Area School-to-Career Action Network**, as founding Board member and Treasurer of **GreatSchools.net** (online guide to public school quality); on the education Advisory Board for **TechNet** (chaired by John Doerr and Reed Hastings); on the **Bay Area School Reform Collaborative Advisory Board**; on the **Assessment Task Force of the California K-16 Master Plan** process; on the **Bay Area Council Workforce/Education Task Force** (chaired by Larry Stupski); and on the **Shared Governance in Higher Education Task Force** chaired by Barry Munitz. Currently serve on the Board of **Sustainable Marin**, and as founding Board member of the **Fresno Academy for Civic and Entrepreneurial Leadership**.

REFERENCES

Paul Helliker, General Manager, MMWD

Fran White, President, College of Marin

James Jordan, Past Chair, Workforce Investment Board of Marin County

Ken Stateman, Principal, Stateman & Associates (Marin business & marketing consultant)

APPENDIX C: Model Green Purchasing Policy Ordinance

DRAFT V. 1 -- 11.25.08

Environmentally Preferable Purchasing POLICY FOR REVIEW BY MARIN CLIMATE & ENERGY PARTNERSHIP MEMBERS

1.0 STATEMENT OF POLICY

It is the policy of the City of ____ to:

- Institute practices that reduce waste by increasing product efficiency, reusability, and effectiveness,
- Purchase products that minimize environmental impacts, toxics, pollution, and hazards to worker and community safety to the greatest extent practicable, and
- Purchase products that maximize recycled content, are durable and long-lasting, conserve energy and water, reduce greenhouse gas emissions, use unbleached or chlorine-free manufacturing processes, are lead-free and mercury-free, use wood from sustainably harvested forests, and use agricultural fibers and residues (where appropriate and feasible)
- Give preference to vendors who offer products made by companies that take-back their products at the end of their useful life for re-use, recycling, or safe disposal

2.0 PURPOSE

This Policy is adopted in order to meet the goal for an environmentally preferable purchasing policy and to make the City's operations and services a model of sustainable practices.

Further, this Policy is adopted in order to:

- protect the health and safety of workers and citizens,
- conserve natural resources,
- minimize environmental impacts such as pollution,
- eliminate or reduce toxics that create hazards to workers and our community,
- support recycling markets,
- reduce the amount of materials that are being sent to landfills,
- reduce greenhouse gas emission
- increase the use and availability of environmentally preferable products that protect the environment,
- reward manufacturers and vendors that reduce environmental impacts in their production and distribution systems or services,
- create a model for successfully purchasing environmentally preferable products that encourages other purchasers in our community to adopt similar goals.
- help the City meet its stated goals, as expressed through Council adopted resolutions and ordinances, in such areas as Sustainability, Green Building, and Climate Protection.

3.0 PRODUCER RESPONSIBILITY

The City of ____ shall give preference to products that are manufactured by companies that take financial and/or physical responsibility for collecting, recycling, reusing, or otherwise safely disposing of their products and packaging at the end of their useful life. When products are available that have established manufacturer-finance recycling programs the City of ____ shall require vendors to offer the manufacturer's recycling services at no extra cost as part of their bid.

4.0 SPECIFICATIONS

4.1 Source Reduction

- 4.1.1 The City of ____ shall institute practices that reduce waste and result in the purchase of fewer products, but without reducing safety or quality.
- 4.1.2 The City of ____ shall purchase remanufactured products such as toner cartridges, furniture, equipment & automotive parts when practicable, but without reducing safety, quality, effectiveness, or warranty that support the original product.
- 4.1.3 All buyers shall consider short-term and long-term costs in comparing product alternatives including evaluation of total anticipated costs during the product's life including, but not limited to, acquisition, extended warranties, operation, supplies, maintenance, disposal costs and expected lifetime compared to other alternatives.
- 4.1.4 The City of ____ shall request vendors to eliminate packaging or use the minimum amount necessary, without reducing product protection.
- 4.1.5 The City of ____ shall request vendors that cannot eliminate packaging to use packaging that is reusable, recyclable or compostable in existing recycling programs.
- 4.1.6 The City of ____ shall request vendors to take back packaging that is not easily reusable, recyclable or compostable in existing local recycling programs.
- 4.1.7 The City of ____ shall require that surplus or outdated electronic equipment, including but not limited to computers, monitors, printers, and copiers, be designated for reuse and/or recycling in a manner that minimizes the release of contaminants to the environment.
- 4.1.8 All documents shall be printed and copied on both sides to reduce the use and purchase of paper, except when a legitimate business reason exists. All high-speed printers and copiers shall be equipped with duplexing capability that works effectively and configured with the duplex feature set as a default.

4.2 Recycled Content Products

- 4.2.1 All products for which the State of California or the United States Environmental Protection Agency (U.S. EPA) has established minimum recycled content standard guidelines, such as those for printing paper, office paper, janitorial paper, construction, landscaping, parks and recreation, transportation, vehicles, miscellaneous, and non-paper office products, shall contain the highest postconsumer content practicable, but not less than the recycled content standards established by the State of California or the U.S. EPA, whichever is higher.
- 4.2.2 Copiers and printers purchased or leased shall be compatible with the use of recycled content paper.
- 4.2.3 In accordance with California Public Contract Code, Sec. 10409, the City of ____ shall purchase re-refined lubricating and industrial oil for use in its vehicles and other equipment, as long as it is certified by the American Petroleum Institute (API) as appropriate for use in such equipment.
- 4.2.4 When specifying asphalt concrete, aggregate base or portland cement concrete for road construction projects, the City of ____ shall use recycled, reusable or reground materials when practicable.
- 4.2.5 The City of ____ shall specify and purchase recycled content transportation products when practical, including signs, cones, parking stops, delineators, channelizers and barricades, which shall contain the highest postconsumer content as established by the State of California or the U.S. EPA standards, whichever is higher.
- 4.2.6 The City of ____ shall purchase paint meeting Green Seal or other equivalent environmental standard for recycled content latex paint.
- 4.2.7 All pre-printed recycled content papers intended for distribution that are purchased or produced shall contain a statement that the paper contains recycled content. The statement should indicate the percentage of postconsumer recycled content it contains.
- 4.2.7 The City shall review, revise and further assure that purchases shall be consistent with the City's Recycled Content Procurement and Source Reduction Policy.

4.3 Energy and Water Savings

- 4.3.1 Energy-efficient equipment shall be purchased with the most up-to-date energy efficiency functions. This includes, but is not limited to, high efficiency space heating systems and high efficiency space cooling equipment.
- 4.3.2 The City of ____ shall purchase and replace inefficient interior lighting with energy-efficient equipment.
- 4.3.3 The City of ____ shall purchase and replace inefficient exterior lighting, street lighting and traffic signal lights with energy-efficient equipment. Exterior lighting shall be minimized where possible to avoid unnecessary lighting of architectural and landscape features while providing adequate illumination for safety and accessibility.

- 4.3.4 All products purchased by the City of ____ and for which the U. S. EPA Energy Star certification is available shall meet Energy Star certification. When Energy Star labels are not available, the City shall choose energy-efficient products that are in the upper 20% of energy efficiency as designated by federal data bases including the Federal Energy Management Program (FEMS), unless the product has a third party certification.
- 4.3.5 The City of ____ shall purchase water-saving products whenever practicable including but not limited to high performance fixtures like toilets, waterless urinals, low-flow faucets and aerators, and upgraded irrigation systems.

4.4 Green Building

- 4.4.1 All building and renovations undertaken by the City of ____ shall follow Green Building Practices for design, construction, and operation, where appropriate, as described in the LEED™ Rating System. Products and purchases made by the City shall be consistent with the City's Green Building Ordinance.
- 4.4.2 The City of ____ shall procure wood products such as lumber that originates from forests harvested in an environmentally sustainable manner. The City of ____ shall give preference to wood products that are certified to be sustainably harvested by a comprehensive, performance-based certification system. The certification system shall include independent third-party audits, with standards equivalent to, or stricter than, those of the Forest Stewardship Council certification.
- 4.4.3 The City of ____ encourages the purchase or use of previously used or salvaged wood and wood products whenever practicable.

4.5 Landscaping

- 4.5.1 Products and services purchased by the City shall be suitable for project application and consistent with the Bay-Friendly landscaping guidelines. Landscape renovations, construction and maintenance performed for the City of ____, shall employ sustainable landscape management techniques such as Bay-Friendly Landscaping for design, construction and maintenance whenever possible.
- 4.5.2 Plant waste should be minimized by selection of perennial species that are appropriate to the microclimate that can grow to their natural size in the space allotted them. Native and drought-tolerant plants that require minimal or no watering once established are preferred.
- 4.5.3 Hardscapes and landscape structures constructed of recycled-content materials are encouraged. The City of ____ shall limit the amount of impervious surfaces in the landscape, wherever practicable. Permeable substitutes, such as permeable asphalt or pavers, are preferred for walkways, patios, driveways and low volume traffic areas.

4.6 Toxics and Pollution Reduction

- 4.6.1 When making a choice among comparable products, the City shall, whenever practicable, favor those products whose production and use involve fewer hazardous materials.

- 4.6.2 To the extent practicable, the City of ____ shall purchase, or require janitorial contractors to supply, industrial and institutional cleaning products that meet Green Seal certification or other equivalent standards for environmental preferability and performance.
- 4.6.3 To the extent practicable, the City of ____ shall purchase, or require janitorial contractors to supply, vacuum cleaners that meet the requirements of the Carpet and Rug Institute “Green Label” Testing Program – Vacuum Cleaner Criteria, are capable of capturing 96% of particulates 0.3 microns in size, and operate with a sound level less than 70dBA. Where possible, other janitorial cleaning equipment shall be capable of capturing fine particulates, removing sufficient moisture so as to dry within 24 hours, operate with a sound level less than 70dBA, and use high-efficiency, low-emissions engines.
- 4.6.4 The use of chlorofluorocarbon and halon-containing refrigerants, solvents and other products shall be phased out and new purchases of heating/ventilating/air conditioning, refrigeration, insulation and fire suppression systems shall not contain them.
- 4.6.5 All surfactants and detergents shall be readily biodegradable and, where practicable, shall not contain phosphates.
- 4.6.6 The City of ____ shall implement the Integrated Pest Management (IPM) Plan and practices for indoor and outdoor areas using chemical controls only as a last resort and providing on-going training and certification for City staff. Purchases of materials and services made by the City shall be consistent with its Integrated Pest Management policies.
- 4.6.7 When maintaining buildings, the City of ____ shall use products with the lowest amount of volatile organic compounds (VOCs), highest recycled content, and low or no urea formaldehyde. Examples include paint, carpet, adhesives, furniture and casework.
- 4.6.8 The City of ____ shall reduce or eliminate its use of products that contribute to the formation of dioxins and furans. This includes, but is not limited to:
- Purchasing paper, paper products, and janitorial paper products that are unbleached or that are processed without chlorine or chlorine derivatives, whenever possible.
 - Prohibiting purchase of products that use polyvinyl chloride (PVC) such as, but not limited to, office binders, furniture, flooring, and medical supplies, whenever practicable.
- 4.6.9 The City of ____ shall reduce the use of disposable batteries by purchasing rechargeable batteries for devices, such as cameras, remote control, tape recorders, telephone headsets, and wireless keyboards and mice and other equipment when practical.
- 4.6.10 The City of ____ shall favor the less hazardous materials when purchasing products and equipment that contain lead or mercury and when the product or equipment has an established take-back program.

- 4.6.11 The City of ____ shall specify that desktop computers, laptop computers, and monitors purchased or leased meet, at a minimum, all Electronic Product Environmental Assessment Tool (EPEAT) environmental criteria designated as “required” as contained in the IEEE 1680 Standard for the Environmental Assessment of Personal Computer Products, whenever practicable.
- 4.6.12 When replacing vehicles, the City of ____ shall consider less-polluting alternatives to diesel such as hybrids, battery electric vehicles (EVs), plug-in hybrid electric vehicles (PHEVs), compressed or liquefied natural gas, and biofuels possessing superior environmental characteristics. Vehicle purchases shall be consistent with “Green Fleet” resolutions, policies, and procedures (where applicable) to reduce greenhouse gas emissions, improve air quality, and increase the energy efficiency of the City’s fleet.
- 4.6.13 Vehicles fuels made from non-wood, plant-based contents with superior environmental characteristics, such as vegetable oils, are encouraged whenever practical. The Bio Fuel will meet the blending ASTM D6751 standards.
- 4.6.14 All City Departments and Agencies are prohibited from purchasing or acquiring polystyrene foam disposable food service ware and will use reusable, biodegradable or compostable disposable food service ware.
- 4.6.15 Compostable plastic products purchased shall meet American Society for Testing and Materials (ASTM) standards as found in ASTM D6400-04. Biodegradable plastics used as coatings on paper and other compostable substrates shall meet ASTM D6868-03 standards

5.0 IMPLEMENTATION

- 5.1 The Directors of Finance and Public Works, or other directors as designated by the City Manager shall implement this policy.
- 5.2 Upon request, buyers making the selection from competitive bids shall be able to provide justification for product choices that do not meet the environmentally preferable purchasing criteria in this policy.
- 5.3 Purchasers shall include relevant businesses certified by the Bay Area Green Business Program in requests for products and services.
- 5.4 Vendors, contractors and grantees shall comply with applicable sections of this policy for products, and services provided to the City of ____ and shall provide reporting, where practicable.
- 5.5 Nothing contained in this policy shall be construed as requiring a department, purchaser or contractor to procure products that do not perform according to their intended use, exclude adequate competition, or are not available at a reasonable price in a reasonable period of time.
- 5.6 Nothing contained in this policy shall be construed as requiring the City of _____,

department, purchaser or contractor to take any action that conflicts with local, state or federal requirements.

5.1 PROGRAM EVALUATION

The Finance and Public Works departments, or other personnel designated by the City Manager, shall be responsible for implementing this policy and shall periodically evaluate the success of this policy's implementation through benchmarking and goal setting and periodic reports.

6.0 DEFINITIONS

- 6.1 “American Society for Testing and Materials” means ASTM International, an open forum for the development of high quality, market relevant international standards use around the globe.
- 6.2 “Bay Area Green Business Program” is a partnership of San Francisco Bay Area governments and businesses that certifies the environmental performance of government agencies and businesses.
- 6.3 “Bay-Friendly Landscaping” Guidelines have been developed by StopWaste.Org, and refer to guidelines for sustaining the natural ecosystems of the San Francisco Bay Area fostering soil health, reducing runoff and pollution, preventing and reusing plant waste, and conserving water and other natural resources.
- 6.4 “Biodegradable plastic” means the degradation of the plastic must occur as a result of the action of naturally occurring microorganisms.
- 6.5 “Biodegradable Products Institute” (BPI) is a multi-stakeholder association of key individuals and groups from government, industry and academia, which promotes the use, and recycling of biodegradable polymeric materials (via composting). BPI does not create standards but certifies products that demonstrate they meet the requirements in ASTM D6400 or D6868, based on testing in an approved laboratory.
- 6.6 “Buyer” means anyone authorized to purchase or contract for purchases on behalf of The City of ____ or its subdivisions.
- 6.7 “The Carpet and Rug Institute” (CRI) is the national trade association representing the carpet and rug industry. CRI has developed and administered the “Green Label” indoor air quality testing and labeling program for carpet, adhesives, cushion materials and vacuum cleaners. The “Green Label Plus” testing program incorporates additional requirements to meet California’s Collaborative for High Performance Schools low-emitting materials criteria.
- 6.8 “Chlorine free” means products processed without chlorine or chlorine derivatives.
- 6.9 “Compostable plastic” means plastic that is biodegradable during composting to yield carbon dioxide, water and inorganic compounds and biomass, at a rate consistent with other known compostable materials and leaves no visually distinguishable or toxic residues.

- 6.10 “Contractor” means any person, group of persons, business, consultant, designing architect, association, partnership, corporation, supplier, vendor or other entity that has a contract with The City of ____ or serves in a subcontracting capacity with an entity having a contract with The City of ____ for the provision of goods or services.
- 6.11 “Degradable plastic” means plastic that undergoes significant changes in its chemical structure under specific environmental conditions.
- 6.12 “Dioxins and furans” are a specific group of chemical compounds that are classified as persistent, bioaccumulative, and toxic by the U.S. Environmental Protection Agency (EPA).
- 6.13 “Energy Star” means the U.S. EPA’s energy efficiency product labeling program.
- 6.14 “Energy Efficient Product” means a product that is in the upper 25% of energy efficiency for all similar products, or that is at least 10% more efficient than the minimum level that meets Federal standards.
- 6.15 “Electronic Product Environmental Assessment Tool” (EPEAT) is a procurement tool to help institutional purchasers in the public and private sectors evaluate, compare and select desktop computers, notebooks and monitors based on their environmental attributes.
- 6.16 “Federal Energy Management Program” is a program of the Department of Energy that issues a series of *Product Energy Efficiency Recommendations* that identify recommended efficiency levels for energy-using products.
- 6.17 The “Forest Stewardship Council” is a global organization that certifies responsible, on-the-ground forest management according to rigorous standards developed by a broad variety of stakeholder groups.
- 6.18 “Green Building Practices” means a whole-systems approach to the design, construction, and operation of buildings and structures that help mitigate the environmental, economic, and social impacts of construction, demolition, and renovation. Green Building Practices such as those described in the LEED™ Rating System, recognize the relationship between natural and built environments and seeks to minimize the use of energy, water, and other natural resources and provide a healthy productive environment.
- 6.19 “Green Seal” is an independent, non-profit environmental labeling organization. Green Seal standards for products and services meet the U.S. EPA’s criteria for third-party certifiers. The Green Seal is a registered certification mark that may appear only on certified products.
- 6.20 “Integrated Pest Management (IPM)” is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that

minimizes risks to human health, beneficial and nontarget organisms, and the environment.

- 6.21 “LEED™ Rating System” means the most recent version of the Leadership in Energy and Environmental Design (LEED™) Commercial Green Building Rating System, or other related LEED™ Rating System, approved by the U.S. Green Building Council and designed for rating new and existing commercial, institutional, and high-rise residential buildings.
- 6.22 "Postconsumer Material" means a finished material which would normally be disposed of as a solid waste, having reached its intended end-use and completed its life cycle as a consumer item, and does not include manufacturing or converting wastes.
- 6.23 “Practical” and “Practicable” mean whenever possible and compatible with local, state and federal law, without reducing safety, quality, or effectiveness and where the product or service is available at a reasonable cost in a reasonable period of time.
- 6.24 “Preconsumer Material” means material or by-products generated after manufacture of a product is completed but before the product reaches the end-use consumer. Preconsumer material does not include mill and manufacturing trim, scrap, or broke which is generated at a manufacturing site and commonly reused on-site in the same or another manufacturing process.
- 6.25 “Recovered Material” means fragments of products or finished products of a manufacturing process, which has converted a resource into a commodity of real economic value, and includes preconsumer and postconsumer material but does not include excess resources of the manufacturing process.
- 6.26 “Recycled Content” means the percentage of recovered material, including preconsumer and postconsumer materials, in a product.
- 6.27 “Recycled Content Standard” means the minimum level of recovered material and/or postconsumer material necessary for products to qualify as “recycled products.”
- 6.28 “Recycled Product” means a product that meets the City’s recycled content policy objectives for postconsumer and recovered material.
- 6.29 “Remanufactured Product” means any product diverted from the supply of discarded materials by refurbishing and marketing said product without substantial change to its original form.
- 6.30 “Reused Product” means any product designed to be used many times for the same or other purposes without additional processing except for specific requirements such as cleaning, painting or minor repairs.
- 6.31 “Source Reduction” refers to products that result in a net reduction in the generation of waste compared to their previous or alternate version and includes durable, reusable and remanufactured products; products with no, or reduced, toxic constituents; and products marketed with no, or reduced, packaging.

- 6.32 “U.S. EPA Guidelines” means the Comprehensive Procurement Guidelines established by the U.S. Environmental Protection Agency for federal agency purchases as of May 2002 and any subsequent versions adopted.
- 6.33 “Water-Saving Products” are those that are in the upper 25% of water conservation for all similar products, or at least 10% more water-conserving than the minimum level that meets the Federal standards.

7.0 EFFECTIVE DATES

- 7.1 This policy shall take effect on adoption by the City Council.

SUPPORTING DOCUMENTS (Examples from Oakland)

1. Resolution No. 70814 Adopting Recycled Content Procurement and Source Reduction Policy for the City of ____ and Redevelopment Agency (1994).
2. Resolution No. 73968 Adopting An Integrated Pest Management Plan (1997).
3. Resolution No. 77842 Establishing “Green Fleet” Policies and Procedures to Reduce Greenhouse Gas Emissions and Improve Air Quality in the City of ____, and to Increase the Energy Efficiency of the City’s Fleet (June 3, 2003).
4. Ordinance No. 12658 Establishing Green Building (E.G. Sustainable Site Development, Water Savings, Energy Efficiency Materials Selection and Indoor Environmental Quality) Requirements for Certain City Projects (May 17, 2005).
5. Ordinance No. 12747 To Prohibit the Use of Polystyrene Foam Disposable Food Service Ware and Require the Use of Biodegradable or Compostable Disposable Food Service Ware by Food Vendors and City Facilities (June 27, 2006).

Supporting documents can be obtained from: www.oaklandpw.com

APPENDIX E: MCEP Green Team Development Guidelines

Marin Climate & Energy Partnership

Suggestions for Implementing a Green Purchasing Program (11.26.08)

1. Craft the Policy

- a. Convene participants from all relevant departments to form a Green Team, e.g.:
 - Public Works
 - Purchasing/Finance/Administration
 - Planning
 - Police/Fire, etc.
- b. Adapt model policies to local needs (starting with rigorous model, e.g., the CIWMB policy template)
- c. Ask purchasing staff to outline current procurement patterns & opportunities for greening
- d. Define target products and processes to be greened (based on issues addressed in the policy template)
- e. Define timeline (e.g. annually) for updating and revising the policy
- f. Establish goals and priorities for greening each relevant procurement domain (e.g., office products, fleets, lighting, building materials, etc.)
- g. Ensure that life-cycle costs are considered as well as initial costs

2. Implement the policy

- a. Define responsibilities for implementing green purchasing policy across all departments
- b. Outline process to pilot test new products and refine product lists & specifications
- c. Define role of vendors, consultants, and/or outside agencies in meeting policy goals
- d. Develop approved product lists
- e. Define incentives (if appropriate) to drive policy implementation
- f. Address employee training needs (e.g., green procurement conferences, etc.)
- g. Communicate policy broadly and relate back to city priorities re. environmental stewardship, sustainability, economic efficiency, customer service, etc.
- h. Define measurement approach, including:
 - Measures (to include re. energy savings, cost savings, & GHG reductions)
 - Responsible staff
 - Frequency of measurement
 - Reporting tool (minimum standard metrics will be co-developed by MCEP partners)
- i. Communicate the environmental and economic benefits in newsletters and annual report
- j. Celebrate success

Green Purchasing Resources

www.gogreencommunities.org: **U.S. Communities Going Green Program** is a “one-stop source” for public agency access to a broad line of green products, services and resources. The Going Green Program is a subset of the U.S. Communities Government Purchasing Alliance – and is jointly sponsored by the Association of School Business Officials International (ASBO), the National Association of Counties (NACo), the National Institute of Governmental Purchasing (NIGP), the National League of Cities (NLC), and the United States Conference of Mayors (USCM). U.S. Communities pools the purchasing power of 87,000 public agencies nationwide, including local and state government agencies, school districts, higher education, and non-profits. Product categories include:

- School Supplies
- Office Supplies
- Technology Products
- Electrical & Data Communications
- Technology Solutions
- Office Machines
- Office Furniture

- Education Furniture
- Janitorial Supplies
- Park & Playground
- Maintenance, Repair & Operating Supplies
- Auto Parts & Accessories
- Roofing Supplies & Services
- Synthetic Turf & Athletic Surfaces

<http://www.officedepot.com/a/store/your-greener-office/N=303171+100000/>: The Greener Office program at Office Depot is part of the US Communities Go Green Program and features online access to greener products. Purchasers are encouraged to further “annotate” the Office Depot product list to maximize environmental benefit and cost-effectiveness. Hot links to Office Depot green products are below:

AV Supplies & Equipment (44)	Ink, Toner & Ribbons (232)
Basic Supplies (7)	Lamps & Light Bulbs (45)
Batteries (5)	Mailroom Supplies (108)
Binders & Accessories (409)	Memory, Storage & Media (2)
Bookcases & Shelving (20)	Monitors & Projectors (12)
Breakroom & Janitorial (75)	Office Furnishings (10)
Calendars & Planners (3)	Office Machines (3)
Cameras & Imaging (11)	Paper, Forms, Envelopes (436)
Chairs (2)	Pens, Pencils & Markers (426)
Custom Printing (34)	Phones & Accessories (4)
Desk & Wall Accessories (43)	Printers, Scanners, Copiers & Faxes (63)
Electronics (3)	Promotional Products (10)
Filing & Storage (812)	School Supplies (502)
Furniture Collections (24)	Self-Stick Notes & Flags (15)
	Televisions (1)

Green Purchasing Resources (continued)

What screening process was used for the Office Depot “Buy Green” list? For the launch of the buygreen site, Office Depot selected products that have one or more of the three main environmental benefits: reduced waste, reduced energy and reduced chemical use. Products that “reduce waste and resources” were specified based on these criteria:

- Recycled: minimum 10% post-consumer recycled or 20% total recycled
- Recycling solutions: bins, bags and boxes to encourage recycling
- Remanufactured: ink and toner cartridges from previously used products
- Refillable & refills: products that replace one-time-use disposables
- Rechargeable: batteries and chargers to replace one-time use batteries
- Rewritable: CDs, DVDs and Flash Drives to reduce paper and allow reuse

Products that reduce energy

- Reduced energy in use: "Energy Star" qualified electronics and lights
- Renewable energy in use: solar powered or manually cranked products

Products that reduce chemicals

- Reduced chemicals in use: Certified non-toxic writing instruments and supplies
- Reduced chemicals & waste in disposal: Biodegradable liquids & non-toxic solids

Office Dept also identified products that meet third-party guidelines such as Greenseal or EPA's Comprehensive Procurement Guidelines (CPG). These are indicated on the site.

<http://www.epa.gov/epp/>: **The EPA's Environmentally Preferable Purchasing (EPP)** program helps governments "buy green," and uses the federal government's buying power to stimulate demand for green products and services. The EPA program is mainly geared to federal purchasers, but their site also has access to many general resources including information about green products and services; federal green buying requirements; calculations of costs and benefits of purchasing choices; green purchasing process management tools.

<http://www.epa.gov/epp/tools/index.htm>: Hands-on tools for Green Purchasing – this site includes links to a database of environmentally preferable product specs, green purchasing training, and much more.

[ENERGY STAR® Product Savings Calculators](#): These calculators quantify the cost savings associated with using ENERGY STAR certified products over traditional models.

[Hybrid Electric Vehicle \(HEV\) Cost Calculator Tool](#) [Flex Fuel Vehicle \(FFV\) Cost Calculator Tool](#) Calculators that allow an organization to compare the costs, benefits, and emissions of HEVs and FFVs to those of conventional vehicles. It can be used to compare single vehicles or full fleets.

Green Purchasing Resources (continued)

Environmentally Preferable Purchasing Guides: <http://www.epa.gov/epp/pubs/pfs.htm>:

This site links to EPA purchasing guides for carpet, meetings and conferences, cleaning products, and copiers.

The Responsible Purchasing Network: RPN is a membership-only information resource for large purchasers. They produce state-of-the-art Purchasing Guides for a range of products and services, including: [Bottled Water](#), [Cleaners](#), [Computers](#), [Copy Paper](#), [Green Power](#), [Fleets](#), [Light-Duty Tires and Wheel Weights](#), [Lighting](#), [Office Electronics](#), and [Paint](#). If there is interest among MCEP members, we could join under the nonprofit designation and distribute the guides. The online version of each Purchasing Guide includes a searchable products database. Each Purchasing Guide includes the following sections for the particular product or service:

- [Overview](#)
- [Social & Environmental Issues](#)
- [Best Practices](#)
- [Cost, Quality, & Supply](#)
- [Policies](#)
- [Specifications](#)
- [Standards](#)
- [Products](#)
- [Calculator](#)
- [Handy Facts](#)
- [Definitions](#)
- [Credits & Endnotes](#)

Membership Info: Small cities can join RPN for \$250. Membership info is available at: <http://www.responsiblepurchasing.org/store/index.php?id=1>



Quick Win Opportunity: Reducing Paper Use & Boosting Recycled Content

Combining Reduction Initiatives with Increased Recycled Content: The bad news is that unsustainable use of paper is a leading cause of GHGs, deforestation, and toxic effluent worldwide. The good news is that recycled paper has now been extensively refined to work with virtually any brand of copier and printer. This should reduce operational barriers to 100% deployment. However, recycled content papers are still more expensive to purchase. To maximize both environmental and economic benefit, it may be worth investing in duplexing printers -- and ensuring that all staff know how to use the duplex feature and use it regularly. Also, electronic distribution of documents, and “think first before you print” messaging to all employees can help focus on **reducing use** (and thereby reducing the cost penalty from specifying higher proportions of recycled content paper....) Getting Marin public agencies up to a 100% recycled content standard can be a quick win for MCEP partners!!!

Recycled Content Paper Product Overview: The recycled content range for paper, envelopes, and forms that contain recycled content is 10%-100% post-consumer recycled content and 20%-100% total recycled content (pre-consumer plus post-consumer). The vast majority of office paper products sold in the US still contain zero recycled content. Even a small amount of recycled content is environmentally preferable because it helps to reduce waste, decrease pressure on forests and lessen energy, GHGs and toxic emissions. If a virgin paper product simply has recycled or recyclable packaging, it is not selected for the Office Depot buygreen site.

FSC-Certified Paper Products: FSC certification is similar (although not the same as) "organic" labeling for food. Just like "organic food" comes from farms that practice more sustainable agriculture, the fiber in FSC-certified paper is assured to come from more "responsibly harvested forests." These forests are managed following rigorous standards that help ensure long-term renewable harvests, sustainable re-growth and biodiversity protection. The majority of Office Depot papers are certified to either SFI (Sustainable Forestry Initiative), CSA (Canadian Standards Association), or PEFC (Program for Endorsement of Forest Certification) standards. The main difference between FSC and the other schemes is that FSC is internationally-recognized whereas SFI and CSA certification is regional and PEFC is an umbrella scheme that recognizes different regional standards. FSC is also the certification regarded as the "gold standard" of forest management by more than 80 environmental groups. Green Seal is an organization that sets standards for environmentally preferable products and conducts supplier audits to validate environmental claims. Green Seal certification is highly desirable for purchasers wishing to maximize environmental benefit.

Reduced Chlorine Bleached Cut-Sheet Paper: There are three main cleaner bleaching processes for paper: ECF (Elemental Chlorine Free), PCF (Processed Chlorine Free) and TCF (Total Chlorine Free). ECF is now the standard bleaching process across North American mills. Most Office Depot papers are bleached using the ECF process which eliminates dioxins from effluents. Since ECF bleaching is now the "standard" process in the US, only products bleached using an even cleaner process such as PCF or TCF are included on the Office Depot buygreen site. However, ECF products are included if they contain recycled content.

APPENDIX E: Model Green Building Ordinance Development Guidelines

Proposed Guidelines for the Enhancement of Green Building Ordinances in Marin County

(drawn from *Green Building Policy Best Practices*, developed by the Accountable Development Corporation under contract to BAAQMD)

2.1 Selection of Green Building Guidelines

Green building guidelines are simply a mechanism for cataloging the various strategies for minimizing resource consumption in the built environment. Nationally, a number of voluntary green building programs exist, including guidelines created through the building industry, governmental entities, and nonprofits. When these voluntary guidelines are used as the basis for local *mandatory* standards, of chief importance is that the guidelines used be meaningful, credible and accessible.

For this reason, this report strongly urges municipalities to use Build it Green's "Green Point Rated" checklist for residential construction and the US Green Building Council's Leadership in Energy and Environmental Design ("LEED") for commercial construction. Build it Green is a professional non-profit membership organization, and their mission is "to promote healthy, durable, energy- and resource-efficient buildings in California." Their rating system is widely used in the San Francisco Bay Area on both a voluntary and mandatory basis, and the guidelines are created in extensive consultation with public agency and industry representatives. The current version of the guidelines for single family homes is the "2007 New Home Construction Green Building Guidelines," and Build it Green will be publishing an updated version of these guidelines in 2009. There is also a set of "2008 Multifamily Green Building Guidelines" that jurisdictions can use for multifamily residential construction.

The US Green Building Council is also a nonprofit organization and is responsible for the administration and creation of LEED, a nationally recognized third-party certification system for green building. The standards are created through a consensus-based process including over seven volunteer committees, the membership of which represent a diverse range of stakeholder groups. The current version for new construction and major remodels and additions is LEED v2.2 New Construction, and the US Green Building Council will be releasing an updated set of guidelines, LEED v3.0 New Construction, in 2009. These guidelines are specifically geared towards commercial and municipal buildings rather than residential construction.

2.2 Setting Required Point Levels

Both Build it Green and LEED utilize checklists that allow developers to obtain a specified number of points out of a large pool of possible strategies, rather than being solely prescriptive in dictating what building practices should be employed. Local jurisdictions must therefore decide what how many points projects should be required achieve.

2.2.1 Criteria

In recommending point levels for residential and commercial construction, two criteria have been applied.

The first criterion is *whether the point levels achieve meaningful reductions in building sector GHG emissions*. Given the magnitude and urgency of the climate protection challenge, model green building policies must lead to reasonably assured and immediate improvements in local construction practices.

Given this objective, it is also critical that standards be *achievable*. If standards are set too high for a given building product to attain, a builder faces two choices: build anyway and seek to evade compliance with mandatory standards, or refrain from building the given product. The former can be avoided to a large extent with meaningful enforcement and verification procedures, which are addressed later in this section.

The latter possibility – that green building standards will deter certain building products from being built at all – is a critical issue, and motivates the second criterion used to create these recommendations: *will standards positively or negatively affect builders’ capacity to create products with environmental benefits?* This criterion encourages local jurisdictions to take a broader approach to climate protection: if green building standards impair a community’s ability to provide affordable housing near transit or encourage mixed-use development, for instance, such policies may have the “hydraulic” effect of decreasing building sector GHG emissions at the expense of increased emissions from the transportation sector. Clearly, this is a consequence to be avoided.

To the extent, however, that green building standards have the net effect of *discouraging* building products that are unsustainable both with respect to both the built environment *and* their impact on transportation patterns, this report submits that this is actually a desirable effect of green building policy, rather than one to be averted.

Lastly, it is important to note that the model policies recommended combine a “performance-based” with a “prescriptive” approach. In order to attain voluntary certification with the Build it Green and LEED programs, projects must meet certain “prerequisites” in addition to achieving a minimum number of points in specified categories. With minor exceptions, the recommended policies make the prerequisites and category minimums for voluntary Build it Green and LEED certification *requirements* for compliance with local mandatory green building standards.

2.2.2 Residential Construction Standards

The 2007 Build it Green guidelines for both single family and multifamily homes require that projects achieve 50 out of 300+ possible points to achieve certification as “GreenPoint Rated” (GPR). Based on the first criterion of needing to achieve significant reductions in GHG emissions, this report recommends the following:

Single Family Dwellings (2007 New Home Construction Guidelines)	
<i>Project density (dwelling units/acre)</i>	<i>Required point level</i>
1-6 du/acre	90
7-12du/acre	100
>12du/acre	110
Multifamily Dwellings (2008 Multifamily Green Building Guidelines)	
All densities	80

In order to ensure that land use considerations are sufficiently incorporated into green building standards, the recommended policy is to adopt a “tiered” approach such that less dense development is required to offset its less efficient use of land through attaining higher green building point levels.

Within the multifamily guidelines, projects are eligible to receive a significant number of points for increasingly higher densities, and therefore no tiered approach is necessary for multifamily housing.

With regards to the feasibility of these standards, the point levels are consistent with green building requirements for the City of Rohnert Park, whose staff reported no adverse impact based on the green building requirements they adopted. Furthermore, local jurisdictions with required Green Point levels below these recommendations have reported no negative consequences from the thresholds they established, and at least one jurisdiction has reported a widespread community desire to see their standards increased. A number of affordable housing projects in the San Francisco Bay Area have achieved over 110 GreenPoints^{xiv}, indicating that these environmental standards can be met without jeopardizing housing affordability.

Lastly, it is recommended that jurisdictions establish an additional category minimum in the area of “Community Design and Planning,” where Build it Green has not established a minimum number of points that must be achieved. This category includes items such as home clustering, proximity to transit and services, use of universal design principles, and other sustainable land use practices. Jurisdictions should require projects to attain at least four out of the twenty possible “Community Design and Planning” points in order to ensure that green building standards take into account the significant environmental benefits of smart growth planning.

2.2.3 Commercial Construction Standards

The LEED program requires a minimum of 26 out of a total 69 points to achieve LEED certification. In its function as a voluntary program, LEED also has additional recognition levels that can be obtained beyond basic certification: “Silver” (minimum 33 Points), “Gold” (minimum 39 Points), and Platinum (minimum 52 Points).

Based on the need to achieve significant reductions in GHG emissions, this report recommends that commercial construction be required to achieve the following point levels:

<i>Project size</i>	<i>Point level and compliance</i>
<10,000 square feet	Exempt
10,000 to 20,000 square feet	26 LEED Points, Locally-verified
20,000 to 50,000 square feet	33 LEED Points, Locally-verified
> 50,000 square feet	33 LEED Points, Certified

Depending on the type of project, there are three LEED systems that may be appropriate for applicants to use: LEED New Construction v2.2, LEED Core & Shell v2.0, or LEED Commercial Interiors v2.0. Because the environmental impact of a project will depend more on its size than the type of construction, and for ease of implementation, this report recommends setting uniform standards for point levels for new buildings and tenant improvements, allowing the municipality to select the appropriate set of standards

for each individual project.

This report further recommends that all prerequisites for LEED certification also be required for compliance with the mandatory green building standards, with the exception of Fundamental Commissioning of Building Energy Systems. While this item is cost-effective over time, it continues to be challenging for some smaller projects.

2.3 Enforcement and Verification

Too often local jurisdictions have made enforcement a secondary rather than a primary issue, and work invested in crafting green building policies for new construction is for naught without this critical component. While there are certainly more resource-intensive enforcement mechanisms that can be employed, the recommendations below are tailored to local jurisdictions seeking to meaningfully enforce green building standards while minimizing the impact on required staffing levels, avoiding unduly burdensome submittal requirements for builders, and generally creating a well-functioning process that serves both the public agency and the building industry.

Residential

One of the advantages of using Build it Green's "Green Point Rated" system is the existence of "GreenPoint Raters" throughout the San Francisco Bay Area who are qualified to independently verify that Build it Green's requirements have been met. This also means that any project complying with a local mandatory green building ordinance will also have the benefit of third-party certification with Build it Green. Implementation of residential green building standards using the GreenPoint Rated system is therefore quite straightforward, and requires little administrative burden on the part of municipalities in order to render standards effective.

GreenPoint Raters are registered with Build it Green, and are listed in a directory through Build it Green's website. One approach to enforcement, therefore, is simply to require that a project applicant retain a GreenPoint Rater of their choice and present documentation to the city after they have achieved certification. The downside to this approach, however, is that it may bring outside inspectors onto a project site with little knowledge of jurisdiction-specific ordinances and local building code.

In order to maintain greater quality control over building inspections and provide the optimal experience for project applicants, most municipalities prefer to either certify one or more of their existing building inspectors as GreenPoint Raters, or retain consultants who are both certified GreenPoint Rater and educated in the jurisdiction's particular policies and procedures. Jurisdictions should choose one of these options based on their staffing levels, resources and structure.

Commercial

The question of how to enforce LEED standards is somewhat more complex. The US Green Building Council itself serves as the central certifying agency for LEED, and, unlike Build it Green, does not accredit LEED "raters" who are qualified to inspect a project and verify its compliance with LEED guidelines at a low cost to an applicant. The US Green Building Council does train LEED Accredited Professionals, or LEED-AP's, who must pass a test demonstrating understanding of LEED requirements, and are uniquely qualified to *advise* a project applicant in how to attain LEED certification. Unlike a Green Point Rater, however, a LEED-AP does not have the authority to inspect and *verify* that a project has met LEED requirements.

From the standpoint of municipal resources, the most efficient means of ensuring compliance is to require that all projects be LEED certified. Unfortunately, LEED certification can still be costly and time-consuming, particularly for smaller projects where the value is more limited and the effort spent on paperwork may be more wisely invested in actual green building measures. Yet requiring certification is far more cost-effective for a *municipality* than having staff try to take on the verification work of the US Green Building Council. Requiring LEED certification is also much more *credible* than merely having a

project applicant complete the LEED Points checklist and get it signed off by a LEED-AP, as some jurisdictions have opted to do.

The model policy, therefore, requires LEED certification for projects over a certain size threshold, and establishes a relatively low-resources mechanism for the jurisdiction to verify compliance for smaller projects. For projects that are less than 50,000 square feet, a jurisdiction should have a LEED-AP on their building inspection team who can serve as a “green building compliance official” and verify that the LEED points claimed by a project applicant have in fact been achieved. Either the architect or engineer of record for a project should retain documentation that is substantially the same as would be required for LEED certification. Rather than being required to submit a package of documents to the US Green Building Council, however, they would simply be required to furnish these documents upon the request of the jurisdiction’s green building compliance official.

It is highly recommended that the jurisdiction develop a list of documents or inspection tasks that are to be undertaken for each particular LEED point that a project applicant may claim.

2.4 Updates to Standards

Given pending updates to LEED for New Construction, Build it Green standards, and California’s energy code, Title 24, updates to localities’ green building standards are likely to be necessary to ensure that policies remain current and continue to have a positive impact on industry practices. Moreover, there may be implementation details that need to be altered depending on fluctuations in municipal resources or staffing levels.

An effective process for ongoing feedback and adjustments will increase the comfort level that the building industry, municipal staff and the public alike have with green building standards. It is therefore highly recommended that jurisdictions adopt the overall *framework* of their green building program via ordinance, including the findings that local jurisdictions are required by state law to make when establishing local building standards. Key details, however, should be imbedded in a separate *resolution* so that they can be more easily changed over time. These include:

- Required point levels
- Which versions of LEED and Build it Green should be used
- How compliance is verified
- What documentation is required for commercial construction standards

2.5 Impact on GHG Emissions

Strong green building standards for new construction will help promote development that is energy and water efficient, avoids non-renewable construction materials, provides for good indoor air quality and utilizes common-sense principles in site selection and building orientation. Quite simply, green building standards minimize the amount of fossil fuel involved in a building’s construction and operation.

The reductions in GHG emissions that can be most accurately quantified are those derived from increased on-site energy efficiency in residential and commercial construction. The recommended green building standards for new construction will significantly increase energy efficiency in new residential and commercial buildings, and the resulting reductions in GHG emissions are outlined below. Because projected build-out of residential and commercial development will be different in each jurisdiction, this report offers projected metric tons of carbon dioxide reduced per each 1,000 new single family

homes, 1,000 new multifamily units, and 100,000 square feet of new retail space. This way each community can estimate their likely GHG emissions reductions based upon how much new construction is anticipated to occur.

Projected reductions in GHG emissions based on energy efficiency resulting from recommended green building standards^{xv}

	<i>Per 1,000 single family homes</i>	<i>Per 1,000 multifamily units</i>	<i>Per 100,000sf small retail projects (<30,000sf)</i>	<i>Per 100,000sf large retail projects (>30,000sf)</i>
Point level required by recommended policy	100 Green Points	80 Green Points	26 LEED	33 LEED
Modeled performance above Title 24	24.5%	21%	24.5%	28%
Annual reduction in GHG emissions (metric tons CO ₂)	1184.2	1015.1	118.7	135.7

It should be emphasized that the analysis presented in this report models only the effects of recommended green building standards on GHG emissions associated with increased on-site energy efficiency. Additional reductions in GHG emissions will also be achieved through passive solar design, on-site renewable energy generation, water efficiency/conservation, building material reuse, greater access to mass transit, and renewable and sustainably harvested building materials.

EXISTING BUILDINGS

3.0 Overview

While green building standards for new construction are critical to ensuring that building sector GHG emissions do not rise beyond present levels, achieving the *reductions* necessary will require local policies that result in widespread retrofits of existing commercial and residential buildings. In the city of Santa Rosa, for instance, an inventory of building-related GHG emissions from the period 2007-2020 illustrated that even if not one metric ton of carbon dioxide was brought online as a result of new construction, this would accomplish less than one-fourth of the requisite reductions in building sector emissions. Put differently, existing structures in Santa Rosa will account for 87% of building-related GHG emissions during that time period under a “business as usual” scenario.

While the share of GHG emissions attributed to existing structures varies depending on the age of a community’s building stock and how much developable land they have remaining, substantial energy inefficiencies in the built environment are simply commonplace. The average California home, in fact, wastes
of the energy it uses.^{vi}

40%

In spite of this glaring problem, local policy initiatives that act aggressively to achieve major energy efficiency retrofits are not widespread or even universally understood among local California jurisdictions. This report therefore urges local governments to act rapidly to implement the policy recommendations outlined herein, in hopes that “early adopters” will increase community support for these policies and spur further action.

3.1 Residential Energy Audits and Disclosure Requirements

One of the factors driving wasteful energy consumption is a lack of knowledge on the part of homeowners about how energy inefficient their property actually is – and even more importantly, how to improve its energy performance. An energy audit helps address this problem by providing a building-specific report that identifies how best to increase that structure’s energy efficiency. These audits can range from a visual-only, low-cost or “do it yourself” inspection to a more comprehensive process in which a number of tests are performed to identify problem areas that may not otherwise be apparent.

We strongly recommend that jurisdictions require that comprehensive energy audits be performed on a residential property when it changes ownership, just as a pest report might be generated. This policy achieves two critical functions: first, it encourages homebuyers to undertake the most effective measures to increase building performance, as the audit will identify these. Secondly, by *requiring* that an energy audit be performed when a property changes hands, it elevates energy performance (and consequently, GHG emissions) as a more important variable in real estate transactions and a viable factor in the appraisal process.

Important considerations for developing a local program of mandatory energy audits are outlined below.

Energy audits required should be comprehensive, so as to encourage homebuyers to implement the most environmentally beneficial and cost-effective retrofit possible $\text{\$}$ beyond what may be required by local energy efficiency programs.

For this reason, we recommend that local jurisdictions adopt the State of California’s Home Energy Rating System (HERS) – Phase II as the universal framework for these mandatory audits. The HERS system is governed by the California Energy commission, and has historically been used to verify compliance with state energy code in new structures. More recently, however, the State of California has undertaken an update to create “Phase II” of the HERS program, which is required by law to fulfill the following objectives^{xvii}:

- Guide the production of consistent, accurate, and uniform ratings based on a single statewide rating scale
- Ensure that any audit or rating include reasonable estimates of potential utility bill savings and reliable recommendations on cost-effective measures to improve energy efficiency
- Establish labeling procedures that will meet the needs of home buyers, homeowners, renters, the real estate industry, and mortgage lenders with an interest in home energy ratings
- Propose a technique for determining energy efficiency measure cost-effectiveness
- Propose a technique to develop recommendations for energy efficiency improvements, including cross-checking against utility bills

The updated HERS report will not only contain information on anticipated energy use and recommended improvement measures, but will also present the home’s annual CO₂ emissions and give it a score on a scale of 0 to 150, based on total daily value (TDV) energy use compared to that of a standard “reference home.” A rating of 0 will be a zero-energy home, and “100” will be minimally compliant with California’s 2008 Title 24 energy code.

The California Energy Commission is charged with approving and overseeing a quality assurance program for HERS providers. HERS raters must meet these providers' rigorous qualification requirements, and they are required to remain "independent entities" with no financial interest vis-à-vis the contractors who perform energy efficiency improvements to a home.

The updated HERS program is expected to be adopted by the California Energy Commission by the end of 2008, and it is therefore recommended that jurisdictions act quickly to lay in place a framework for mandatory audits that can utilize this excellent tool.

Mandatory HERS reports will also be a tremendous asset to homebuyers interested in obtaining either an Energy Efficiency Mortgage (EEM) or Energy Improvement Mortgage (EIM). For a home that is new or already energy-efficient, a HERS rating reflecting this fact allows homebuyers to qualify for a mortgage product which treats the substantial energy savings resulting from the home's energy efficiency as additional income. For older and less-efficient homes, an Energy Improvement Mortgage uses the HERS report to establish a post-retrofit appraisal of the home to establish the value of proposed energy efficiency improvements.

The results of energy audits should be disclosed on Multiple Listing Services (MLS).

While there are a number of exciting green education initiatives afoot within the real estate community to better educate prospective homebuyers about the importance of energy performance, requiring a home's HERS rating on MLS will greatly increase the access consumers have to this information. This is particularly important for reaching those who may not have been otherwise attuned to energy performance issues, and would not think to request information on a property's energy expenditure or HERS rating from a seller.

Having this information on MLS will also allow for important studies about what premium people will pay for a "green home." Northwest Multiple Listing Service has included information on a home's green design features and whether it is third-party verified, which has allowed realtors to undertake an innovative study illustrating that green-certified homes sell more quickly and for a higher value than non-certified homes.^{xviii} Local jurisdictions should aggressively outreach to the local real estate community to ask that they include HERS ratings and use it as a search term on their local MLS.

As an interim step while a mandatory program for HERS rating is being developed, local governments should ask their realtor communities to include the previous year's energy expenditure in therms and kilowatt hours on MLS.

Standard HERS reports should be coupled with jurisdiction-specific information as appropriate on local incentives or programs for which a property owner may be eligible.

A small amount of effort on the part of local jurisdictions in creating materials that can be included as a supplement to HERS reports will help ensure that residents not only have information on the most cost-effective measures to undertake, but also how to finance them. This is particularly important since recommended items may in some cases include higher ticket measures such as on-site energy generation or solar water heaters. While these items will save the property owner money in the long run, it is important that people understand the financing mechanisms available to help overcome the potential barrier of upfront costs.

Energy audits should be aggressively marketed as a productive voluntary undertaking.

The number of retrofits necessary to even come close to local and statewide benchmarks for reducing GHG emissions will far outpace the number of properties that change hands during the critical time period. While the “point of sale” is a critical trigger for requiring energy audits, they also must be utilized in between real estate transactions.

It should be noted that the prospect of a *mandatory* energy audit and disclosure at the point of sale will have the effect of encouraging some homeowners to *voluntarily* complete an energy audit and undertake recommended measures well in advance of selling their property. This allows them not only to reap the benefits of the energy savings, but may also provide for a higher resale value than if they had put the house on the market prior to undertaking the retrofit.

For property owners who have no intention to sell their home in the immediate future, however, aggressive public education and marketing will be critical to achieve widespread use of energy audits and retrofits. A model program for coupling public and private capital to accomplish this task is the Cambridge Energy Alliance (CEA), a city-supported nonprofit which seeks to achieve retrofits in 50% of buildings in Cambridge, Massachusetts. The CEA is unique in that it serves as a “one-stop shop” for public education, project management, flexible financial assistance, and auditing. We strongly recommend that jurisdictions coordinate to identify local entities who can – at the very least – serve as a clearinghouse of information and direction for residents.

3.2 Residential and Commercial Energy Conservation Ordinances

Residential Energy Conservation Ordinances (RECO’s) and Commercial Energy Conservation Ordinances (CECO’s) are programs to help achieve specified energy and water efficiency improvements in the existing building stock.

In California, RECO’s and CECO’s are in place in Berkeley, Davis, San Francisco, and Sacramento, and other jurisdictions have been considering them throughout 2008. A February 2008 ICLIE report submitted to Menlo Park as a part of their GHG inventory analysis recommended a “time -of-sale energy efficiency improvement policy,” the details of which are similar to the City of Berkeley’s RECO and CECO. Moreover, consultants from the Area of Bay Area Government’s Energy Watch program presented to the Sebastopol City Council in July 2008 on recommended implementation guidelines for a RECO, with likely consideration of a CECO in the future.

This is one of the few policy mechanisms available with which to ensure that some minimum level of energy efficiency improvements in the existing building stock will be achieved within a given time period. Besides increasing the number of energy efficiency retrofits, RECO programs are critical to establishing a track record of sales for energy efficient homes. One of the difficulties for appraisers is that due to a lack of homes sales data with any sort of energy efficiency variables, it is extremely difficult to evaluate how “green” features should be appraised. Reversing this trend would provide greater incentive to potential sellers to invest in energy efficiency improvements to their properties.

This report recommends that jurisdictions establish a RECO and CECO program with the following parameters.

Residential Energy Conservation Ordinance

- I. Required Improvements
 - a. Unlike existing RECO programs in other jurisdictions, a model policy will utilize performance-based rather than prescriptive requirements. This means that rather than prescribing a list of specified measures, RECO requirements will be based on a metric

- such as the building’s annual CO2 or HERS rating.
 - b. The RECO program will be developed in accordance with the State of California’s updated Home Energy Rating System (HERS) Phase II guidelines, as this will be the framework used for the mandatory audit program.
- II. Cost caps
- a. Until such time that local financing mechanisms are in place to help sellers finance the required energy efficiency improvements through a Sustainable Energy Financing District or Pay As You Save program, the RECO will cap required expenditures at .5% of a home’s final sale price.
 - b. Once one of the aforementioned financing mechanisms is in place to allow sellers to finance energy efficiency improvements, the cap on required expenditures will be increased to 1.5%.
 - c. In complying with the RECO, sellers or homebuyers should be encouraged to utilize a sensible “loading order” for recommended measures. This is also known as a “blended payback” approach, whereby measures are sequenced and combined such that the collective savings accrued from the total retrofit is maximized.
- III. Compliance
- a. RECO compliance will be the responsibility of the seller, but can be transferred to the buyer by submitting a form to the jurisdiction signed by both the buyer and seller
 - b. Documentation of RECO compliance will be filed with the jurisdiction’s Chief Building Official or an equivalent appropriate staff person
- IV. Applicability.
- a. When a residential building is sold or ownership is transferred
 - b. During a major remodel with a project value of \$50,000 or more
 - c. An initiation of energy and/or water utility service
 - d. An electric metering change, such as the removal of one or more residential units from a master meter and their transfer to separate meters for each unit
- V. Exemptions
- a. Residential buildings for which proof of compliance has been previously recorded with the jurisdiction within the past five years
 - b. Mobile homes
 - c. Transfers of title that result from an operation of law rather than by purchase
 - d. Buildings constructed under a local green building ordinance that meets or exceeds the standards laid out in this report

Commercial Energy Conservation Ordinance

- I. Required Improvements
- a. The CECO shall utilize a prescriptive approach with a list of required measures until such time that a performance-based rating program equivalent to HERS II is developed for commercial buildings. In order to make the policy most effective, sellers and buyers should be encouraged to utilize a sensible “loading order” for CECO measures. Business energy audits provided by PG&E and some municipal utilities can help commercial property owners evaluate how this can best be achieved.
 - b. Required Measures (See Appendix B: Commercial Energy Conservation Ordinance Measures)
- II. Cost caps

- a. Until such time that local financing mechanisms are in place to help sellers finance the required energy efficiency improvements through a Sustainable Energy Financing District or Pay As You Save program, the CECO will cap required expenditures at .5% of the building's final sale price.
 - b. Once a Sustainable Energy Financing District is in place to allow sellers to finance energy efficiency improvements, the cap on required expenditures will be increased to 1.5%.
- III. Compliance
- a. CECO compliance will be the responsibility of the seller, but can be transferred to the buyer by submitting a form to the jurisdiction signed by both the buyer and seller
 - b. Documentation of CECO compliance will be filed with the jurisdiction's Chief Building Official or an equivalent appropriate staff person
- IV. Applicability
- a. When a commercial building is sold or ownership is transferred
 - b. During a major remodel with a project value of \$50,000 or more
 - c. Additions which increase the conditioned space of a commercial property by more than 10%
 - d. An initiation of energy and/or water utility service
- V. Exemptions
- a. Commercial building for which proof of compliance has been previously recorded with the jurisdiction within the past five years
 - b. Buildings constructed under a local green building ordinance that meets or exceeds the standards laid out in this report
 - c. Newly constructed buildings that have not been occupied
 - d. If a property is a complete gut rehab of the entire building
 - e. If the sales price is less than 25% of current assessed valuation or if the historic energy use is less than 50kBtu/sf or less than \$2,000 annually

3.3 Local Financing Mechanisms

A critical part of overcoming barriers to widespread deployment of energy efficiency retrofits and installation of on-site renewables is the upfront cost. It is critical to bear in mind that most obstacles to green building are not actually net *cost* problems, but *financing* problems. There are two innovative mechanisms that can be employed at the local level to help property owners overcome the financing barriers to greening their building. Jurisdictions should explore establishing such programs, partnering with other local governments or agencies as appropriate.

3.3.1 Sustainable Energy Financing Districts

A Sustainable Energy Financing District is an opt-in assessment district to help property owners fund a range of energy efficiency measures and renewable energy projects on existing residential and commercial properties. This emerging tool is now available to every Californian city, thanks to recently passed legislation, AB 811.

Under this program, a property owner would first have an energy audit to determine the most cost-effective ways to decrease the building's energy demand. The property owner could then choose from a list of qualified installers to make these improvements, and the City would pay for the upfront costs through secure bonds and loans. The business or homeowner would pay for the improvements over a 20-year period, with payments appearing as an assessment on property tax bills, which would include a low interest rate

and a small fee to cover the City's administrative costs. Only those who participate in the program would pay.

Under this model, anyone who can pay monthly utility bills can afford to take advantage of the Sustainable Energy Financing District. This is because the payback period is long enough so that monthly savings on electricity and natural gas offset the additional tax assessment. Moreover, the City can access lower interest rates than what would be commercially available to individuals through a traditional line of equity or mortgage refinancing.

If a property owner sells before sustainability improvements to the building have been paid back, the additional assessment is transferred to the buyer – as are the financial benefits of lower utility payments. This ensures that costs and benefits are appropriately distributed when a building changes hands.

This report recommends that local governments move as quickly as possible to utilize this important tool. Depending on the size of the jurisdiction, it may make sense for local governments to coordinate and form a countywide district where appropriate to reduce administrative costs.

3.3.2 “Pay As You Save” (PAYS)

The PAYS system is another tool designed to remove the upfront cost barriers to green retrofitting. Unlike a Sustainable Energy Financing District, this mechanism is more appropriately suited for lower-ticket energy and water efficiency measures than solar PV or solar water heating systems. It is essentially a revolving loan fund administered by a utility, which could be PG&E, a municipal utility, or a Community Choice Aggregation (CCA). The fund is used to provide builders and building occupants with qualified energy and water efficiency improvements, and is continually replenished by payments made from the resulting energy savings.

The PAYS approach is attractive because it guarantees that utility bills will remain the same or decrease as a result of program participation, and that a ratepayer will only pay for the improvement while he or she remains at that property. Local jurisdictions with municipal utilities should explore implementing a PAYS program to fund energy and water efficiency measures.

3.4 Reductions in GHG Emissions and Co-benefits

The exact level of communitywide reductions in GHG emissions from adoption of these existing building policy recommendations will vary among different jurisdictions according to what percentage of buildings were built prior to the adoption of state energy code, how prevalent solar technology is, what level of local incentives exist for energy and water efficiency, the size of the jurisdiction, and the public's support for climate protection and energy conservation initiatives. Regardless of local circumstances, however, *every* jurisdiction can be sure that the recommended policies, if implemented effectively, will yield significant reductions in GHG emissions.

Specifically:

- A comprehensive residential energy efficiency retrofit will reduce annual CO₂ emissions by an average of 3 to 4.5 metric tons of per residence
- Compliance with CECO measures yields an average reduction in energy usage of 10-15% per commercial building. Every 30,000 square feet of commercial space that undergoes CECO measures, therefore, will reduce annual CO₂ by an average of 14.4 to 21.7 metric tons
- For each household who offsets 50% of their electricity and natural gas use with solar PV and solar water heating, annual CO₂ emissions are reduced by an average of 2.4 metric tons^{xxii}

Jurisdictions can extrapolate from these numbers what their reductions in communitywide CO2 emissions will be based on the rate of turnover and major remodels for residential and commercial property. Further reductions in GHG emissions will result from residents and businesses who voluntarily undertake energy audits and install energy efficiency measures, solar photovoltaic systems and solar water heaters.

4.0 Summary

In summary, this report recommends that local governments adopt the following policies to help achieve the necessary reductions in building sector GHG emissions:

1) Establish minimum green building standards for residential and commercial construction:

Single family homes, 1-6 du/acre	Single family homes, 7-12 du/acre	Single family homes, > 12 du/acre	Multifamily housing	Commercial, 10,000 to 20,000 sf	Commercial, 20,000 to 50,000 sf	Commercial > 50,000 sf
110 Green Points	100 Green Points	90 Green Points	80 Green Points	26LEED	33LEED	33 LEED Certified

- 2) Establish a program for mandatory residential energy audits when a home transfers ownership, using the updated State of California Home Energy Rating System (HERS)
- 3) Establish a performance-based Residential Energy Conservation Ordinance (RECO) using the HERS II framework
- 4) Establish a prescriptive Commercial Energy Conservation Ordinance (CECO), and consider updating this policy to a performance-based approach as performance-based rating systems for commercial buildings are made available
- 5) Establish a Sustainable Energy Financing District to fund solar photovoltaic systems, solar water heaters, and energy efficiency improvements measures
- 6) Establish a Pay As You Save program to help ratepayers fund energy and water efficiency measures through their utility bills
- 7) Engage in aggressive outreach to maximize voluntary use of energy audits, energy efficiency retrofits, and installation of solar photovoltaic (PV) systems and solar water heaters

Meeting the climate protection challenge with regards to the built environment will require a comprehensive package of policies, programs, mandates, incentives, financing mechanisms and outreach initiatives. Changes at the state and federal level may help increase the *likelihood* of meeting the challenge, but they alone are not sufficient. Green building is a critical area for local policymaking, and adoption of these model policy recommendations by local jurisdictions throughout California would constitute a major step towards achieving a more sustainable future.