

City of Culver City, California
City Council Agenda Item Report

Meeting Date: March 27, 2006		Item Number: <u>A-7</u>	
AGENDA ITEM: Discussion of a Proposal to Develop a Local Solar Initiative for Culver City.			
Contact Person/Dept.: Craig Johnson		Phone Number: 253-5802	
Fiscal Impact: Yes ☒ No ☐		General Fund: Yes ☐ No ☒	
Public Hearing: ☐		Action Item: ☐ Attachments: ☒	
Public Notification: Master Notification List (03/22/06) Legal Notification: Not Required Non Legal Notification: Publication in the Culver City News on (03/09/06).			
Department Approval: Susan Evans (02/21/06)		CAO Approval: Martin R. Cole for Jerry B. Fulwood (03/23/06)	
City Controller Approval: Marlee Chang (03/22/06)		City Attorney Approval: Elaine Hirohama for Carol A. Schwab (03/22/06)	
<u>RECOMMENDATION:</u> Staff recommends the City Council consider a proposal related to implementation of a local solar initiative and direct staff as deemed appropriate. <u>BACKGROUND:</u> Energy use of buildings is particularly important with buildings in the United States consuming 39% of the nation's primary energy and 71% of the nation's electricity. Californians are slowly becoming more energy efficient. The California Title 24 Energy Requirements for New Construction were revised upward in October 2005, making them one of the strictest standards in the nation. Californians are 50th out of 50 states in terms of energy use per capita, the most efficient in the nation. From 1990 to 2000 the overall population of California rose 13.8%, but the overall energy use rose only 1.2%. Staff brought a Green Building discussion item to the City Council in February, 2005. The Council gave a general recommendation for a limited program that would require one additional full time staff member in the Building Safety Division. Due to budget constraints that position was not added. The Building Safety Division currently has two voluntary green building information handouts available to the public on the 2nd floor of City Hall. These handouts are titled 1) Top 20 no or low cost Green Building Strategies, and 2) Recommended Sustainable Building Measures.			

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The Building Safety Division currently has three Green Building presentations on the Building Safety Division web page. These presentations are titled 1) Solar Energy Presentation to the Culver City Planning Commission, 2) Green Building Tour, and 3) Green Building in Southern California.

To date there has been one voluntary green building residence constructed in Culver City, and several small voluntary solar photovoltaic systems are installed in Culver City each year. In 2005, the Culver City Plunge Pool underwent a general renovation which also added a solar hot water heating system for the swimming pool water.

DISCUSSION:

Most states in the nation, including California, have a "net metering" or "grid-intertie" law in place. The law in California, similar to other states, requires all electrical utilities to buy back energy produced by consumers at the same rate the consumer is charged for the energy.

A typical grid-intertie system works the following way:

- A solar photovoltaic panel is installed on the roof of a structure.
- A connection to an inverter is usually located close to the main electrical panel.
- A connection is made from the inverter to a disconnect and then a connection from the disconnect to the main electrical panel is made.

All power from a utility to a consumer and also power from self generation (a solar photovoltaic system) is routed through a consumer's individual power meter. When the consumer uses more power than they are generating, the power meter turns normally, though more slowly. When a consumer generates more power than they are consuming, the meter runs backward.

Efforts to lower electricity use are particularly important; approximately 10% of all electricity produced is wasted in transmission losses.

Staff proposes two new solar initiatives for the City of Culver City:

1. A mandatory grid-intertie system requirement for new construction in Culver City

- This would require a 1 kilowatt grid-intertie solar photovoltaic system for each 10,000 square foot of new multifamily residential or new commercial construction.

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- A 1 kilowatt solar grid-intertie system is currently the smallest practical building based system that can be put in place. The smallest standard inverter available is for an approximately 1 kilowatt system.
- The requirement would apply only to new occupiable space, not parking garages.
- The requirement would not apply to new or remodeled single family homes or duplexes. The requirement would not apply to remodeled or renovated multifamily or commercial construction.
- A 1 kilowatt solar photovoltaic grid-intertie system requires approximately 80 square foot of roof area, and has a current total installed cost of approximately \$8,000. A \$2000 federal tax credit is available, bringing the overall cost of a 1 kilowatt system down to approximately \$6,000.
- The California legislature also passed a solar subsidy plan in January 2006. The plan establishes subsidies to promote the installation of 3,000 megawatts of solar power in California over the next 11 years.
- The added cost to the consumer for this requirement is estimated to not exceed 1/2 of 1% of the overall cost of construction.

A 1 kilowatt solar photovoltaic system in the Culver City area will generate approximately \$250 worth of electricity per year. The same system will also result in a reduction of 50 pounds of carbon emissions to the environment each year.

Private construction projects in Culver City that propose new construction of 10,000 or greater square feet generally must complete a discretionary review procedure by the Culver City Planning Division prior to applying for construction permits. Staff proposes that if the solar requirement is made mandatory for new construction, each applicant involved in a Planning discretionary review be given an informational handout defining the solar system requirements that would apply.

Staff is proposing no additional personnel to administer a mandatory solar requirement for new construction in Culver City.

2. Solar Improvements for City Hall

- When City funding permits, staff recommends making green building improvements to City Hall.
- These improvements would include \$5,000 for electrical engineering and \$40,000 for a new approximately six kilowatt solar photovoltaic system to be installed on top of City Hall.

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Solar photovoltaic systems have proven to be a reliable, trouble-free source of electricity over the last 45 years, and the costs of solar systems have come down in recent years.

A mandatory solar requirement for new construction in Culver City would reduce energy use in Culver City, would contribute to a cleaner environment, and can be administered by the current Building Safety Division staff.

Next Steps

In order for a solar initiative to be implemented in Culver City a local amendment to the 2001 California Building Code would need to be adopted. This code is mandatory throughout California and is adopted in Culver City. Local amendments that are stricter than the California code are allowed through a review process with the California Building Standards Commission.

If the City Council directs staff to proceed with this item, staff will work with the California Buildings Standards Commission on implementing this program.

After working with the California Building Standards Commission, staff will bring a California building Standards Commission approved local California Building Code Amendment to the City Council for consideration. All contractors, architects, engineers, realtors, and developers licensed in Culver City will be noticed of this item.

FISCAL ANALYSIS

Please note that solar installations would reduce the utility tax revenue to the City of Culver City, but the reduction would be insignificant.

ATTACHMENTS:

- 1) Green Building Discussion Item Staff Report from February, 2005
- 2) Diagram of a 1 Kilowatt Grid-Intertie Solar System

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MOTIONS:

That the City Council:

Consider a proposal related to implementation of a local solar initiative and direct staff as deemed appropriate.