Agenda Report

September 24, 2007

To: CITY COUNCIL
Through: FINANCE COMMITTEE

From: CITY MANAGER

Subject: ADOPT ENERGY EFFICIENCY AND SOLAR PHOTOVOLTAIC PROGRAM AND GOALS, AND DIRECT THE CITY ATTORNEY TO PREPARE A RATE ORDINANCE FOR FUNDING THESE PROGRAMS

RECOMMENDATION:

It is recommended that the City Council:

1. Adopt Pasadena Water and Power Department ("PWP") energy efficiency ("EE") and demand reduction ("DR") program goals (Attachment 1), described herein, to reduce forecast peak demand in 2012 by 10% and forecast annual energy consumption in 2016 by 13.3% in accordance with the City's Urban Environmental Accords ("UEA") goals and Assembly Bill 2021 ("AB-2021");
2. Adopt the proposed PWP solar photovoltaic ("PV") incentive program (Attachment 2), described herein, with the goal of installing 14 Megawatts of customer-owned PV systems in ten years to comply with Senate Bill 1 ("SB-1") and assist Pasadena in meeting certain UEA goals; and
3. Approve a journal voucher appropriating $2,236,952 to account 8176-410-831011-0914 (Utility Rebates) and $300,000 to account 8114-410-831011-0914 (Contract Services) from the unappropriated Light and Power Fund; and
4. Direct the City Attorney to prepare an amendment to the Public Benefits Charge ("PBC") in Light and Power Rate Ordinance, Chapter 13.04.230 of the Pasadena Municipal Code to fund the above programs in addition to those programs currently funded by revenues from the PBC as described herein.

ENVIRONMENTAL ADVISORY COMMISSION RECOMMENDATION

These recommendations, which support three of the City's UEA goals (Renewable Energy, Energy Efficiency, and Climate Change), were first presented to the Environmental Advisory Commission ("EAC") on July 17, 2007. On August 21, 2007 the EAC unanimously voted to adopt the initial energy efficiency and demand reduction program goals. On September 11, 2007 the EAC unanimously voted to adopt the proposed PWP PV program to expand eligibility and funding for incentives.

BACKGROUND:

On September 18, 2006 the City of Pasadena adopted the United Nations Urban Environmental Accords and endorsed the US Mayors' Climate Protection Agreement. These policies are aimed to provide leadership to develop sustainable urban centers and promote a clean, healthy and safe environment for all members of society. UEA policies relevant to the recommendations herein include: (i) Reduce greenhouse gas ("GHG") emissions 25% by 2030; (ii) Reduce the city's peak electric load by 10% by 2012; and, (iii) Increase the use of renewable energy to meet 10% of the City's peak electric load by 2012.

In addition to the City's goals, the State of California enacted several laws in 2005 and 2006 that create related statutory requirements for the Council to adopt the recommended EE and DR goals and PV program. AB-2021 and SB-1 each impose specific compliance and reporting requirements that are described herein, including the following important respective deadlines:

- September 30, 2007: PWP must report the EE and DR program goals adopted by City Council to the California Energy Commission ("CEC"); and
- January 1, 2008: PWP must implement an SB-1 compliant PV program. The City Council must hold a public proceeding to determine the funding source and adopt a PV program in a timely manner to facilitate program implementation.

The proposed program goals will also help PWP meet the goals of two other state laws, including: Assembly Bill 32 ("AB-32"), which lays out statewide goals to reduce California's GHG emissions to 1990 levels by 2020; and, Senate Bill 1037 ("SB-1037"), which prioritizes procurement of energy from EE and renewable resources.

ENERGY EFFICIENCY AND DEMAND REDUCTION PROGRAMS:

PWP currently offers a wide range of residential and commercial energy efficiency programs that are funded from Public Benefit Charge ("PBC") revenues. PWP's EE programs yielded 4,500 MWh per year of energy savings and 1.4 MW of peak demand reduction in FY2006, representing approximately 0.36% and 0.47% of annual energy load and peak demand, respectively. EE programs such as the Refrigerator Replacement or the Energy Star Program are cost effective and very popular among our residential customers. Commercial energy efficiency programs such as the Energy Partnering Program provided approximately 70% of PWP's EE program energy savings and peak load reduction in FY2006.

PWP leverages its PBC funding through joint action with the Southern California Public Power Authority ("SCPPA") that is coordinated through the SCPPA Public Benefits Committee. This has been particularly effective in procuring cost-effective efficient appliances and program services and consulting. The SCPPA Public Benefits Committee meets monthly to share information, develop and compare programs, prepare requests for proposals, and assess pending and new legislation or regulations.

DR programs focus on reducing electricity usage during periods of peak demand (such as summer days), rather than overall energy consumption, in order to reduce the need for inefficient peaking resources and their associated fuel consumption and emissions. DR programs can include such strategies as load-shifting rate incentives or technologies, voluntary service interruption, and appliance cycling or control programs. While it has in the past, PWP does not currently offer DR incentive programs other than its time-of-use rates that reward customers for using less energy during peak load hours. Through recent and current collaboration with SCPPA, PWP has demonstrated the Ice Bear thermal storage unit at Hill Library, and SCPPA played a key role in demonstrating the effectiveness of this system that reduces peak loads and improve air conditioning efficiency. PWP is also working with SCPPA to deploy several Grid Point battery-powered devices that provide utilities the ability to control or disconnect a customer's loads with limited impact on the customer.

EE and DR Program Statutory Requirements

In addition to the City's goals, the recommended EE and DR program goals are intended to meet the requirements of recent state laws:

- SB-1037 (2005) requires each local publicly owned electric utility ("POU") to acquire all cost effective, reliable, and feasible EE and DR prior to other resources. Each POU must report its investment on EE and DR programs annually to its customers and to the CEC;
- AB-2021 (2006) is intended to enable the state to meet its goal of reducing total forecasted electrical consumption by ten percent over the next ten years. Each POU, on or before June 1, 2007 (the first year deadline has been extended to September 30, 2007) [1], and every 3 years thereafter, must identify all potentially achievable cost-effective EE savings and establish annual targets for EE savings and DR over ten years. The bill requires each POU to report annually to its customers and the CEC on its investment in EE and DR programs and the results of an independent evaluation that measures and verifies the EE savings and reduction in energy demand achieved by its EE and DR programs. It further requires POU's to "treat investments made to achieve energy efficiency and demand reduction targets as procurement investments."

Proposed EE and DR Program Goals and Budget

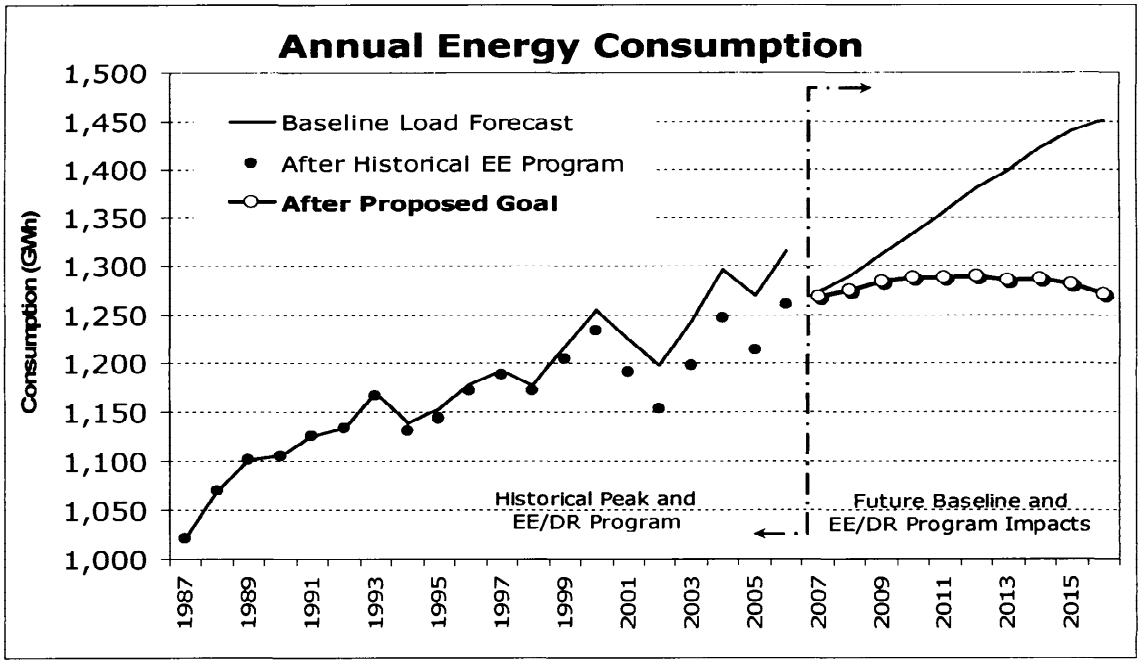
Consistent with the Pasadena's UEA goals, in particular the desire to reduce greenhouse gas emissions, and AB-1037 and AB-2021, it is recommended that the City Council adopt the EE and DR program goals in Attachment 1, which states PWP shall:

[1] In April 2007, it became clear that the POU studies would not be completed in time to meet AB-2021's June 1 deadline for adopting targets. The CEC, with concurrence of representatives from the office of the bill's author, agreed to accept preliminary goals from POU's by June 30, 2007 and City Council adopted goals by September 30, 2007.

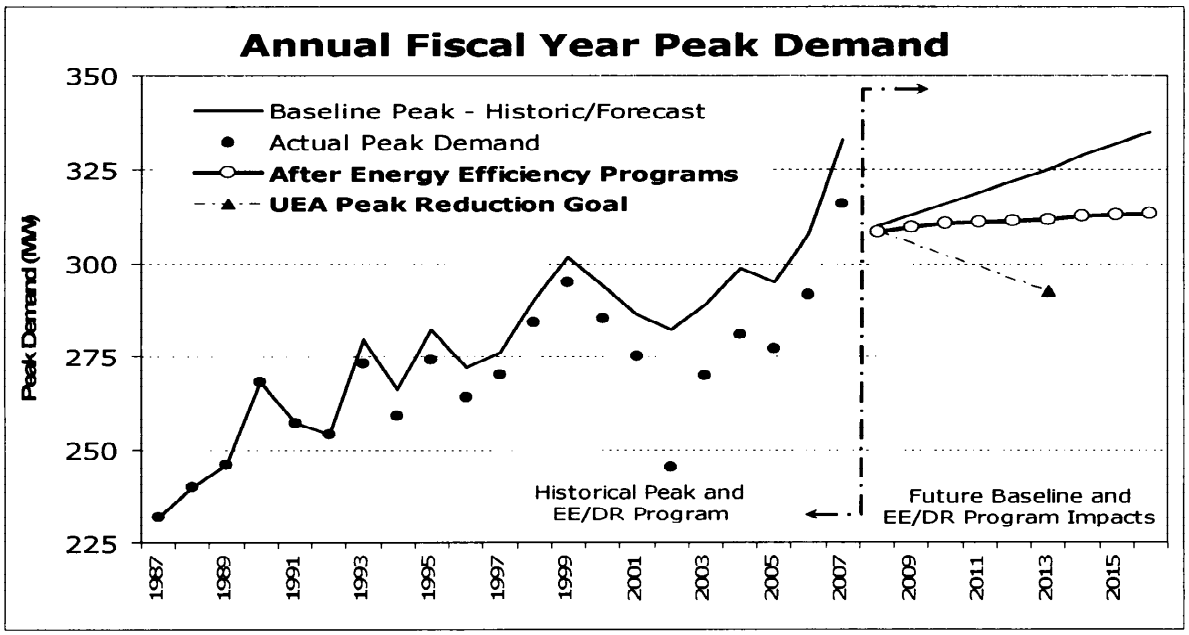
- Treat EE and DR as an energy procurement function, and procure all cost-effective EE and DR prior to other resources;
- Strive to reduce energy consumption by an average of 1.33% per year, and summer peak demand by 6.8%, from the "Baseline" energy consumption level (i.e., the annual energy consumption that would otherwise occur if PWP had no EE programs) over ten years from January 1, 2007 to December 31, 2016; and
- Reduce summer peak electric demand by 10% from the Baseline peak demand by October 1, 2012 through the most cost-effective combination of EE and DR programs, rate incentives, load-shifting technologies, and customer-owned high efficiency or GHG-free distributed generation such as PV and wind.

It should be clear that the proposed EE and DR goals are not absolute reductions from current levels of annual energy consumption and peak demand ("load"), but rather, these are reductions from levels that are otherwise projected to occur as a result of expected growth in the city without these programs in place. While PWP's actual future load will vary based on numerous factors, the annual load reductions as a result PWP's EE and DR programs will be verified and reported as a percentage of the actual annual energy consumption and peak demand for that year.

The graph below shows PWP's total annual historical and forecast fiscal year energy consumption. Actual historical load is shown as solid circles with the corresponding historic baseline load that would have occurred without past EE efforts shown as a solid line. The forecast Baseline load, which only includes cumulative EE and DR starting in FY2008, is also shown as a solid line, while the hollow circles show forecast load as a result of the new EE program goals only.



The graph below shows historical and forecast fiscal year peak demand (which occurs in the prior calendar year). Actual peak demand is shown as solid circles with the corresponding historic baseline peak that would have occurred without estimated past EE and DR efforts shown as a solid line. The forecast Baseline peak demand, which only includes cumulative EE and DR starting in FY2008, is also shown as a solid line, while the hollow circles show demand reduction as a result of EE program goals only. The UEA goal, shown as a solid triangle, reflects a 10% reduction from the FY2013 (calendar year 2012) Baseline peak demand.



Based on historical program experience, PWP estimates that the annual EE and DR program expenses will increase over time and range from about $4 million to $9 million, depending upon the incentives necessary to meet the goals.

Energy Efficiency and Demand Reduction Study

PWP partnered with 33 other members of the California Municipal Utilities Association ("CMUA") utilities to retain the Rocky Mountain Institute ("RMI") to evaluate EE and DR potential for each of the participating member utilities to develop a basis for their respective EE and DR goals. CMUA prepared a report (Attachment 3) that includes a description of the RMI study methodology and model, and lists the proposed energy and demand reduction targets for each participating POU. This report has been provided to the CEC to meet statutory deadlines associated with AB-2021 and clearly indicates that the EE and DR targets listed for each POU are staff proposals that have not yet been adopted by their respective governing boards. The Natural Resources Defense Council ("NRDC") prepared a document entitled "Analysis of California's Publicly-Owned Utilities' Draft Ten-Year Energy Efficiency Targets" (Attachment 4) that

generally commends the POU's collective efforts and goals, and shows PWP's proposed goals are amongst the highest in several rankings.

RMI developed a model designed to calculate the following EE and DR potential values for each participating utility:

- "Technically possible", which means the potential savings that could theoretically be obtained using the most efficient technologies without regard to cost;
- "Cost-effective" , which means the potential savings that could theoretically be obtained at a cost no higher than the utility's avoided cost, which can include avoided supply side energy costs, associated environmental cost adders, and avoided transmission and distribution infrastructure costs; and,
- "Cost-effective and feasible" which further limits the potential savings to those programs which the utility could realistically accomplish, given likely customer participation and other factors.

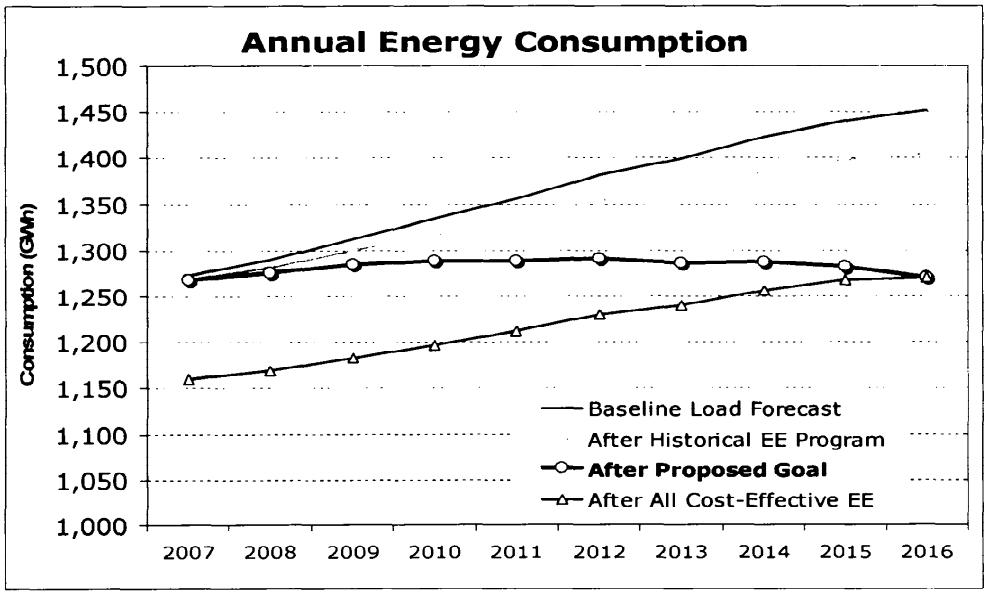
The RMI model was based on work done to develop goals for California state-regulated investor owned utilities ("IOU's") and customized to incorporate particular characteristics of each POU, such as the forecasted load and demand growth, climate zones, customer segments, forecast avoided cost, customer rates, and other parameters. Avoided costs input and feasible program implementation penetration factors are the key parameters that drive the model's results. All of PWP's input assumptions may be found in Attachment 3-a.

After reviewing the data and testing the model, PWP utilized avoided costs equal to 80% of those adopted for Southern California Edison. Staff believes this is appropriate to reflect PWP's lower rates and procurement cost structure. This assumption reduced the resulting cost-effective average annual EE potential from 1.41% to 1.33%, and reduced the DR potential from 0.71% to 0.68%. A graph depicted the impact of different avoided cost assumptions on the Cost Effective potential may be found in Attachment 3-b. As described later, PWP must obtain additional sources of DR to meet Pasadena's aggressive UEA goal.

The RMI model provided a few mechanisms for determining the cost-effective and feasible potential. By default, the model assumed that only 50% of the cost-effective potential was feasible for each specific EE measure. Many participating utilities accepted this default for all measures, and others adjusted this factor either globally or on a measure-by-measure basis to reflect their particular circumstances. PWP utilized a 100% penetration factor for all measures in the tenth year, but assumed that it would take several years to ramp up EE programs, while the RMI model shows most of the Cost-Effective EE potential could theoretically be obtained in the first program year (2007). As a result, PWP estimates that the cumulative ten-year savings under the Proposed Goal will be about 40-45% less than the cumulative Cost-Effective EE savings potential determined by the RMI model between 2007 and 2016.

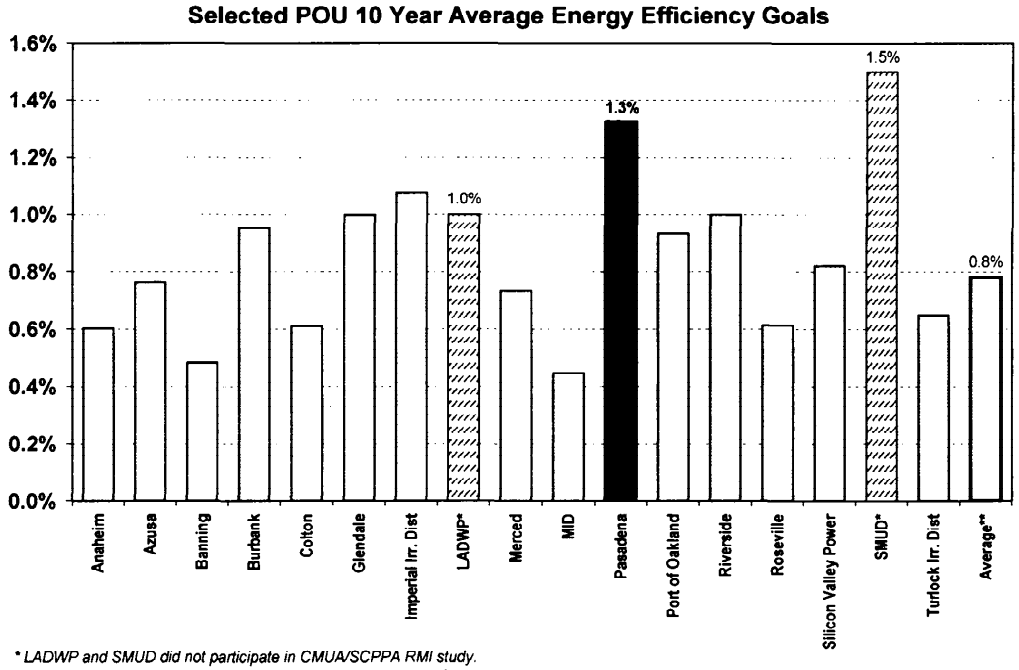
The graph below compares PWP's retail electric energy consumption forecast under various EE scenarios, including:

- **Baseline Load Forecast**: This forecast assume there will be no future EE programs or associated energy savings;
- **Historical EE Program**: The Baseline load forecast is reduced to reflect PWP's projection of EE impacts at current "status quo" EE program funding and penetration levels;
- **After Proposed Goal:** The Baseline load forecast is reduced to reflect PWP's forecast of cost-effective and feasible EE; and
- **All Cost-Effective EE**: The Baseline load forecast is reduced to reflect RMI's projection of the potential cost-effective EE measures in Pasadena, without regard to "feasibility" (timing, customer participation, etc).



Under the Proposed Goal, PWP's load remains nearly constant over the ten-year period, and would decline below current levels if the pace of EE implementation could be extended beyond 2016.

Pasadena's proposed goals are aggressive and higher than other POU goals derived from the RMI study POU. The figure on the following page compares the ten-year EE targets proposed by some of the other POU's that participated in the RMI study, plus targets adopted by the Los Angeles Department of Water and Power ("LADWP") and the Sacramento Municipal Utility District ("SMUD").



* *LADWP and SMUD did not participate in CMUA/SCPPA RMI study.*
** *Average of all RMI study participants. Excludes LADWP and SMUD.*

Energy Efficiency and Demand Reduction Program Implementation

Achieving these proposed goals will be challenging and will require substantial changes to PWP's traditional methods. The proposed 1.33% average annual energy reduction goal represents a four-fold increase over FY2006 EE programs and is expected to offset nearly all electric load growth in Pasadena over the next ten years.

PWP's peak demand is forecast to be 325 MW in 2012, so PWP will need to achieve a cumulative demand reduction of approximately 32.5 MW, or 6.5 MW per year over the next five years, to meet the UEA goals. Since many of the cost-effective EE programs reduce more energy consumption at night than during peak demand hours, PWP will need to pursue additional DR programs and count the contribution of customer owned PV and other clean distributed generation to meet the goal.

While specific programs have not yet been developed, PWP will pursue a multi-pronged effort to meet these aggressive EE and DR goals. PWP will seek to significantly increase energy savings from utility-sponsored programs through:

- Increased marketing of commercial sector energy partnering programs;
- Competitive solicitations for large scale EE project incentives;
- Direct installation of residential and small commercial EE technologies;
- Exploring third-party contractor certifications and financing resources for customers to install EE technologies;

- Reduce administrative costs and increase penetration into the residential sector through mass-market program implementation such as point of sale rebates, direct mailing, or upstream incentives for EE technologies;
- Evaluating and initiating cost-effective DR programs that may include air condition or pool pump cycling, load curtailment programs, and load-shifting technologies such as thermal storage; and,
- Investigating rate options that may encourage EE and DR, including tiered energy rates and time of use rate changes, as part of PWP's next electric cost of service study.

SOLAR PHOTOVOLTAIC PROGRAM:

PWP's solar program has been in existence since 1999 and has provided solar rebates to approximately fifty residential and commercial customers. Past funding for PV programs from PBC revenues has averaged approximately $100,000 per year, and focused primarily on small installations due to availability of state-funded incentives for systems larger than 30 kW. Typical residential systems range from 2-3 kW and provide 30%-70% of the customer's energy needs. PWP's current rebate is $3.50 per installed watt, up to a maximum of $8,000. Customers may also qualify for federal tax credits under the 2005 Energy Policy Act. PWP also offers net metering for customers with PV systems to reduce their bills. PWP recognizes that its PV program and funding must be significantly overhauled to meet the goals proposed herein.

Statutory Requirements

On August 21, 2006 the Governor of California signed SB-1, which aims to build 3,000 MW of solar power over a ten-year period. SB-1 mandates that all POU's adopt, implement, and finance a solar initiative program on or before January 1, 2008 to achieve a pro-rata share of the statewide goal; however, POU's are not collectively required to spend in excess of $784 million over ten years to meet this goal. POU's must offer monetary incentives of at least $2.80 per watt, declining at no less than an average rate of 7% per year over ten years. SB-1 prohibits a reduction in EE and low income program funding to meet the SB-1 goals.

Under SB-1, the POU's must initiate a public proceeding to determine what funding is necessary to provide the required incentive prior to implementing its PV program. The City Council's consideration of this recommendation is meant to comply with the "public proceeding" requirement of SB-1.

Proposed PV Program and Budget

PWP has developed the proposed ten-year PV program, described in Attachment 2, to comply with SB-1. The program would be available for all customer classes. The proposed standard rebate incentive for residential and commercial customers is $3.50 per installed watt. It is further proposed that eligible non-profit agencies would be

eligible to receive $4.00 per installed watt to compensate for the fact they are not eligible to receive state or federal tax incentives. PWP will periodically reduce the rebate incentive to a rate of no more than $1.69/watt in 2016 ($1.93/watt for non-profit entities), reflecting an average 7% annual decline rate consistent with the state's goals.

As PWP's annual energy load is approximately 0.47% of the statewide amount and 2% of the POU total, PWP's estimated share of the SB-1 ten-year PV goal and POU spending cap are approximately 14 MW and $16 million, respectively. Since current PV systems are not the most cost effective means to achieve PWP's environmental goals, PWP proposes that the PV program goal be no more than that set by SB-1 at this time.

It is proposed that a $1.6 million minimum annual budget, an increase of about 16 times current funding levels, be established for PV incentives; however, PWP will likely need to substantially higher budgets in some years to meet the goal. Assuming a fixed expenditure of $1.6 million per year PWP's PV incentive would need to decrease by 19% annually (to $0.53/watt in 2017) in order to meet the 14 MW goal. If PV system costs continue to decline, it may be possible to achieve this outcome; however, it is more likely that incentive rates and associated annual budgets will need to remain higher. For example, assuming an average incentive of $2.50/watt over ten years yields total expenditures of about $35 million to meet the goal. PWP anticipates spending an estimated $30-36 million over ten years with annual budgets up to $5 million in some scenarios. While PWP's current costs for PV programs are funded from PBC revenues, additional revenues are needed to fund the estimated $1.6-5 million per year for PV incentives from current PBC revenues without reducing funding for EE and low income programs.

PROPOSED FUNDING SOURCE: PUBLIC BENEFIT CHARGE RATE REVISION

It is proposed that all EE, DR, and PV program incentives and associated expenses be funded from an increase in the PBC rate.

The PBC rate was created as a result of California's landmark electric deregulation bill, Assembly Bill 1890 (1996), to ensure continued investment by utilities in various public purposes. Pursuant to Public Utility Code ("PUC") 385(a), PBC rate revenues may be used to fund program incentives and administrative costs for:

1. Cost-effective demand-side management services to promote energy-efficiency and energy conservation;
2. New investment in renewable energy resources and technologies (e.g., PV incentives and above-market costs for renewable resources);
3. Research, development, and demonstration ("RD&D") programs for the public interest (e.g., hybrid electric vehicles, advanced EE and DR technologies); and
4. Services provided for low-income electricity customer and rate discounts (e.g., PWP's targeted EE programs and rate assistance programs).

Pasadena adopted a PBC rate in 1996. The PBC charge (Light and Power Rate Ordinance, Chapter 13.04.230 of the Pasadena Municipal Code) is a "non-bypassable" fixed volumetric rate (0.271¢/kWh) that applies to all electric customers based on their metered net energy consumption, regardless of whether they purchase energy from PWP or a third party[2]. PBC revenues are maintained in a separate fund (Fund 410) that is used only for those purposes authorized under PUC 385(a). At the end of each fiscal year, any remaining unspent revenues are carried forward to the next fiscal year.

Staff proposes to increase revenues from the PBC rate to fund additional program costs to meet the proposed goals. The PBC rate is an ideal vehicle for a number of reasons:

- **Accountability**. State law limits the use of PBC funds for specific purposes;
- **Fairness**. The PBC rate applies evenly to all customers based on their energy consumption, regardless of their choice of energy supplier. Likewise, all customers will be eligible for incentives and their ability to participate in these programs is typically proportional to their energy consumption;
- **Administrative Ease**. Current EE, DR, and PV programs are funded through PBC Fund (Fund 410), which is maintained separately from all other PWP activities. Selecting an alternative revenue source for these programs would require additional accounts for revenues and expenses in a different Light and Power Fund, and allocating expenses between different funds; and,
- **Simplified Billing Statement**: A new charge could be created with most of the same characteristics as the PBC; however, this would add another line item to the bill and would not resolve the multiple fund issue.

Funding additional EE, DR, and PV programs is consistent with state law. Cost-effective EE and DR programs qualify for PBC funding under the PUC 385(a)(1), and PV qualifies under PUC 385(a)(2). While AB-2021 requires that EE and DR programs are considered as PWP's priority resource for energy procurement, it does not specify a particular funding source or prohibit the use of PBC funds for this purpose. Similarly, SB-1 does not prohibit the use of PBC revenues for PV programs, but it does prohibit reducing funding for EE and low income programs to meet the goals of SB-1. Based on projected FY2007 actual spending, PWP proposes that minimum budget levels for future years be established as follows:

- $2,000,000 for EE programs; and
- $610,000 for low income programs, including targeted low-income EE.

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[2] Pasadena allows electric customers to procure energy from alternative suppliers. While such customers are not subject to Pasadena's Energy Charge, they continue to pay all other applicable electric service charges such as Transmission, Customer and Distribution, etc.

It is recommended the PBC rate be determined on a formula basis, similar to the Energy Charge and Transmission Charge. The rate would automatically adjust to reflect Council-approved budgets, actual expenses, carry-forward funds, and variations in retail energy consumption. The PBC would be calculated on a quarterly basis by dividing the sum of forecast expenditures for PBC-funded programs over the next twelve months, plus or minus any deficit or surplus from prior months, by the sum of forecast retail energy sales (in kWh) for the same twelve month period. A minimum rate of 0.271¢/kWh will be established to ensure compliance with Public Utility Code 385(a).

Being formula based, it will allow Council the ability to increase or decrease funding for the enhanced EE, DR, and PV programs through the budget process each year without the need for a corresponding PBC rate ordinance revision. Furthermore, the formula will compensate for under/over spending. For example, while PWP may budget for $7 million for customer incentives in FY2009, if actual customer participation is lower the PBC rate will adjust downward automatically.

PBC Budget

Funding and resources for EE, DR, and PV programs will need to increase over time to meet the proposed program goals. Although program details are still being developed, staff estimates that the combined funding for these programs will need to increase from approximately $2.3 million in the approved FY2008 budget to $8-10 million annually by FY2009 and thereafter.

PWP PBC Revenues, Program Spending and Budget ($000)

PBC Funding/ Expense Category	FY2006 Actual	FY2007 Actual	FY2008 Budget	Proposed FY2008**	Projected FY2009
Prior Year Carry Forward	2,020	2,132	2,537	2,537	0
PBC Revenues	3,249	3,391	3,400	3,400	10,000
Interest Earnings	62	125	0	0	0
EE and DR*	2,255	1,997	1,945	3,455	7,245
Renewable Energy (PV)*	96	113	390	1,390	1,600
RD&D	61	121	92	92	100
Low Income Programs	314	417	413	413	450
Unallocated PBC Admin Costs	473	463	587	587	605
Annual PBC Costs	3,199	3,111	3,427	5,937	10,000
Carry-Forward Funds	2,132	2,537	2,509	0	0

* *EE, DR, and PV expenses include Utility Rebates and direct program expenses, including marketing, administration, and related services*

** *Proposed increases in Utility Rebates and Consulting Services allocated to EE, DR, and PV program budgets*

The approved FY2008 PBC budget did not anticipate the availability of approximately $2.5 million in carry-forward PBC revenues from prior years. PWP proposes that FY2008 budget be amended at this time as follows:

- Increase account 8176-410-831011-0914 (Utility Rebates) by $2,236,952 to $4,009,976. and,
- Increase account 8114-410-831011-0914 (Contract Services) by $300,000 to $415,000. These services will facilitate program analysis, redesign, and implementation efforts to increase program participation and associated savings.

The above expenses will be allocated to both EE and PV programs as needed. Staff believes that the resulting $4 million budgeted for utility rebates in FY2008 is sufficient for the program increases that PWP expects to be able to achieve and implement within the remainder of the fiscal year; however, if programs are implemented more rapidly than expected, FY2008 budget revisions may be requested at a later date.

Customer Bill Impacts:

Initially, the PBC rate will remain at its current level (0.271¢/kWh) until FY2009 or at such a time as the City Council approves budgets for authorized expenses that require an increase. The additional funding requested herein for FY2008 will not cause an increase to the PBC rate, since these are existing carry-forward funds.

Assuming the PBC budget increases by $6.5 million annually per year in FY2009 and thereafter, the total PBC budget would reach approximately $10 million per year and the PBC rate would increase to approximately 0.83¢/kWh starting in FY2009. At this rate, the average (500 kWh per month) residential customer will pay an additional $2.80 per month PBC costs (an increase of about 5% of total electric charges). PWP's largest commercial customers could see monthly increases of $5,000 to over $30,000, however, many of these customers are well positioned to seek incentives from the enhanced EE, DR, and PV programs to offset their energy use and costs. PWP will actively seek the participation of large customers to meet program goals.

The additional program expenditures for cost-effective EE and DR programs will be offset by reduced energy procurement costs, which are passed through in the Energy Charge component of the bill. Because incentive payments generally occur as an up-front one time expense, the first year program costs always exceed the first year savings. As program impacts accumulate over time, the energy procurement savings are expected to exceed first year program costs after six to seven years such that consumers' bills are lowered overall. Preliminary estimates indicate the net negative impact will be approximately $2-3 million annually, or less than 0.3¢/kWh, for the first five to six years, followed by increasing net savings in future years. However, the exact

net impacts are impossible to quantify as they are affected by unknown quantities such as the amount of actual and offset load growth, market fuel and energy prices, and whether such energy savings result in deferred infrastructure investments.

Aside from the programs described herein, PWP's customers will see additional rate impacts in the future as PWP incurs added costs to meet UEA goals and other statutory obligations such as AB-32. Additionally, energy procurement costs from conventional sources and costs associated with maintaining and upgrading power delivery infrastructure may increase over time as well. While it is desirable to integrate all of these effects into unified and predictable rate changes, the reality is that many of the pieces are moving independently and unpredictably at this time. The net impact of the proposed PBC rate change is expected relatively small and greatly overshadowed by the potential impacts of the evolving GHG regulations. Furthermore, the programs funded from increases in the PBC may pay substantial dividends by reducing PWP's future GHG emissions.

FUTURE PROGRESS REVIEW AND GOAL REVISION

While PWP believes the recommendations are "no regrets" steps in the right direction for PWP to support Pasadena's environmental goals, the EAC and City Council must be afforded the opportunity to periodically review progress and modify the goals in the future. Other than the proposed incentive amount for PV systems, which must decline over time by law, all of the goals can be reassessed and increased at a later date. PWP proposes the following process to review progress and goals:

- PWP will provide fiscal year results to the EAC by October of each year, beginning October 2007 for fiscal year 2007;
- EE, DR, and PV technologies, avoided costs, and program potential will be reviewed as part of the forthcoming independent review of the Integrated Resource Plan ("IRP");
- The EAC and City Council will be afforded the opportunity to revise EE, DR, and PV program goals as part of the IRP adoption in early 2008; and,
- PWP will update program potential studies and the EAC and City Council will be afforded the opportunity to revise EE, DR, and PV program goals every three years beginning early 2010.

Given that Senate Bill 1037 requires PWP to acquire all cost-effective, reliable, and feasible EE, DR, and PV prior to other resources, the proposed goals serve as program floors, not ceilings, and represent dramatic increases over current program levels.

FISCAL IMPACT

The proposed goals for EE, DR, and solar PV programs will lead to increased expenses for customer incentives and program implementation estimated at approximately $2.5 million in FY2008 and $6-7 million annually beginning in FY2009. Expenses will be funded from a proposed revision to the PBC, which is expected to increase from the current 0.271¢/kWh to approximately 0.83¢/kWh in FY2009. As a result of cumulative under spending of prior PBC funds, sufficient funds are in the unencumbered Light and Power Fund for the total requested $2,509,462 PBC budget increase without affecting the PBC rate. At this time, no additional changes to the FY2008 PBC budgets or rate is anticipated, however, if programs are implemented more rapidly than expected, staff may request FY2008 budget revisions at a later date that result in corresponding increases to the PBC rate. Revenues from the PBC are exempt from taxes, surcharges, and the General Fund Transfer calculation, thus any changes to the PBC will not affect the General Fund.

Respectfully submitted,

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