

City of Culver City, California
City Council Agenda Item Report

Meeting Date: 06/18/07		Item Number: A-3	
AGENDA ITEM: Introduction of an Ordinance Establishing a Mandatory 1 Kw Solar Photovoltaic Requirement for Each 10,000 Square Feet of New Multifamily or Commercial Construction, Pending California Energy Commission Approval.			
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 (06/14/07) Legal Notification: Not Required Non Legal Notification: Planning discretionary review applicants			
Department Approval: Sol Blumenfeld (06/13/07)		City Attorney Approval: Carol Schwab (by H. Iker) (06/13/07)	
City Controller Approval: Marlee Chang (06/14/07)		City Manager Approval: Jerry B. Fulwood (06/14/07)	

Executive Summary:

The Culver City Building Safety Division has prepared a cost effective approach to address the City Council's desire to promote sustainability, exceeding the 2005 Energy Standards, while working within current staffing levels. The proposed program is focused on requiring solar photovoltaic systems for all new commercial and multifamily residential construction (of three or more residential units). Existing plan check and field inspection staff can accommodate the proposed code change since it is focused exclusively upon commercial and multifamily development.

RECOMMENDATION:

Staff recommends the City Council introduce an ordinance (Attachment 1) establishing a mandatory 1 kw solar photovoltaic requirement for each 10,000 square feet of new multifamily or commercial construction, pending California Energy Commission (CEC) approval.

BACKGROUND:

Culver City has often been a leader in the west side of Los Angeles County, including the area of environmental consciousness and sustainability. The following paragraphs highlight some of the recent actions undertaken by the City to provide information on alternative building processes and to generally support a sustainable environment.

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In 2004, the Building Safety Division provided two voluntary informational green building handouts available to the public: 1) *Top 20 Low or No Cost Green Building Strategies*; and 2) *Recommended Sustainable Building Measures*.

In February 2005, the Building Safety Division provided a green building tour to the Culver City Council and Culver City Planning Commissioners and also presented a green building discussion item to the City Council, which provided many options regarding potential green building programs in Culver City. The City Council was generally supportive of an option that would require two additional City staff members to manage the program. Unfortunately, due to budget constraints those positions were not able to be included in the approved budget for FY 2005/2006.

In April 2005, the Building Safety Division provided two sustainable building presentations to the Culver City Planning Commission: "Green Building in Southern California", and "Photovoltaic Power". In March 2006, the Building Safety Division presented a discussion item to the City Council of a proposed mandatory solar photovoltaic initiative for new construction in Culver City and also proposed a small capital improvement budget for a modest solar photovoltaic system to be installed on a City facility.

In October 2006, a staff working group was formed with the goal of implementing an overall Sustainable Culver City program. And in November 2006, the Sustainable Culver City team brought a Sustainable City discussion item to the City Council which tentatively identified five major goal areas: (1) Resource Conservation, (2) Environmental and Public Health Protection, (3) Solid Waste Diversion and Recycling, (4) Open Space and Land Use, and (5) Community Education and Participation. The City Council also approved City staff applying to the American Institute of Architects (AIA) to be a study City of the AIA Sustainable Design Assessment Team (SDAT) Program.

In December 2006 Culver City was notified as being accepted by the SDAT Program as one of seven U.S Cities to be evaluated in 2007.

In March 2007 two Building Safety staff members attended a seminar on standardized guidelines for the field inspection of solar photovoltaic systems. The guidelines are intended to educate building inspectors and the public, and to establish consistency among various jurisdictions, on the inspections of solar photovoltaic systems.

In February 2007 the Culver City Sustainable City Team hosted two representatives of the SDAT for their initial scoping visit to Culver City.

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The full SDAT Team visit took place the second week of May 2007; the final SDAT Team recommendations for Culver City are expected in summer 2007. Tonight's proposed solar photovoltaic initiative is one part of an overall Sustainable Culver City Program.

DISCUSSION:

Over the last year staff has been working with the staff of the California Energy Commission regarding the proposed Culver City mandatory solar photovoltaic requirement. Local energy plans must be approved by the California Energy Commission prior to taking effect. California Energy Commission staff has conceptually approved the proposed Culver City mandatory solar photovoltaic initiative, and has requested Culver City staff to present the item for City Council's approval prior to the plan being considered by the California Energy Commission.

The simplest solar photovoltaic systems are called "net metering" or "grid intertie" systems. Such systems do not require any storage batteries. The proposed Culver City solar photovoltaic initiative will accept solar grid intertie systems.

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, including 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 5% of all electricity produced in the United States is wasted due to transmission losses.

Staff proposes the following mandatory solar photovoltaic requirements for the City:

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A mandatory grid-intertie system requirement for new construction:

- 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, or fraction thereof.
- The requirement would apply only to new gross occupiable floor area under roof, 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 feet of roof area, and has a current total installed cost of approximately \$11,000. A \$1,500 federal tax credit is available.
- 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 plan currently offers system installation rebates of \$2.50 per watt. The CEC rebate would be approximately \$2,500. The total estimated installed cost of a 1 kw solar photovoltaic system after tax credits and state rebates is estimated at \$7,000. Please note that tax credits and rebates may change and the same levels of each may not always be available.
- The added cost to the consumer for this requirement is estimated to not exceed 1/2 of 1% of the overall cost of construction.
- The requirement may be waived or modified by Building Safety staff or a majority vote of the City Council upon finding that the intent of the requirement has been satisfied in some other manner.
- If the requirement is not able to be satisfied due to the configuration of the proposed project, the developer has the option of paying an amount equivalent to the cost of the solar photovoltaic system required (but not able to be installed) into a City fund. This City fund will be used to fund solar photovoltaic design and installations on City facilities.

At current power rates a 1 kilowatt solar photovoltaic system in the Culver City area will generate approximately \$380 worth of electricity per year. The same system will also result in a reduction of approximately 3,000 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 applicable new

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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 that the mandatory solar photovoltaic requirement be applied to all construction permits applied for after the CEC approval and after the official Culver City adoption date. No additional personnel would be required to administer a mandatory solar requirement for new construction in Culver City.

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.

A mandatory empty 2" electrical conduit to be installed in all new freestanding structures in Culver City:

This requirement is for all new freestanding structures in Culver City for the future installation of solar equipment wiring for solar photovoltaic systems. This requirement is for a minimum of one new empty electrical conduit only; not any solar photovoltaic equipment.

This requirement may be waived or altered by Culver City Building Safety Division staff when in their judgment the requirement is adequately met through other means or is impractical.

Next Steps

The draft "Revised Locally Adopted Energy Standards by the City of Culver City Building Safety Division" (Attachment 2) has been reviewed and approved by the staff of the California Energy Commission as a locally adopted standard.

If the City Council chooses to introduce the Ordinance, Building Safety Division staff will then inform the California Energy Commission staff that they may proceed with presenting the item at their earliest convenience for approval by the California Energy Commission.

FISCAL ANALYSIS

Please note that solar installations would reduce the utility tax revenue to the City of Culver City, but the reduction is difficult to identify at this time.

ATTACHMENTS:

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- 1) Proposed Ordinance
- 2) Draft copy of the Culver City Application to the California Energy Commission for a Revised Locally Adopted Energy Standard by the City of Culver City Building Safety Division.

MOTIONS:

That the City Council:

Introduce an Ordinance establishing a mandatory 1 kw solar photovoltaic requirement for each 10,000 square feet of new multifamily or commercial construction, pending California Energy Commission (CEC) approval.