

Opportunities for Leveraging the Capacity of Local Government to Advance Energy Efficiency

Behavior, Energy and Climate Conference, Sacramento, CA

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16 November, 2010



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Background



- Local government largely controls land use, development patterns and building approvals. Buildings account for approximately 40% of energy use and GHG emissions in the U.S.
- Until recently, energy efficiency was not a priority on local governments' agendas. Now, California's AB 32 and SB 375 are drivers
- The State's Climate Plan states that "local governments are essential partners in achieving California's goals..."
- A high level of interest among utilities and other energy efficiency organizations in collaborating with local governments and community based organizations to deliver energy efficiency programs. Over \$200M in CPUC Local Government Budget for utility programs from 2010-2012.

Challenges and Opportunities



- Key challenges for local governments and utility, state and federal stakeholders are how to best support local government
- Our research has found that providing support must start with a solid understanding of a local government's capacity to address energy and climate issues, their strengths and weaknesses, and their overall needs
- Capacity is dynamic, starts with community values and priorities, requires local political leadership, trained staff, and sustained funding.

Self-Capacity Assessment Tool

Activities and Outputs that Reflect an Organization's Capacity		Rating (1-5) for Major Sections (A-J) and Yes/No/Unknown/Planned for Subsections (A-1)
A	Promote/develop community partnership concept Rating: 1 = Fully developed concept with community buy-in; 2 = Fully developed concept but lacking community buy-in; 3 = Partially developed concept; 4 = Champion and beginning conceptual development; 5 = No activity.	
		Yes/No
A-1	•Contact with policy makers/ Champions	
A-2	•Needs assessment	
A-3	•Budget	
B	Partnership infrastructure development Rating: 1 = Fully developed infrastructure; 2 = Infrastructure but lacking community (non-governmental) partners; 3 = Infrastructure but lacking local plan and policies; 4 = Infrastructure lacks adequate funding to meet program goals; 5 = No infrastructure developed.	

Partial View

Overall Strategic Approaches to Support Local Government



- Best strategies leverage the resources, authority and expertise of local governments
- Recognize the current and potential capacity of local government to develop and implement programs to create a clean energy future
- Range of mechanisms – from community plans, to green building codes, to improved code compliance, to property tax based and other community financing
- Leverage planning and assessment tools
- Most local governments are financially strapped or in trouble – imposing cut-backs and relying on supplemental funding (e.g., ARRA)

Local Government Strategic Energy Action Report, California Public Utilities Commission



The Importance of Public Leadership and Community Support



- Our research of over 50 local governments in California and elsewhere on energy issues shows that there is a one to one relationship between strong mayoral/governing board leadership and energy action.
- Similarly, the vast majority of these communities have active involvement and support from community and business groups, citizens and other public sector organizations.
- Public leadership on energy and climate issues is often incubated over years with incremental actions, and is heavily influenced by backing by pioneering and early adopter businesses and also by peer influences (city to city peer leadership networking at conferences, committees, etc.)
- Political leadership must be matched by strong and committed municipal manager/department managers

Drivers to Action on Energy Efficiency



- Community recognition and branding on green issues, often showcased by green developments and buildings
- Increasing gap between public expectations and community performance with a “status quo” approach
- Federal funding incentives (e.g., ARRA)
- Saving money
- Concern about climate change



Climate as a Driver

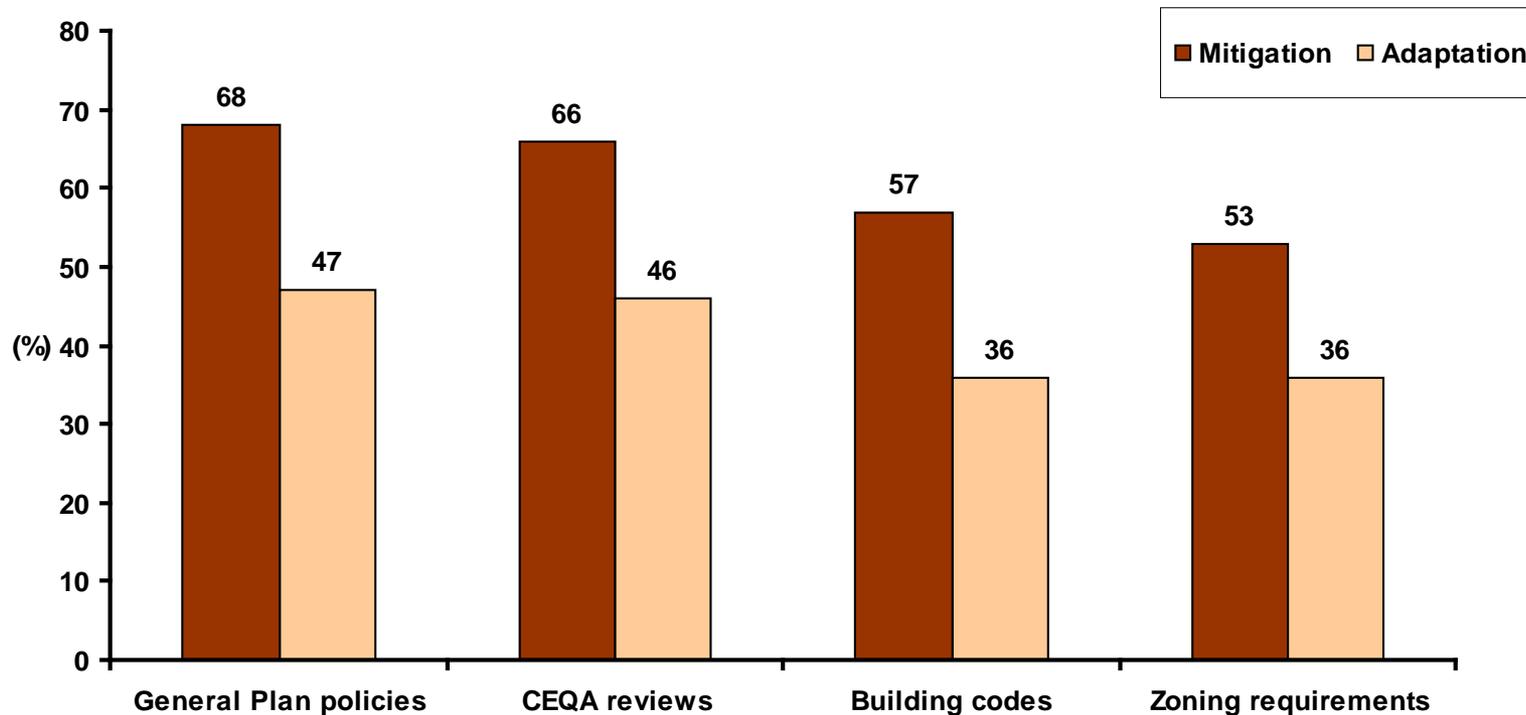


- Climate change and GHG emissions are a key priority for local governments
- Drivers for addressing climate change
 - California's Global Warming Solutions Act of 2006 (AB32)
 - California Senate Bill 375
 - Threat of legal action (California Attorney General's office)
- Initiatives
 - Climate Action Plans are an increasingly popular planning mechanism for energy efficiency
 - Signing the Mayors Climate Protection Agreement
 - ICLEI climate protection program
- Cities find greenhouse gas emissions are a good way to begin with energy reduction, as one of largest GHG sources, it puts energy use in perspective
- Staffing and lack of funding are key barriers to implementing climate or energy action

Climate Change Driving Policy and Regulatory Action Leading to Efficiency



Communities addressing climate change mitigation and adaptation in planning and regulatory tools (% of jurisdictions)



Source: Public Policy Institute of California

Community Planning Initiatives



Community Planning

- Various planning mechanisms have been used to address energy efficiency in local governments, examples are outlined below.
- Energy Plan, *Irvine, California*
 - Community Participation: *involve 100% of Irvine residents and businesses in Energy Plan*
 - Energy Efficiency: *reduce energy use in buildings citywide 30% from 2003 levels by 2015*
 - Renewable Energy: *40% new buildings citywide energy derived from renewable sources by 2015*
- General Plan Energy Element, *Pleasanton, California*
 - Municipal Energy Demand: *increase insulation and weatherization of facilities*
 - Energy efficiency and Conservation through Education: *sponsor energy-related workshops and invite local builders, architects, homeowners*
 - Local control of energy decisions: *consider a range of municipal utility options*
- Utility Franchise Agreements
 - Leverage point for community to fund EERE services



Climate Action Plans



Climate Action Plans

- ICLEI Climate Program – 5 milestones (inventory, target, plan, implement, monitor) key model for local governments
 - Municipal GHG emissions (govt owned)
 - Community-wide GHG emissions
- Berkeley, California
 - Climate Action Plan target of 33% below 2000 levels by 2020
 - Plan contains an array of energy measures including, ‘zero net energy’ new construction by 2020, decentralized solar to reduce GHG emissions, enhance local demand for energy retrofits and solar installation (green jobs)
- Irvine, California
 - Seeking to move away from analyzing GHG emissions by ICLEI proposed sectors (transportation, energy, waste) to planning areas using GIS
 - Aims to link GHG emissions to land use patterns to assist with better understanding the GHG reductions associated with smart growth

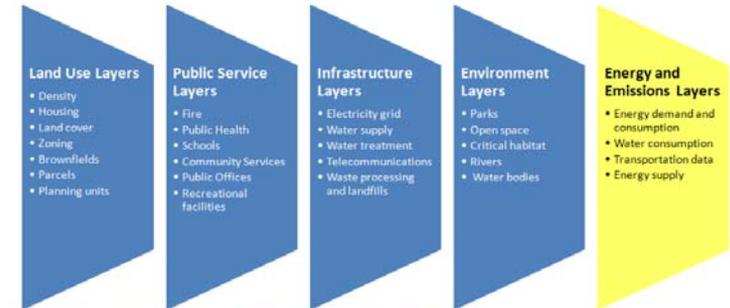


Figure 2 Energy and Emissions Data in a GIS "Layer" context

Green Building



- The overall green building market (both non-residential and residential) is likely to more than double from today's \$36-49 billion to \$96-140 billion by 2013 (Green Outlook 2009).
- Communities, such as Portland, Ft. Collins, CO, San Francisco, and New York, are leaders, and developers are gaining competitive advantage in these and other markets.
- Various Green Building/LEED initiatives including legislation, executive orders, resolutions, ordinances, policies, and initiatives are found in **45** states, including **195** localities (**132** cities, **35** counties, and **28** towns), **34** state governments (including the Commonwealth of Puerto Rico), **13** federal agencies or departments, **17** public school jurisdictions, and **39** institutions of higher education across the United States.

Property Tax-Based Financing



- **What is it?** Local government provide loans to homeowners for energy efficiency and renewable energy (EERE) projects under a special Tax District and residents repay the loans in their property tax bill
 - Voluntary program
 - Made possible in California by AB118, which gives property tax-based financing districts the ability to give EERE loans to property owners
 - City of Berkeley (solar installations): Owners who opt in repay loan over 20 years with 6.75% interest . Berkeley pilot approved 38 projects.
 - City of Palm Desert (energy efficiency & solar installations): City has financed three rounds of bonds totaling **\$12.5 million**
 - Two bonds were financed with City funds (general fund and redevelopment fund),
 - Third bond was financed with a loan from Wells Fargo (\$5 million) with a County building for collateral
 - Sonoma County (water retrofits, solar, and energy efficiency): **\$45 million** from its treasury pool, backed by an additional **\$60 million** from the Sonoma County Water Agency

Property Tax-Based Financing (Cont'd)



- ***What are the barriers?***

- Very limited financing available to governments → Possible solutions:
 - Some communities are investigating using Energy Efficiency and Conservation Block Grant as part of the financing pool for AB811 programs;
 - The U.S. Stimulus (ARRA, 2009) may allow the Federal Government to provide a guarantee on the bonds
- Municipal bonds are generally tax-exempt, but tax-exempt financing is currently not allowed in the Federal Tax Code for EERE projects. Tax-exempt financing would increase attractiveness for investors contributing to bonds destined for AB118 projects → Solution: Congressman Mark Thompson (D-CA) is working on introducing a bill to amend the Tax Code
- Local governments have a hard time attracting banks as sources of capital and getting favorable rates from banks because of the small amount of money involved → Solution: regional programs, rather than city-based/local programs, would create more demand and volume

- ***What are the opportunities for banks?***

- Fund managers
- Loan seed money to the Districts

Revolving Funds



- **What is it?** Governments fund EERE projects and resulting cost savings are returned to the host department as a revolving fund
 - I.e., self-financing by local governments
 - 11 states
 - Funding comes from Cities' general funds, loans from other government agencies, bank loans, money allocated for capital improvement planning projects, Energy Efficiency and Conservation Block Grant (EECBG)

City of San Jose

- The City of San Jose set up a revolving fund in 2007 with \$150,000 in general fund seed money that allows the Energy Office to retain the first two years of energy bill savings (plus rebate amounts) for capital for future projects and to pay for a staff person. At present, that investment has generated \$450,000 for the fund.

Leveraging Tools and Other Best Practices



- **Planning**

- Capacity and Needs Assessment (SAIC's Community Assessment Tool (CAT)).
- Planning tools (e.g., SAIC's Optimity and finance solutions)
- EPA Portfolio Manager

Track multiple energy and water meters for each facility

Customize meter names and key information

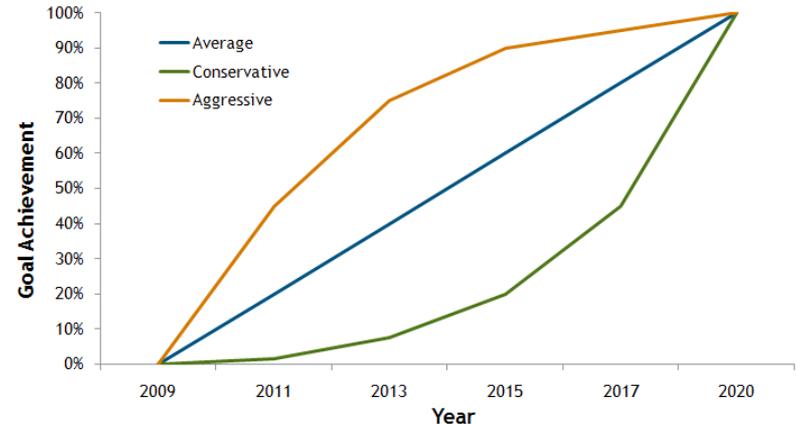
Benchmark your facilities relative to their past performance

View percent improvement in weather-normalized source energy

Monitor energy and water costs

Share your building data with others inside or outside of your organization

Enter operating characteristics, tailored to each space use category within your building.



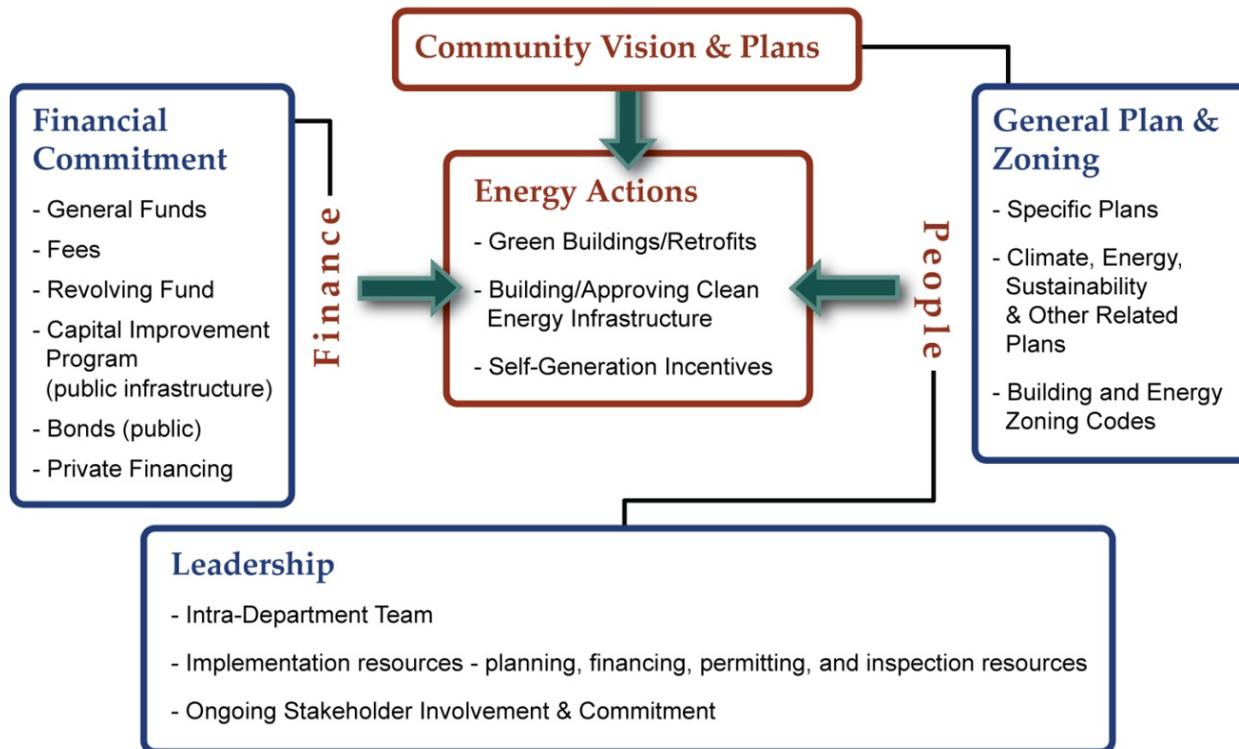
Optimity™ Model (SAIC)

- Optimizes energy programs available to identify the “next best dollar spent” in achieving goals over a specific period of time while also minimizing the costs
- Provides opportunity to include other goals and forecast results such as energy savings, renewable energy generated, and demand reductions while continuing to minimize the financial impacts

Implementation Framework for Local Sustainable Energy Enterprise (SEE)



Many local governments have an opportunity to develop financially-self sustaining energy enterprises/offices by planning their enterprises in a way that create a stream of cash from technical and financial services to internal and external users.



Source: SAIC

Recommendations



Planning

- PL.1: Communities Make Leadership Commitment.
- PL.2: Localities Incorporate Energy into General Plan Updates.
- PL.3: Localities Adopt Specific Energy Action Plans.
- PL.4: Create Templates and Tools for General Plans, Energy, Climate and Sustainability Plans for local energy planning that are capacity based.
- PL.5: Develop Strategic Planning Process Tools for Local Governments.

Government Buildings

- GB.1: Develop Local Government Buildings Energy Action Plans.
- GB.2: Conduct Energy Benchmarking.
- GB.3: Regional Cooperation.
- GB.4: Conduct Building Monitoring.
- GB.5: Community Innovation Center.
- GB.6: Implement Reporting.
- GB.7: Implement Best Practices.

Recommendations



Code Compliance

- CC.1: Improve Code Compliance Rate.
- CC.2: Establish Regional Centers for Code Compliance and New Codes and Standards: These centers should be multi-purpose, offering support for planning, government buildings, energy technology, codes, and finance.
- CC.3: Provide Grant Opportunities for Specialized Training and Staff Resources to Support training of Local Code Enforcement Staff.
- CC.4: Establish State Code Inspector Certification Program.
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Advanced Codes

- AC.1: Achieve Zero Net Energy for Buildings.
- AC.2: Advance Residential Zero Net Energy Codes.
- AC.3: Provide Support and Incentives for Education and Training on Advanced Codes and Green Building in coordination with Regional Centers (see Code Compliance Recommendations).
- AC.4: Support Existing Regional Code Development Organizational Structures.
- AC.5: Reduce Time for State Approvals of Local Energy Codes that Exceed Title 24 to a Goal of Six Months.



Finance

- FI.1: Provide Guidance to Help Local Government's Develop Sustainable Energy Enterprises (SEE): Many local governments have an opportunity to develop financially-self sustaining energy enterprises/offices by planning their enterprises in a way that create a stream of cash from technical and financial services to internal and external users.
- FI.2: Local Governments Implement Key Best Practices for Government Buildings.
- FI.3: Establish and Monitor Select Pilot Revolving Loan Funds.
- FI.4: Form Statewide EFD/Community Finance Working Group.
- FI.5: Conduct Training and Education.
- FI.6: Evaluate EFDs.
- FI.7: Support Legislation to Reduce Legal Barriers to EFDs.

Thank you



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