T&E AGENDA: 03-05-12
ITEM: d(6)

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: TRANSPORTATION AND ENVIRONMENT COMMITTEE

FROM: Kerrie Romanow

SUBJECT: SEE BELOW

DATE: 02-15-12

Approved

Date 2/24/12

SUBJECT: MARCH 2012 QUARTERLY PROGRESS REPORT ON ENERGY EFFICIENCY AND RENEWABLE ENERGY ACTIVITIES

RECOMMENDATION

Accept the quarterly update on the City's Strategic Energy Action Plan.

OUTCOME

This quarterly report will inform the Committee on the progress of the City's energy efficiency and renewable energy activities as outlined in the adopted 2010 Strategic Energy Action Plan.

BACKGROUND

The City of San José (City) has long been a leader in innovative environmental programs. With Council adoption of the Green Vision in 2007 and subsequent direction from Council to implement municipal energy efficiency and renewable energy initiatives, the City has focused on energy with specific and aggressive goals related to the use of energy and renewables. The Strategic Energy Action Plan was adopted by Council in June of 2010. The initial set of goals focused on the built environment and identified strategies and tactics for achieving the energy and renewable goals of the City's adopted Green Vision: Specifically, Green Vision Goals #2 and #3, reducing energy use by 50% per capita and receiving 100% of electricity from renewable sources, respectively. The Strategic Energy Action Plan activities also support other Green Vision Goals, including clean tech jobs (Goal #1), green buildings (Goal #4), zero waste to the landfill (Goal #5), and zero-emission streetlights (Goal #9).

The energy efficiency and renewable energy efforts are guided by the framework of the City's adopted Green Vision and promote broad environmental and economic benefits, including associated cost savings to the community and the City. The short and long-term activities

outlined in the Green Vision Annual Work Plan have already resulted in ongoing cost savings to City operations and the General Fund.

ANALYSIS

The City's municipal and community energy efficiency and renewable energy programs are overseen by the Environmental Services Department (ESD) in collaboration with Public Works and an Interdepartmental Energy Team comprised of numerous City departments. Progress on the Strategic Energy Action Plan can be found in Attachment 1. The City's activities since the last quarter are discussed below.

Municipal Energy and Solar Program

Energy Efficiency and Conservation Block Grant (EECBG) ($8,800,000 allocation)
Municipal Energy Efficiency Program ($4,500,000): The City is on track to achieve the goal of completing 50 energy audits and provide 71 energy-efficiency projects at numerous City facilities by December 31, 2012, the end of the grant term. Staff has prioritized projects, such as lighting retrofits and retro-commissioning that will result in savings to the General Fund. Currently, 52 audits and 32 projects, which have resulted in an estimated $250,000 in annual cost savings, have been completed. Five audits and eleven projects are currently underway and are anticipated to save an additional $115,000. More information on other municipal energy efficiency projects will be included in the Green Vision Annual Report to Council in March 2012.

LED Streetlights Program ($2,000,000): In November, Council approved an agreement with Schréder Lighting, LLC for the purchase of "smart" light emitting diode (LED) streetlights with a wireless communication monitoring and control system. Under this agreement, approximately $2,000,000 in grant funding ($1,400,000 from the EECBG) would be used to support the purchase of a total of 2,100 smart LED streetlights for installation along arterial and collector streets, where the greatest lighting efficiency and energy savings can be achieved. It is estimated that these conversions will result in an estimated annual energy cost savings of $70,000 and a rebate of approximately $135,000.

Municipal Solar Program ($2,300,000): ESD staff worked with Public Works, Finance, Attorney's Office, Budget Office and client departments to verify the site criteria, host a community outreach meetings, and complete City approval to issue the Notice to Proceed with design for the first four solar installations under its agreement with SolarCity. Staff will continue to work to install solar at the first four sites (Kelley Park Senter Rd. lot, Municipal Water System offices, Police Activities League (PAL) Sports Center, South Service Yard) and other appropriate municipal sites that are feasible before the end of the EECBG term.

In December 2011, Council approved the "United States Department of Commerce, Economic Development Administration Grant for Photovoltaic Panels and Related Equipment at the

Environmental Innovation Center." EECBG funds will be used for consultant services to support the development of solar bid specifications and proposal/construction review for this project. Installation is anticipated for early 2013.

Local Energy Assurance Planning: Two significant milestones have been completed for the City of San José's grant-funded Local Energy Assurance Planning (LEAP) efforts. One milestone was completing an analysis to help identify all of the City's emergency backup generators that serve critical and essential facilities. The other key milestone completed was a fuel supply analysis for the City. This analysis identified existing fuel storage tanks, existing refueling routes, fueling priorities and resources for fuel delivery during emergencies, and identified trained personnel for maintenance and operation of emergency generators. Both of these milestones are crucial in identifying gaps in resources that must be addressed in order to build resiliency against emergencies that impact the City's energy supply.

The final deliverable under the LEAP grant, which concludes in November 2012, will be a strategic master plan related to energy assurance at critical municipal facilities as well as an update to the section of City's Emergency Operations Plan which addresses power outages. Once the final report is produced, the City may need to adjust operational procedures to better respond during an emergency, but any funding needed for implementation would need to be discussed through the budget process.

The City of San José has also been chosen to participate as an Advisory User Group Committee member for California's Energy Assurance Planning efforts. As a committee member, the City has been providing support and leadership to local governments across California to build their own energy assurance plans.

***Silicon Valley Energy Watch*:** The Silicon Valley Energy Watch (SVEW), the City's partnership with PG&E serving all of Santa Clara County with energy efficiency service coordination, outreach, and training, is making significant progress in its Municipal Energy Benchmarking Program. To date, program staff have worked with 12 Santa Clara County cities and the county itself and completed or are in the process of benchmarking 687 facilities throughout the county. This work will help cities to prioritize their municipal energy efficiency projects, facilitate improved climate action planning, and better leverage public funding for clean energy projects.

As of the end of 2011, SVEW's municipal and nonprofit Direct Installation Program had achieved 3.668 million kWh in county-wide energy savings and delivered over $922,000 in rebates. The program is on target to help customers in these sectors reduce their energy by almost 6 million kWh in 2012.

***Energy Fund*:** Approximately $170,000 of annual energy cost savings was transferred into the Energy Fund in Fiscal Year 2011-2012. Staff finalized and began implementing a work plan for additional energy-efficiency projects at City-owned sites that would be funded through the City's Energy Fund. For 2012-2013, staff estimates that first and second year savings of approximately $200,000 will be transferred into the Energy Fund. Staff will have more refined estimates available during the next quarterly update.

Community Energy & Solar Program

Solar America City Grant: The City of San José Solar America City project ended December 31, 2011. Over the 24-month grant term, the City developed and implemented numerous innovative and replicable programs and strategies to build community engagement that will facilitate solar market penetration, including: increasing available resources for green collar workforce training; increasing awareness of solar through the development of the Green Vision Clean Energy Showcase; and providing coordinated education and outreach activities on energy financing strategies to property owners.

Silicon Valley Energy Watch: As of December 2011, with two-thirds of the current three-year program cycle completed, the City's key partner Ecology Action had conducted 377 small business direct installations in San José, totaling over 12.5 million kWh in energy savings. This translates into over $1,600,000 savings on energy bills. County-wide, in the same period, the program completed 1,157 installations, saving small businesses over $3,000,000 on their energy bills.

Better Buildings Program: The Better Building pilot program (BBP) outreach and educational activities have resulted in over 230 households in the Hillview-TOCKNA neighborhoods receiving energy upgrades focused on improving the health, safety and energy use of the community. In the ongoing efforts to enhance benefits to the community, BBP has partnered with the City's Housing Department to enhance their marketing and outreach efforts to promote the Housing Department's residential rehab and loan program. Participants can rehab their home with energy efficient and environmentally friendly products in addition to making other needed repairs. The partnership has streamlined the application process for residents in the program area. This portion of the program was kicked off with the successful open house on February 19th at a home retrofitted using Neighborhood Stabilization Program funds demonstrating to the community the benefits of energy upgrades first hand.

City staff have engaged community leaders and residents to assist them in understanding and navigating the intricacies of multiple energy efficiency programs under the BBP umbrella. The "one stop shop" model and grassroots marketing efforts are the cornerstone for the program's success. The program expects to achieve 45 retrofits with a minimum energy savings of 15% by the end of the grant term in September 2012 which would meet our grant obligation

Demonstration Partnerships

The City continues to implement innovative Demonstration Partnership such as the one with local clean energy company WattzOn to pioneer an approach that directly links residential energy savings to local economic development. Dubbed Green Energy Match (GEM), partially funded by SVEW and BBP, the pilot is operating in Willow Glen, Evergreen, and Hillview/TOCKNA in close coordination with multiple City and community initiatives. Participating residents receive tailored information on how they can reduce their consumption,

and savings are rewarded each month with coupons to local merchants. The program is just beginning to analyze participation levels and additional updates can be provided in future staff reports.

Committee Referrals for Additional Information

In September 2011, the City Council approved staff recommendation not to pursue Community Choice Aggregation until key uncertainties and benefits change. Staff has been continuing to monitor this issue across the state and has not seen sufficient progress to warrant any new action by the City at this time. Staff will continue to monitor these efforts and will report back in Fall 2012.

At the December 2011 meeting, the Transportation & Environment Committee (T&E) requested that staff conduct a work impact analysis on the City's ability to research smart grid, fees & tariffs, direct access and partnerships with the California Public Utilities Commission (CPUC) and PG&E. The Committee also asked specific questions related to community solar installations. Responses to these inquiries are included below. In general, the City is actively networking with cities across the nation on how they are addressing some of the issues below. This is being done through many forums such as the National Urban Sustainability Directors network, which represents over 75 leading cities active on these and related initiatives.

Smart Grid, Fees & Tariffs, Direct Access and partnerships with the CPUC and PG&E: Based on the Administration's analysis, there is not currently enough staffing capacity to engage in all of these efforts simultaneously. Further, the CPUC will be issuing its ruling on requirements for continued funding of state-wide energy efficiency programs for calendar years 2013-2014 sometime in spring 2012. Once this ruling is issued, the City will initiate drafting proposals for potential new funding opportunities and develop contract amendments with PG&E. This effort will consume a large portion of the energy staffing resources for the remainder of 2012 in order to meet the January 1, 2013 start date. To provide input into the CPUC's decision making process, staff is working with the Local Government Sustainable Energy Coalition, on specific energy efficiency funding proceedings at the CPUC, attempting to ensure continued funding for community energy efficiency programs. This effort also includes seeking opportunities to leverage new partnerships. The Coalition represents a unified voice for local governments, and has successfully educated State policymakers and regulators about the important role that local governments play in achieving both their local and California's energy efficiency goals.

Through SVEW, staff are continually exploring new program opportunities with PG&E. Staff will continue to monitor developments around the state in the areas of smart grid, fees & tariffs, and direct access. Should significant developments occur, staff will come back to the Committee for an update and direction.

Why are there so few commercial installations? By January 2011, the California Solar Initiative (CSI) funds for non-residential (commercial, industrial, government, etc.) projects in PG&E's service territory had been fully allocated. The exhaustion of funds was due to the high demand and success of this program promoting solar energy production. This put a number of

commercial projects on hold until additional funds were allocated. In late 2011, additional funds were added back into the program and new commercial applications were being accepted.

Is there a goal/target to equalize residential/commercial? The City does not currently have goals or targets that equalize residential/commercial systems. As customer interest in solar increases and new financial tools enter the market place, market demand will be a driving factor behind installations. Should the City wish to establish goals/targets, it would likely need to work with PG&E and the State of California to develop additional local incentives. The City has not been able to identify resources for offering financial incentives.

Do we track commercial projects? The table below provides an overview of the solar permits issued in San Jose between April 2010 and November 2011. On average, each commercial project system installed has the capacity of generating up to 52 kilowatts (kW) of energy compared to 4 kW for a Single Family project. Cost differences between commercial and residential systems are due to a number of factors including size of the system, infrastructure needed to support the system, and the amount of time needed to design and install the system, to name a few.

Solar Permits Issued between April 2010 and November 2011

Type	Permits issued	Average Project Cost	Average Project Size
Single Family	1,426	$25,388	4 kW
Commercial/Industrial	71	$192,808	52 kW

A graphical representation of where solar installations have occurred is available to the community through the Silicon Valley Energy Map website (http://energy.sanjoseca.gov/svenergymap.asp). Major updates to the map are underway and expected to be completed by April 2012.

Are there any public/private partnerships that develop solar that we could use? Staff has begun reaching out to other cities across the country for models of successful public/private partnerships for developing solar.

Is there a way to streamline our process to encourage non-residential solar? PBCE's Building Division is playing a lead role in the nation for streamlining project review of photovoltaic systems, permitting, and inspections process. Frequently, industry representatives use San Jose's process as a model for other jurisdictions. With the constant evolution of alternative energy technology, Building staff continues to engage industry representatives for ideas on new ways to streamline the process of review and inspection for these complex installations.

Committee Update Schedule

The Strategic Energy Action Plan was adopted by Council in June of 2010. The initial set of two year goals focused on the built environment and identified strategies and tactics for achieving the energy and renewable goals of the City's adopted Green Vision. The current plan runs through

June 2012 and during the first two quarters of 2012, staff will be evaluating opportunities to incorporate initiatives into future Green Vision Report work plans instead of maintaining a separate energy work plan.

EVALUATION AND FOLLOW-UP

Updates and progress will be reported to the Committee and Council through the existing Green Vision process and quarterly reports to the Transportation and Environment Committee.

PUBLIC OUTREACH/INTEREST

- ☐ **Criteria 1**: Requires Council action on the use of public funds equal to $1 million or greater.. **(Required: Website Posting)**
- ☐ **Criteria 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**
- ☐ **Criteria 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

This recommendation does not meet any of the criteria listed above. Staff has coordinated with key stakeholders in the development of this report.

COORDINATION

This memorandum has been coordinated with the City Manager's Budget Office, Planning, Building, and Code Enforcement, and the City Attorney.

COST IMPLICATIONS

More than 80% of the City's municipal and 100% of the community energy activities are funded through various federal, state, or utility grants and contracts. The City's Solar America City program ended December 31, 2011, with the remaining energy grants ending by December of 2012.

ENERGY PROGRAM GRANT	AMOUNT	TERMINATION	GRANT FUNDED STAFF
DOE/Better Buildings	$750,000	September 2012	ESD-4

Program			
DOE/Local Energy Assurance Planning	$299,983	November 2012	ESD-1
DOE/EECBG	$8,840,600	December 2012	ESD-2 PW-2 FIN-1 CAO-0.5
PG&E/SVEW and Innovator Pilot	$1,747,035	December 2012	ESD-2

First and second year savings achieved as a result of the municipal retrofit projects are transferred to the City's Energy Fund and used to support the City's Energy Officer and additional energy improvements at municipal sites. Staff continues to work to identify appropriate financing opportunities for additional priority energy projects. It is important to note that staff's ability to continue to implement future energy improvement projects will be severely impacted with the completion of the EECBG grant in December 2012, leaving the City's Energy Fund as the primary source of funding for all municipal energy initiatives.

CEQA

Not a project, File No. PP10-069 (a) staff report that involves no approvals of any City actions.

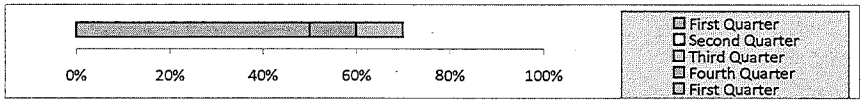
/s/
KERRIE ROMANOW
Acting Director, Environmental Services

For questions please contact Michael Foster, Acting Environmental Services Program Manager, at (408) 975-2601.

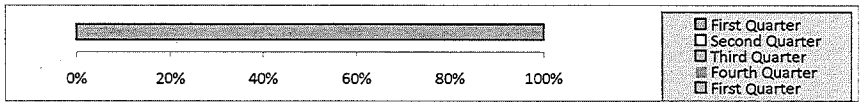
Attachment: First Quarter Status Report on Strategic Energy Plan

Milestone / Activities

- Issued Notice to Proceed on 4 Municipal solar projects



- Implement energy conversion technologies as identified in the Zero Waste Strategic Plan



Accomplishments	Key Issues / Opportunities	Future Activities
• Issued Notice to Proceed with Design on four City facilities including PAL, Kelley Park Senter Road lot, Muni Water Admin Building and South Services Yard	• Ensuring ongoing staffing resources for solar PPA installations after termination of DOE-EECBG funding on 12/15/12 • Potential City facilities closures/reduction in hours could impact energy efficiency/solar installations/savings	• Continue to identify and implement cost effective solar projects on municipal facilities • Complete 1.4MW fuel cell installation at WPCP • Continue active partnership with and provide training to PBCE on solar and energy efficiency issues as identified • Continue to aggressively monitor and pursue grant funding opportunities to offset capital costs

Milestone / Activities	
• Support and ensure legislation and regulation to enable cities and companies to increase energy efficiency and renewable	**First Quarter** On-going/On-Target
• Advocate within the PG&E rate case to enable the City to employ an advanced control and monitoring system to meter the City's streetlights	**First Quarter** On-going/On-Target

Accomplishments	Key Issues / Opportunities	Future Activities

• Monitored, commented on, and supported as appropriate, legislation and regulation related to energy efficiency and renewables
 	
• Provided input into the update of the City 2012-2013 guidelines for legislative priorities
 	
• City entered three-year pilot with PG&E for streetlights tariff based on actual energy consumption
	• Opportunity to engage PG&E related to limiting WPCP's exposure to peak pricing	• Continue to actively monitor and comment, when appropriate, on regulatory and/or legislative activities related to:
		  • Continuation of the solar incentives
		  • Public Goods Charge Funds for Energy Efficiency Portfolios
		  • Opportunities for increasing the use of renewable energy for both the municipal and community sectors

Milestone / Activities

- Continue and expand City's energy efficiency fund to ensure that first year and second year savings are returned and deployed for future City energy projects

First Quarter
On-Target

Accomplishments	Key Issues / Opportunities	Future Activities
• Completed 6 energy efficiency projects resulting in an estimated $56,000 cost savings.	• Federal funding for municipal energy efficiency retrofits will expire in December 2012 and will have an impact on 12.5 FTE •Monitor and participate in CPUC proceedings related to continued funding for energy efficiency programs for community and municipal programs	• Complete FY 11-12 energy audits and installation projects and continue to monitor and allocate energy savings and rebates into City's Energy Fund • Continue to actively explore and solicit financial opportunities • Research feasibility of any new low/no capital financing mechanisms for municipal energy efficiency projects (e.g. energy performance contracts, PG&E's on-bill repayment, etc)

Milestone / Activities	
• Work with PG&E to use available funds to reduce San Jose's per capita energy use	**First Quarter** On-going/On-Target
• Implement the Silicon Valley Energy Watch Program to assist residents in reducing energy use	
• Launch the California First Financing Program	**First Quarter** On-going/On-Target
• Launch the establishment of group solar purchase opportunities	**First Quarter** Completed
• Analyze opportunities for the use of Clean Renewable Energy Bonds (CREBs) and Qualified Energy Conservation Bonds (QECBs) as financing mechanisms for San Jose renewable installations	**First Quarter** On-going/On-Target

Accomplishments	Key Issues / Opportunities	Future Activities
• Continued implementation of the Community Energy Championship Community Grant Program to nonprofits and local governments in Santa Clara County for energy efficiency outreach and educational programs in hard to reach communities. This is funded through a $335,000 grant from PG&E • Updated the Silicon Valley Energy Map with 2011 data for energy use, solar installations, and green buildings throughout Santa Clara County • Completed 37 installations through the Moderate Income Direct Install and Neighborhood Energy Action program (MIDI/NEA), which supports neighborhood-based environmental education and enables low-to-moderate income residents to receive free energy audits and weatherization measures	• Monitor and participate in the review of the Public Goods Participation Program through the legislature and the CPUC to ensure ongoing programs and activities for San Jose residents •Monitor and participate in CPUC proceedings related to continued funding for energy efficiency programs for community and municipal programs • Monitor federal and state activities related to financing opportunities, including the reinstatement of PACE for Commercial programs	• Continue to implement the Municipal Whole House Rehabilitation Pilot using PG&E grant funds to provide expanded energy efficiency measures and appliances to participants in the Housing Department Single Family Rehab Program • Continue the MIDI/NEA activities within the community in a minimum of three additional neighborhoods • Continue partnership with Santa Clara County, the designated implementer for the state's new program for community energy efficiency activities--Energy Upgrade California

Strategic Energy Action Plan--2 Year Goals (2010-12)
1st Quarter - December 2011 - February 2012

Milestone / Activities

- Work in a partnership with local, state, and national organizations to achieve the energy efficiency and renewable energy goals of the Green Vision

First Quarter
On-going/On-Target

Accomplishments	Key Issues / Opportunities	Future Activities
• The Better Buildings pilot program outreach and educational activities have resulted in over 230 households in the Hillview-TOCKNA neighborhoods of San Jose receiving energy upgrades focused on improving the health, safety and energy use of the community • Drafted preliminary solar design report for Environmental Innovation Center	• Look for opportunites to partner with local solar installers to host a Solar Home Tour • Funding for Energy Upgrade Californa ends March 31, 2012 which will diminish the the number of energy efficiency work in the residential market place	• The Better Buildings Program is working collaboratively with Grid Alternatives, a non-profit that installs low and no cost PV solar systems in low income communities. In Summer of 2012 the program will hold a "Solar-a-thon" in the Hillview-TOCKNA, where 12 – 25 homes will have solar systems installed in one day The Better Buildings Program's goal is to provide energy efficiency upgrades to 300 households by September of 2012 when Federal of Energy grant funding ends • As part of SVEW program, provide 250 moderate income homes with energy efficiency audits and direct installation of energy efficiency measures by the end of 2012 • Actively looking for opportunities to partner with groups such as Joint Venture Silicon Valley to develop a group solar initiative • Complete build-out of anaerobic disgestion/composting facility

Project Info

Strategic Energy Action Plan--2 Year Goals (2010-12)
1st Quarter - December 2011 - February 2012

Communications and Engagement

Milestone / Activities	
• Identify and engage with local, state, and national partners to implement community educational programs	**First Quarter** On-going/On-Target
• Develop a local energy assurance plan for all critical City facilities to more comprehensively address energy planning and preparedness during disasters (Department of Energy funding)	**First Quarter** On-going/On-Target

Accomplishments	Key Issues / Opportunities	Future Activities
• Closed the Green Vision Clean Energy Showcase which provided education and information regarding solar, wind, and energy efficiency technologies. More than 6,500 individuals toured the Showcase in 2011 • Finalized critical and essential sites' energy needs with a comprehensive database of current built in or portable generators available in the City •City of San Jose is a participant in the US Green Building Council's LEED for Existing Building Volume Certification Program. This program will streamline LEED certification for 25 City facilities over the next three years •Better Buildings Program hosted an open house at a home retrofitted using NSP funds demonstrating the benefits of energy upgrades first hand. The demonstraiton home showcased a 61% reduction in energy use	•Leverage external organizations to educate the community on opportunities to go solar	•Continue to coordinate with local and state groups on the implementation of educational outreach programs •Continue targeted energy efficiency outreach in Hillview-TOCKNA neighborhoods of San Jose • Identifying resource gaps that must be addressed in order to build resiliency against emergencies that impact the City's energy supply.