

CURRENTS

AN ENERGY NEWSLETTER FOR LOCAL GOVERNMENTS

San Francisco to Join Green Building Revolution?

May/June 1999

by Peter Asmus

San Francisco could soon join company with the City of San Diego as pioneering local governments that have adopted a "green building" ordinance requiring its municipal structures to use less energy and water, fewer toxic materials and create more livable spaces for workers. In addition, the cutting edge ordinance would require the recycling of construction and demolition debris and a reduction of dangerous chemicals used in day-to-day building operations.

The "Resource Efficiency City Buildings Ordinance," introduced by San Francisco Supervisor Tom Ammiano in March and scheduled for hearing in early May, is a reflection of a new trend in architecture that merges ancient practices, such as

making the most of natural lighting by orienting buildings with the path of the sun, and new technologies and materials that walk more lightly on the earth.

"Within two decades, sustainable design will be standard practice," commented Calvin Broomhead, project manager at the San Francisco Public Utilities Commission's Bureau of Energy Conservation. "But why wait that long? In San Francisco, we have the opportunity to act now to create municipal facilities

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Standard Performance Contracts

Helping to Make Communities More Energy-Efficient and Businesses More Competitive

by Steve Hoyt

Local governments wishing to install energy-saving LED traffic signals or give their buildings and facilities an energy efficiency tune-up should explore the Standard Performance Contract (SPC) and other energy efficiency programs being offered by the three electric investor-owned utilities (IOUs): Pacific Gas & Electric, San Diego Gas & Electric, and Southern California Edison. The SPC programs also offer opportuni-

ties for large and small businesses to lower operating costs and residents to reduce energy bills.

The SPC and Residential Contractor programs provide financial incentives for companies that provide energy efficiency services (Energy Efficiency Service Providers, or EESPs) to existing buildings, residences and other infrastructure. Common energy efficiency services and products include lighting retrofits and the installation of high-performance heating, ventilation and air conditioning (HVAC) systems for commercial customers and high perfor-

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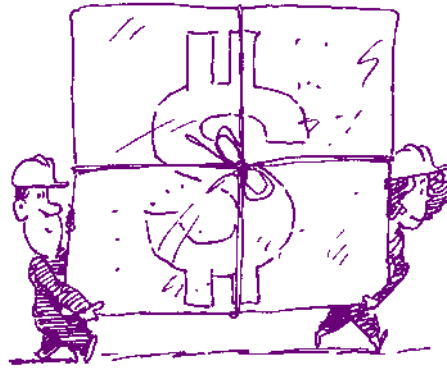
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mance windows, air duct testing and attic insulation for residential customers.

Market Transformation of Energy Efficiency Services

Developed jointly by PG&E, SDG&E, and Edison, the SPC programs were mandated by the California Public Utilities Commission to help strengthen the energy efficiency market by encouraging new companies to enter the energy efficiency field and increasing the number of contacts between EESPs and electricity consumers. In addition, the programs strive to increase customer awareness of EESPs while becoming educated about the many opportunities to improve the energy performance of their homes and businesses.

As opposed to rebate programs which pay a set amount for the installation of energy efficiency measures, the amount that the utilities pay EESPs through SPCs is



based on how much energy they save the customer. These financial awards allow EESPs to negotiate with customers to provide favorable rates on energy-efficient products and services. The customer then benefits from lower energy bills, reduced maintenance costs, and a more comfortable and efficient work and living space.

Only customers within the three electric IOUs service territories are eligible to utilize the SPC programs. However, these customers may purchase their electricity from

a different electricity provider and still participate in the program.

Small Business, Local Government Opportunities

1999 marks the first year that the traditionally under-utilized small business market will be targeted for energy efficiency services through SPCs. In order to encourage EESPs to work in the small business market, the Small Business SPCs provide larger financial incentives than the SPC program for large non-residential customers (LNSPC).

Small Business SPC projects must have a minimum projected annual savings of 20,000 kWh and/or 2,000 Therms. LNSPC customers need to save at least 200,000 kWh and/or 20,000 Therms to participate.

While Large non-residential customers can sponsor themselves through the LNSPC, those participating in the Small Business SPC must find a project sponsor (such as an EESP) to participate in the SBSPC program.

Local governments can participate in either the LNSPC or the Small Business SPC depending on their current electric rate schedule and projected energy savings.

Resources to Assist Cities and Counties Navigate SPC Process

The California Energy Commission, the three electric IOUs, and the Department of General Services Energy Assessments Section all provide assistance that local government officials and staff can utilize to explore and proceed with an SPC.

In April 1999, the California Energy Commission updated *How to Hire an Energy Services Com-*

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LEAP Continues in 1999

Good news! The Local Energy Assistance Program (LEAP) has been extended in the service territory of Southern California Edison until the end of 1999. For local governments within Edison's territory this means that LEAP services, including subdivision plan review, General Plan update assistance and municipal facility audits will continue to be available for free through the program. It also means that this newsletter, our web site and the toll free clearinghouse number will continue through 1999 for all of California. We will also be producing more guidebooks, workshops and perhaps another statewide conference.

The Local Government Commission has also applied to the other investor-owned utilities (PG&E, SDG&E and The Gas Company) for 1999 LEAP funding. They will be making funding decisions later this year. We will keep you posted on the status of our efforts.

If you have any questions or want to receive LEAP's services, call Josh Meyer at ☎(916) 448-1198, or e-mail at jmeyer@lgc.org.

SF Considers Green Building Ordinance

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that contribute to a more sustainable future,” he added.

If approved, the ordinance would require San Francisco’s Bureau of Architecture to identify two to four municipal building pilot projects immediately and another five to seven pilot projects next year. The pilot projects are to be selected and designed to demonstrate innovative construction and landscaping techniques as well as use of innovative building materials and energy management systems.

The top two goals to be demonstrated by the pilot projects are improving energy efficiency and incorporating energy generation technologies, such as passive solar and solar photovoltaic electricity generating cells. Additional goals include:

- * improving water conservation;
- * creating and maintaining healthy indoor air quality;
- * providing for adequate storage and collection of recyclable materials;
- * incorporating drought-resistant native plants and integrated pest management into “green” landscapes;
- * maximizing the recycled product content, and future recycling potential, while minimizing impacts on indoor air quality, of all procured building materials; and
- * designing buildings to discourage pest infestations (i.e., sloping ledges that dissuade pigeon roosts).

The ordinance also requires an evaluation of the environmental, public health and economic benefits of the pilot projects, which will then help staff create design guide-



lines for all future municipal buildings and standards for calculating the costs and benefits of resource-efficient design and construction methods.

Though green building guidelines such as those proposed for municipal buildings in San Francisco are good for the environment, a prime motivation of those supporting the ordinance is lowering the cost of municipal operation budgets. Implementing the resource-efficient city buildings ordinance would save the City and County of San Francisco (and local taxpayers) \$22 million over ten years, according to city staff projections.

Whereas design costs for green buildings typically run slightly higher than conventional designs, construction costs are roughly the same. It is in the operations and maintenance budgets where significant savings from green buildings are seen, mostly in the form of energy savings. Another benefit associated with resource-efficient buildings is that they have a higher asset value and depreciate at a slower rate, enhancing reuse and resale opportunities.

The biggest money saver in green buildings comes in the form of reduced energy use. Heating, cool-

ing, ventilation and lighting account for approximately half of the energy consumption in a typical building. Since a building’s energy budget typically accounts for 25% of a building’s operating expenditures, boosting energy efficiency can greatly reduce operating costs. Climate-sensitive designs can cut heating and cooling energy consumption by 60% and lighting by at least 50%.

The City of San Francisco’s Bureau of Energy Conservation (BEC) has already demonstrated the value of energy efficiency to local taxpayers. Since 1991, BEC has conducted design reviews to improve energy efficiency beyond the state Title 24 standards for over 70 buildings, including the main library, new courts buildings and 40 fire stations. BEC provided funding for energy efficiency upgrades, primarily in HVAC systems, that have had an average return on investment of 67% over the last three years.

And then there are the happy workers. Just a 1% increase in worker productivity – a very conservative estimate of benefits flowing from green buildings – would easily provide savings exceeding a typical building’s entire energy bill. Since personnel costs comprise 92% of the life cycle costs of any building (design and construction only account for 2%, while maintenance is 6%) any productivity increases can generate significant savings for a local government.

While the San Francisco region is blessed with many designers and building experts who preach the virtues of sustainable buildings, few buildings there actually employ green techniques and practices, since many owners are still reluctant to embrace a green build-

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Opportunities to Fund Local Government Energy Programs Are on the Horizon

Several opportunities have opened for local governments to compete for program funding since electricity restructuring hit California. Public goods charges (PGC) collected on utility bills are designated for three program areas: low income, renewable energy, and energy efficiency programs.

Low-income programs are still being administered and implemented by the investor owned utilities (IOU), and as such are not available for local government program funding. The renewable energy PGC, handled by the California Energy Commission, is used to fund programs to encourage increased use of renewable energy resources, including a buy-down program for on-site photovoltaic, wind and fuel cell projects and rebates for customers purchasing green power. Anyone can participate in this buy-down program which was detailed in the March/April issue of *Currents*.

The energy efficiency portion of the PGC is being administered by the IOUs. A portion of these energy efficiency funds has been designated for local government programs. If you have a good energy efficiency program, one that is market-transforming (i.e., one that will sustain the reduction of energy use after PGC funding for these programs ends), you can ask for funding from your IOU.

This funding is only available in communities that are serviced by IOUs and not those with their own municipal utility. Southern California Gas Company does have some funding which may be available for gas-related energy efficiency projects in municipal electric utility districts. Contact your local IOU for information about this funding opportunity.

The Electric Education Trust

The Electric Education Trust which was set up to educate Californians about electricity restructuring is

currently seeking ways to inform hard-to-reach populations (e.g., low income, seniors, non-English speakers, rural) about what restructuring means to them, and to protect them from potentially unscrupulous marketing practices. While the bulk of this funding, which will be available quarterly for the next two years, is earmarked for community based organizations (CBO), some has been designated for non-CBO programs for which local governments can compete. An RFP is expected in August with funding to start in October of this year. Check the EET web site (www.eet.org) for details.

Federal FY 2000 Opportunities

President Clinton's proposed FY 2000 budget includes \$200 million for a Clean Air Partnership Fund. The fund would be a catalyst for innovative local, state, private partnerships for air pollution reductions; to demonstrate locally managed, self-supporting programs that achieve early integrated reductions in soot, smog, air toxics and greenhouse gases; to capitalize local revolving funds that result in greater resources for air pollution reduction; and to stimulate innovation.

Program examples specifically mentioned include establishing home energy efficiency investment loan funds; supporting local revolving loan funds to finance energy efficient retrofits for local agency buildings, public schools, hospitals and private industry; and stimulating demand for renewable sources of energy.

We will keep you posted as these stories unfold.

Santa Clara County Certifies IBEW Wiremen to Install Solar Systems

In an effort to support the International Brotherhood of Electrical Workers' presence in the solar/photovoltaic industry, the Santa Clara County Electrical Training Center has recently completed value added certification for 24 Journeyman Wiremen in Solar/Photovoltaics. President Clinton's plan to have solar systems installed on one million rooftops across the U.S. by the year 2010 is also being supported locally by the current installation of a 4KW solar/photovoltaic system on the roof of the Santa Clara County Electrical Training Center.

To support the growth of renewable energy in California, the California Energy Commission's Emerging Renewable Buydown Program is offering cash rebates on photovoltaic, small wind turbines, fuel cells and solar thermal systems of up to 50%. The maximum rebate amount per system is \$5,000. For more information on the program, call the Energy Commission at ☎(800) 555-7794, or download the program guidebook at www.energy.ca.gov/renewables.

Chicago Cools City with Roof Gardens

As part of the U.S Environmental Protection Agency's Urban Heat Island Pilot Project (UHIPP), the City of Chicago's Department of the Environment is planning to plant gardens on the roofs of several city buildings to reduce city temperatures and smog. Along with planting trees and vegetation within the city, the gardens will work to combat the phenomena referred to as the "urban heat-island effect," where pavement-dominated cities have been shown to be 10 degrees hotter than surrounding rural areas.

While the other participating UHIPP cities (Baton Rouge, Houston, Sacramento, and Salt Lake City) are focusing on light-colored roofing materials that reflect sunlight, Chicago is experimenting with gardens because reflective roofing would make it more difficult to heat the buildings in the winter.

The City is working with engineers and designers to plan the first gardens. If the pilot gardens are successful, the City will encourage private companies to turn their roofs green. The first city building rooftop gardens may be prairie grass or more elaborate plantings, according to William Abolt, acting commissioner of the Department of the Environment. The gardens, which will not be designed for human use, must also require

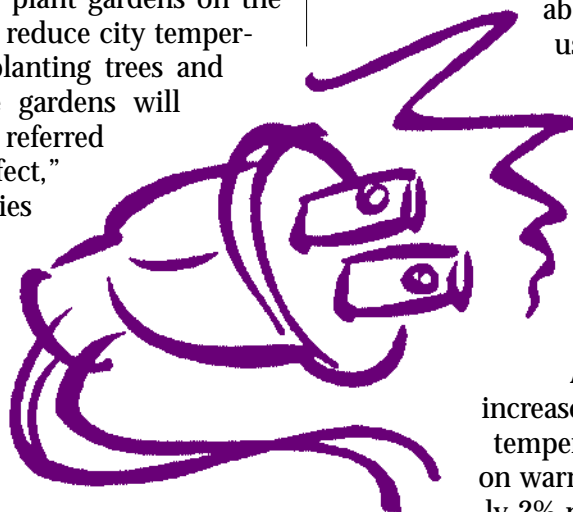
little maintenance. In addition, the roofs must be able to bear the weight of the gardens.

Computer modeling suggests that by adopting the above measures and others such as using light-colored pavements and painting rooftops white, city temperatures could easily be lowered by 5 degrees, reports Hashem Akbari of the Lawrence Berkeley Laboratory.

Reducing temperatures improves air quality and reduces the consumption of fossil fuels. In Los Angeles, the incidence of smog increases by 3% for every degree increase in temperature over 70 degrees. In addition, on warm afternoons LA residents use nearly 2% more electricity for every degree the daily maximum temperature rises.

Other cities have also used vegetation as part of their cooling strategy. For example over 250,000 trees have been planted in Sacramento by the Sacramento Municipal Utility District and Sacramento Tree Foundation as part of Sacramento's partnership with the Cool Communities program.

To find out more about UHIPP, e-mail Virginia Gorsevski at the U.S. EPA at gorsevski.virginia@epa.gov. For more information about urban heat island research, see the Lawrence Berkeley Laboratory Heat Islands' web page: <http://eande.lbl.gov/heatisland>.



" Plug In, California! "

An Electric Education Call Center has been established to answer questions and provide detailed information in multiple languages. The center can handle free calls from consumers with questions about the electric industry restructuring in 11 languages as well as TDD for hearing-impaired customers. The toll-free numbers are:

English/Consumers	800-253-0500	Korean	800-930-9559
English/Business	800-789-0550	Laotian	800-442-2489
Spanish	800-365-0550	Mandarin	800-940-3883
Cambodian	800-465-6543	Tagalog	800-683-8448
Cantonese	800-957-8558	Thai	800-462-1244
Hmong	800-462-3749	Vietnamese	800-474-5335
Japanese	800-210-7933	TDD	800-933-3119

Did You Know?

Individual consumers can save up to 40% on their energy bills by looking for the Energy Star® label when buying appliances, heating and cooling units, and computers.

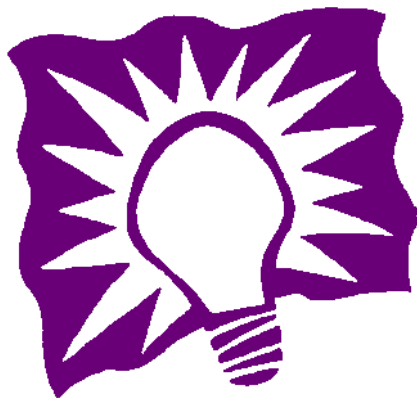
San Diego Area Gets Chance to Make California's Biggest Green Power Purchase

by Peter Asmus

On April 9th, the San Diego Association of Governments (SANDAG) received an offer from Commonwealth Energy of Orange County to switch all of its accounts, which include 79 county agencies, city governments, school districts and fire departments, to green power. This renewable energy will be offered at prices below that of the power from predominantly dirty out-of-state coal power plants that Commonwealth is currently supplying to SANDAG.

While each individual member of the SANDAG power purchasing pool still needs to designate which of their individual electricity accounts they want to be served by the geothermal power to be supplied by Commonwealth, Steve Sachs, manager of the power pool, predicted a high subscription rate. "Green power for less money. How can you go wrong with that?" said Sachs.

Although the Commonwealth offer features a one cent green power premium over the generic power offered by investor-owned utilities, Commonwealth is still able to provide green power at a lower rate through the California Energy Commission's Customer Credit



Subaccount program. This program is funded through a part of the \$540 million set aside by the electric industry deregulation bill of 1996, AB 1890, to support existing, new and emerging renewable electricity generation technologies. Since the Customer Credit Subaccount program offers a 1.5 cent per kilowatt hour rebate to consumers who purchase green power from in-state sources certified as renewable energy, green energy would actually cost most SANDAG local governments less than "brown" power.

Ironically enough, it was the City of Chula Vista, which is currently weighing competing green power offers, that prompted Commonwealth to offer green power. Last spring, Chula Vista City Councilmember John Moot argued that given growing concerns over global climate change, it was irresponsi-

ble for SANDAG to buy the bulk of its power from coal plants that were even dirtier than California's generic electricity. "Local government often bears the hidden cost of pollution from the burning of fossil fuels when it subsidizes uninsured emergency room visits on smog-laden days or pays the cost of pollution-related property damage," said Moot. "Deregulation has provided an opportunity for most governmental agencies in this region to vote with their pocket books and move the power market in a direction that will provide significant environmental benefits," he added.

Chula Vista asked Commonwealth to come up with a green power product. This past January, Commonwealth switched business strategies and is now focusing exclusively on marketing green power.

If all of SANDAG's 4,700 accounts switched to green power, their load would be the equivalent of 100 MW or enough electricity to power more than 100,000 households.

The green power will be generated from geothermal steam harvested from the heat from magma lava that creeps close to the surface of the earth in areas, such as Sonoma and Imperial counties, that are seismically or volcanically active. According to Steven Kelly of the Renewable Energy Marketing Board, the geothermal industry provides over 285 high-paying, stable jobs in Imperial County, an area that had seen one of the highest unemployment rates in the state, and produces over \$12 million in tax revenue for local governments, schools and special districts.

Environmental Planning CD-ROM Available Free to Local Governments

The Local Government Environmental Assistance Network is offering a free copy of the software program, *Environmental Planning for Small Communities*, to local governments with populations of 10,000 and under. Larger local governments can also download the program for free at www.epa.gov/seahome. For more information about the software, call the network toll-free at ☎ (877) 865-4326 or visit its web site at www.lgean.org (click on "What's New").

SPC Can Help Residential Customers Too

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pany, an excellent publication containing detailed information about choosing an EESP. The Appendix section includes an updated list of energy services companies serving California, along with sample Requests for Qualification (RFQ) and agreements. This publication can be downloaded from the Energy Commission web site at: www.energy.ca.gov/reports/efficiency_handbooks/index.html.

Local governments can obtain additional assistance in selecting contractors, evaluating project options, or obtaining a hard-copy of the handbook by contacting the Energy Commission's Energy Partnership Program at ☎(916) 654-4008.

Each of the electric IOU web sites provide information to assist in finding an EESP (The web addresses are listed at the end of this article). The SDG&E web site provides a list of EESPs with contact information, while the PG&E and Edison sites provide an on-line RFQ posting service where potential customers seek information from interested EESPs.

The Department of General Services Energy Assessments section will also be providing a list of pre-screened EESPs along with sample agreements and other services to local governments. This list is scheduled to be available in July or August. For more information, contact Bruce Gilleland at the DGS Energy Assessments section at ☎(916) 324-4797.

Residential Customers

The Residential Contractor Program is scheduled to begin during May 1999. Although the final program design was not available at press time, it will have multi-family units and single-family homes elements.

A basic component of the single family program will be a diagnostic test of the home's heating, ventilation and cooling system. Inefficient HVAC systems and leaky air duct systems are commonly responsible for significant energy loss in homes. In addition, customers may choose from a menu of energy efficiency measures including low-flow showerheads and very energy-efficient air conditioners, heat pumps and gas furnaces approved by the U.S. EPA Energy Star Program.

Although the SPC is a primary focus of the California Public Utilities Commission's strategy to achieve a market transformation of energy efficiency services, it is not the only program being offered by the electric IOUs. Contact your utility for a complete list of programs.

Utility and SPC Web Pages

Pacific Gas & Electric:

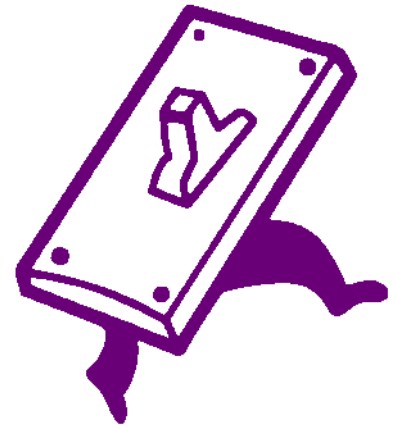
- www.pge.com
- www.pge.com/customer_services/business/energy/spc

San Diego Gas & Electric:

- www.sdge.com
- www.sdge.com/spc/bus/index.htm

Southern California Edison:

- www.sce.com
- www.scespc.com



Did You Know?

On lighting alone, American consumers and businesses spend \$21 billion annually and could cut their costs in half while improving the environment with energy-efficient bulbs and fixtures.

According to the Solar Energy Industries Association, annual sales for photovoltaics, solar thermal electric, solar water heating and solar pool heating exceeded \$1 billion for 1998.

Visit the LGC's web site for more energy info: www.lgc.org/energy

SF May Become Green Building Leader

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ing ethic. Another reason for the lack of green buildings in San Francisco and the rest of the state may be the California Energy Commission's Title 24 energy efficiency building standards are already among the strongest in the nation.

Buildings represent half of the nation's wealth, but are typically poor investments from an economic and environmental point of view. The average house in America annually produces about 3,500 pounds of garbage, 450,000 gallons of waste water, and 25,000 pounds of carbon dioxide, a gas linked to global climate change. Most homes, offices and other buildings are designed without considering the use of available local materials and components which would reduce costs associated with trans-

portation. And the impacts of decisions about materials used for a building in San Francisco can ripple outward for thousands of miles as forests are clear-cut in developing nations to supply wood products for which greener, local products can often easily be substituted.

Though the potential impact of San Francisco's green building ordinance is small – it only applies to existing, remodeled and some new municipal buildings – it can serve as a lightning rod to spark a green building revolution that builds upon common sense and new technologies that are kind to budgets, the planet and people.

“Government should be a model for solutions to problems in the private sector,” said Beryl Magilavy, president of Sustainable City and

past director of the City's Department of the Environment.

“It also has a responsibility to use the public's money efficiently, and to plan for the long term. Incorporating green building techniques into City buildings will not only improve worker health and productivity, reduce the city's impact on the environment, and save the city money, it will act as a catalyst for increased use of these techniques in the private sector, which will be of benefit to everyone.”

For more on improving building energy performance, order the LGC's *Improving Energy Efficiency in Buildings: Untapped Savings Opportunities for Local Governments* (\$4 postage). Call Steve Hoyt at ☎(916) 448-1198 or e-mail him at shoyt@lgc.org.



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