



City of Palo Alto

City Council Staff Report

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Summary Title: Semi-annual LEAP Update

Title: Third Semi-Annual Long-term Electric Acquisition Plan (LEAP) Update

From: City Manager

Lead Department: Utilities

Executive Summary

This third semi-annual update of the Long-term Electric Acquisition Plan (LEAP) is provided to the City Council as information only. The purpose of the update is to keep the Council apprised of staff's efforts towards implementing the Council-approved LEAP Objectives, Strategies and Implementation Plan.

Much progress continues to be made towards implementing the tasks in the LEAP Implementation Plan. Since the last LEAP update in March 2012, staff has made significant progress towards several key LEAP implementation items including launching of the Palo Alto CLEAN program in April 2012; Council approval of modifications to the City Renewable Portfolio Standard (RPS); extensive evaluation of several proposals and negotiations with potential suppliers under the City's request for proposal for renewable resources to meet the City's RPS; and Council support to develop a plan to achieve carbon neutrality for the electric portfolio by January 2015.

Staff may return to Council in 2013 with modifications to LEAP in support of the City's efforts towards implementing a plan to achieve carbon neutrality for the electric portfolio. At that time, staff may propose modifications to the LEAP Implementation Plan and will address the need for continued semi-annual reporting to Council.

Attachments:

- Attachment A: LEAP Update September 2012 (PDF)
- Attachment B: Council-Approved LEAP Objectives, Strategies and Implementation Plan (PDF)

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ATTACHMENT A

**Long-term Electric Acquisition Plan (LEAP)
Semi-annual Update – September 2012**

LEAP Implementation Plan Item	Estimated Completion in LEAP	September 2012 Update	Status
Strategy #1 - Resource Acquisition			
1. Adjust planning and portfolio models to include an integrated and least cost planning perspective which evaluates demand and supply side resources in an integrated manner and includes time of delivery, locational and environmental costs and benefits.	Dec. 2010		Completed
2. Evaluate the impacts of energy efficiency, demand reductions and electric vehicle penetration in Palo Alto in the annual development of the electric load forecast.	Dec. 2010		Completed
Strategy #2 – Electric Energy Efficiency and Demand Reduction			
3. Provide quarterly updates on electric efficiency program achievements including tracking against 10-Year Energy Efficiency goals to the UAC and annual updates to the City Council.	quarterly	No update*	On-going
4. Develop Energy Efficiency Implementation Plan for the 2010 10-Year Electric EE Plan addressing certain items identified in the May 2010 Council Colleagues Memo and identification of resources and funding needed to achieve EE goals.	Apr. 2011		Completed
5. Evaluate fuel switching energy efficiency measures and include them, if cost-effective, in the Electric and Gas EE Implementation Plans.	Feb. 2011		Completed
6. Develop a pilot Demand Response Program for large commercial industrial customers for implementation in summer 2011.	Apr. 2011		Completed

LEAP Implementation Plan Item	Estimated Completion in LEAP	September 2012 Update	Status
7. Assess the feasibility and cost-effectiveness of using current and potential thermal energy storage (TES) systems to shift load from on-peak periods to off-peak periods, for use in a demand response program, or for meeting any energy storage needs. Coordinate with task 21 to develop targets, if appropriate.	Dec. 2011	A summer intern is working on this task and has prepared an inventory of TES systems in Palo Alto, evaluating their current operation, researching new systems and will be recommending a course of action for the future.	Report to UAC in Nov 2012
8. Fully integrate the effects on energy efficiency in the long-term electric load forecast.	Nov. 2010		Completed
Strategy #3 – Renewable Portfolio Standard (RPS)			
9. Evaluate the merits of implementing a feed-in-tariff (FIT) and the potential to meet RPS goals through local renewable resources.	Jan. 2011		Completed
10. Seek UAC recommendation and Council approval of the policy elements of a FIT to encourage local renewable resource projects.	May 2011		Completed
11. Continue working with NCPA to identify opportunities, including joint-ownership, for developing qualifying renewable resources.	On-going	Joint ownership options being investigated include a geothermal project (see item #13) and the installation of micro-turbines at the Calaveras Hydroelectric Project. In May 2012, Council approved the NCPA REC Transfer Agreement to allow the City to receive RECs associated with certain projects managed by NCPA.	On-going
12. Evaluate the use of renewable energy credits (RECs) to meet a portion of the City's RPS goal and/or greenhouse gas emission reduction goals and monitor the regulations and requirements regarding the use of RECs to meet RPS goals.	On-going	The assessment of the use of RECs will be further considered in the development of a carbon neutral plan (see item #26 below).	On-going
13. Evaluate a proposed geothermal project being considered by NCPA, including a pre-pay option and the benefit, costs, and risks of a pre-pay structure.	June 2011	No update*	In process

LEAP Implementation Plan Item	Estimated Completion in LEAP	September 2012 Update	Status
14. Conduct a Request for Proposals for eligible renewable resources including RECs and evaluate alternative renewable resource technologies and contracting mechanisms.	RFP in June 2011	<p>Staff issued a Request for Proposals for eligible renewable resources in September 2011. A total of 65 project proposals were received in October 2011. Staff is now finalizing the negotiations for a Power Purchase Agreement with one finalist and anticipates bringing this agreement to Council for consideration by October 2012. Staff also plans to issue another RFP for eligible renewable resources in August/September 2012.</p> <p>In conjunction with item #26 below, staff reviewed with the UAC in November 2011 the RPS goal to clarify the governing constraint (33%, or 0.5 cent/kWh rate impact) and to ensure alignment with State law. In April 2012 Council considered the proposal and amended the policy to clarify that the 0.5 cent/kWh rate impact limit is the governing constraint.</p>	In process
Strategy #4 – Local Generation			
15. Provide an update of past local generation feasibility studies and actions to UAC and Council	Dec. 2010		Completed
16. Assess the potential for and feasibility of small local distributed and non-distributed, renewable and cogeneration projects, including using a FIT to encourage these projects.	Jan. 2011	Renewable projects are being evaluated as part of the City's feed-in tariff program (see item #19). An assessment of cogeneration will be part of evaluation of the City's PLUG-In program. See item #18.	In process
17. Assess the potential, benefits and costs of developing and/or joint ownership of a 25 to 50 MW gas-fired power plant located in or near Palo Alto to meet load, reliability and local capacity needs.	Jun. 2011		Completed
18. Evaluate the City's PLUG-In Program to encourage cogeneration including rules, regulations, and buy back rates and recommend modifications as needed.	Dec. 2011	This item is on hold pending further analysis of adopting a carbon reduction goal for the City's electric portfolio (see item #26).	On hold.

LEAP Implementation Plan Item	Estimated Completion in LEAP	September 2012 Update	Status
19. Following receiving Council direction from Implementation Plan Initiative #10, develop a FIT proposal including rate, rules, regulations, standard contract form and limits.	To be determined		Completed
20. Assess the economics and potential of the anaerobic digester as a local generation resource for CPAU	Sep. 2011	CPAU staff is actively involved in the Public Works Department's evaluation process.	In process
21. Assess the need for and value of energy storage to support local renewable distributed generation resources. Determine any appropriate energy storage targets to be achieved by December 31, 2016, and December 31, 2021. Report back to the Council regarding what procurement targets, if any, are deemed to be appropriate so that the Council may adopt such procurement targets, if determined to be appropriate, by October 1, 2014.	Oct. 2014	<p>In March 2012, Council modified LEAP Implementation tasks #7 and #21 in order to comply with AB 2514. As directed by Public Utilities Code Section 2836, staff will bring to UAC/Council a report with recommended energy storage targets, if any, for potential council adoption in Winter of 2013.</p> <p>Additionally, a summer intern is evaluating TES systems in Palo Alto (see task #7) in support of this task.</p>	<p>Council March 2012</p> <p>Fall'12/ Winter'13</p>
Strategy #5 – Climate Protection			
22. Promote the City's Plug-in program to encourage development of cogeneration systems.	On-going	Staff continues to provide information to interested applicants under the City's existing PLUG-In program. Also see item #18 above.	On-going
23. Analyze electric vehicle (EV) charging patterns and evaluate rates to incent nighttime EV charging.	Jun. 2011	Staff provided an EV time of use (TOU) proposal to the UAC in July 2012. Staff is updating the proposed rate to incorporate UAC input and open the TOU rate to all residential customers (except those with PV systems). Proposal planned for UAC in Sept and Council in Oct. Phase 1 of pilot planned to start in Fall 2012	Planned for Fall of 2012 to Fall of 2013
24. Meet AB32 mandated annual reporting requirements to California Air Resources Board on annual volumes of electricity purchases by resource.	Annually, next in Jun. 2012	Annual report to CARB of electricity purchase volumes by resource was submitted on time on June 1, 2012.	Completed
25. Track and report annually on 6 major greenhouse gas emissions (CO2, CH4, N2O, SF6, HFCs, PFCs) for all of the City's municipal operations and calculate electric portfolio's overall emissions coefficients (lbs of CO2, CH4, and N2O per MWh of purchases).	Annually, next in Sep. 2012	Report with emissions data for calendar year 2010 submitted to The Climate Registry in December 2011. Utilities and Public Works staff is coordinating efforts to submit calendar year 2011 report to The Climate Registry by October 2012.	On-going

LEAP Implementation Plan Item	Estimated Completion in LEAP	September 2012 Update	Status
26. Evaluate the costs, benefits and impacts of the implementation of an electric portfolio carbon neutral policy and the setting of quantitative goals (e.g. carbon intensity, total GHG emissions).	Jan. 2012	<p>In May 2012, Council unanimously supported a policy to achieve carbon neutrality for the electric supply portfolio and directed staff to develop a plan by December 2012 to get to carbon neutrality by January 2015.</p> <p>In July 2012, the UAC unanimously supported a recommended definition of carbon neutrality, however at the July 16, 2012 Council meeting, the Council directed staff to return to the Finance Committee for further consideration of the definition of carbon neutrality for the electric utility.</p> <p>Assuming Council approval of a carbon neutral definition (expected in Oct. 2012), staff plans to provide a carbon neutral plan to the UAC in November 2012.</p>	In process
27. Evaluate PaloAltoGreen program design and recommend modifications, as appropriate, including constructing PaloAltoGreen to assist in meeting Renewable Portfolio Standard goals.	Jun. 2012	Proposed modifications to PaloAltoGreen will be undertaken in coordination with the development of a Carbon Neutral Plan for the electric portfolio (see task 26).	In process
Strategy #6 – Hydro Resource Management			
28. Evaluate potential rate adjustment mechanisms that would adjust electric rates based on hydrologic year type and develop a recommendation for a rate.	Apr. 2011	Staff anticipates bringing this item for discussion to the UAC in late 2012. Implementation has been delayed due to other priorities. Such a change could be implemented in FY 2014.	On hold
29. Assess the value related to Palo Alto’s participation in the CAISO’s Metered Subsystem Agreement and the use of the Calaveras hydroelectric project for load following.	On-going	No update *	On-going
30. Identify long-term opportunities to maximize the value of the Calaveras hydroelectric project as an energy storage resource.	On-going	This assessment will be undertaken as staff’s on-going effort to maximize the value of the City’s electric resources. Additionally, staff intends to explore hydro energy storage in the context of meeting the requirements set forth in AB 2514 (see item #21).	On-going

LEAP Implementation Plan Item	Estimated Completion in LEAP	September 2012 Update	Status
31. Work with NCPA to seek opportunities to increase the efficiency of the Calaveras hydroelectric project and implement operational value maximizing strategies.	On-going	No update *	On-going
Strategy #7 – Market Price Exposure Management			
32. Evaluate a block purchase of up to 25 MW to meet base load needs for Jan-Mar and Nov-Dec for a term of up to 5 years.	Feb. 2011	In March 2011, UAC supported staff's recommendation for further consideration of a block purchase if the price of a 25 MW block for 2013 to 2017 dropped to \$40/MWh or below. At present, the price estimate for such a product is \$45/MWh. Staff has deferred the five-year block purchase pending the development of the Carbon Neutral Plan and establishment of new electric master agreements.	On hold
33. Conduct an RFP for new electric master agreement counterparties.	Dec. 2011	Staff issued an RFP in March 2012 to seek new electric counterparties under master enabling agreements. Staff is in negotiations with several potential new counterparties and anticipates seeking Council approval of a set of master agreements in Oct/Nov 2012.	In process
34. Explore opportunities with NCPA, other municipal utilities and/or third party suppliers to reduce scheduling and/or operating costs.	On-going	No update *	On-going
35. Continue to implement a 3-year laddering strategy to manage market price uncertainty.	On-going	No update *	On-going
Strategy #8 – Transmission and Reliability			
36. Investigate transmission connection voltage upgrade from 115 to 230 kV, and the potential for a transmission reliability connection to west side.	On-going	The City met in February with SLAC, Western, and Stanford University (who has also expressed an interest in participating in the project) to discuss next steps. Following this meeting the City drafted a set of guiding principles for a possible agreement with SLAC, Western and Stanford. There has been no formal reply from SLAC or the Department of Energy (DOE), but there have been meetings between these parties. City recently was made aware of a DOE on-site rep at SLAC and is attempting to engage the DOE more in the discussions. The next meeting is scheduled for September 2012.	On-going

LEAP Implementation Plan Item	Estimated Completion in LEAP	September 2012 Update	Status
37. Explore transmission opportunities and strategies to meet long-term renewable portfolio objectives beyond 2020.	On-going	No Update *	On-going
38. Evaluate joint efforts for power plant ownership opportunities or long-term agreements to meet the City's Resource Adequacy Program requirements.	On-going	No Update *	On-going

* No update – For these items, there is no update since the March 2012 semi-annual LEAP update

Key for Acronyms:

AB – Assembly Bill

AB32 – Assembly Bill for Greenhouse Gas Emissions Reduction

AB 2514 – Assembly Bill for Energy Storage

CAISO – California Independent System Operator

CARB – California Air Resources Board

CH4 – Methane

CO2 – Carbon Dioxide

CPAU – City of Palo Alto Utilities

DOE – Department of Energy

EE – Energy Efficiency

EV – Electric Vehicle

FIT – Feed-in-tariff

GHG – Greenhouse Gas Emissions

HFCs – Hydrofluorocarbons

kV – Kilo volt

kWh – Kilowatt-hour

MSSA – Metered Subsystem Agreement

MW – Mega Watt

MWh – Mega Watt hour

N2O – Nitrous Oxide

NCPA – Northern California Power Agency

PFCs – Perfluorocarbons

PLUG-In – Power from Local Ultra-clean Generation Incentive

RFP – Request for Proposal

RPS – Renewable Portfolio Standard

SB2 1X – California Senate Bill for 33% RPS

SF6 – Sulfur Hexafluoride

SLAC – SLAC National Accelerator Laboratory

TES – Thermal Energy Storage

TOU – Time-of-Use

UAC – Utilities Advisory Commission

WAPA – Western Area Power Administration

ATTACHMENT B

Long-term Electric Acquisition Plan (LEAP) Objectives, Strategies and Implementation Plan

Approved March 7, 2011 (Resolution No. 9152)
Modified by Council March 19, 2012 (Staff Report No. 2581)
Modified by Council April 16, 2012 (Staff Report No. 2710)

LEAP Objectives:

1. Meet customer electricity needs through the acquisition of least total cost energy and demand resources including an assessment of the environmental costs and benefits.
2. Manage supply portfolio cost uncertainty to meet rate and reserve objectives.
3. Enhance supply reliability to meet City and customer needs by pursuing opportunities including transmission system upgrades and local generation.

LEAP Strategies and Implementation Plan Steps:

1. **Resource Acquisition** – Pursue the least total cost resources including an assessment of environmental costs and benefits to meet the City’s needs in the long term by:
 - a. Evaluating each potential resource on an equal basis by evaluating rate impacts and establishing costs and values for location, time of day and year, carbon, value of renewable supplies and any secondary benefits attributed to the resource; and
 - b. Including all resources – conventional energy, local and remote renewable energy supplies, energy efficiency, cogeneration, and demand reduction – in the evaluation.

Implementation Plan Items for Strategy #1 – Resource Acquisition	Estimated Completion
1. Adjust planning and portfolio models to include an integrated and least cost planning perspective which evaluates demand and supply side resources in an integrated manner and includes time of delivery, locational and environmental costs and benefits.	Dec. 2010
2. Evaluate the impacts of energy efficiency, demand reductions and electric vehicle penetration in Palo Alto in the annual development of the electric load forecast.	Dec. 2010

2. **Electric Energy Efficiency and Demand Reduction** – Fund programs that maximize the deployment of cost-effective, reliable and feasible energy efficiency and demand reduction opportunities as the highest priority resources by:
 - a. Every three years, preparing a ten-year energy efficiency plan that identifies all cost-effective energy efficiency opportunities;
 - b. Using the cost of long-term renewable energy resources adjusted for time of day factors and location as the avoided cost when evaluating cost effectiveness of energy efficiency measures;
 - c. Designing and making energy efficiency programs available to all customers; and
 - d. Considering the impacts (costs, benefits and GHG emissions) of substituting electricity-using appliances for natural gas-using appliances and vice versa in the ten-year energy efficiency plan.

Implementation Plan Items for Strategy #2 – Electric Energy Efficiency and Demand Reduction	Estimated Completion
3. Provide quarterly updates on electric efficiency program achievements including tracking against 10-Year Energy Efficiency goals to the UAC and annual updates to the City Council.	quarterly
4. Develop Energy Efficiency Implementation Plan for the 2010 10-Year Electric EE Plan addressing certain items identified in the May 2010 Council Colleagues Memo and identification of resources and funding needed to achieve EE goals.	Apr. 2011
5. Evaluate fuel switching energy efficiency measures and include them, if cost-effective, in the Electric and Gas EE Implementation Plans.	Feb. 2011
6. Develop a pilot Demand Response Program for large commercial industrial customers for implementation in summer 2011.	Apr. 2011
7. Assess the feasibility and cost-effectiveness of using current and potential thermal energy storage (TES) systems to shift load from on-peak periods to off-peak periods, for use in a demand response program, or for meeting any energy storage needs. Coordinate with task 21 to develop targets, if appropriate.	Sep. 2011

3. **Renewable Portfolio Standard (RPS)** – Reduce the carbon intensity of the electric portfolio by acquiring renewable energy supplies by:
- a. Pursuing a minimum level of renewable purchases of at least 33% of retail sales by 2015 with the following attributes:
 - i. The contracts for investment in renewable resources shall not exceed 30 years in term.
 - ii. Pursue only renewable resources deemed to be eligible by the California Energy Commission (CEC).
 - iii. Evaluate use of Renewable Energy Certificates (RECs) to meet RPS.
 - b. Ensuring that the retail rate impact for renewable purchases does not exceed 0.5 ¢/kWh on average; and
 - c. Performing an ongoing evaluation of the Palo Alto Clean Local Energy Accessible Now (CLEAN) program.

Proposed Implementation Plan Items for Strategy #3 – Renewable Portfolio Standard (RPS)	Estimated Completion
8. Fully integrate the effects on energy efficiency in the long-term electric load forecast.	Nov. 2010
9. Evaluate the merits of implementing a feed-in-tariff (FIT) and the potential to meet RPS goals through local renewable resources.	Jan. 2011
10. Seek UAC recommendation and Council approval of the policy elements of a FIT to encourage local renewable resource projects.	May 2011
11. Continue working with NCPA to identify opportunities, including joint-ownership, for developing qualifying renewable resources.	On-going

Proposed Implementation Plan Items for Strategy #3 – Renewable Portfolio Standard (RPS)	Estimated Completion
12. Evaluate the use of renewable energy credits (REC) to meet a portion of the City’s RPS goal and/or greenhouse gas emission reduction goals and monitor the regulations and requirements regarding the use of RECs to meet RPS goals.	On-going
13. Evaluate a proposed geothermal project being considered by NCPA, including a pre-pay option and the benefit, costs, and risks of a pre-pay structure.	June 2011
14. Conduct a Request for Proposal for eligible renewable resources including RECs and evaluate alternative renewable resource technologies and contracting mechanisms.	RFP in June 2011

4. **Local Generation** – Promote and facilitate the deployment of cost-effective local resources by:
- a. Using the renewable market price referent (MPR) adjusted for time of day factors and location as the avoided cost when evaluating cost effectiveness of local resources;
 - b. Considering energy delivery cost uncertainty and strategic value options when evaluating opportunities;
 - c. Evaluating a Feed-in-Tariff to promote locally sited renewable resources;
 - d. Evaluating cost-effective energy storage resources; and
 - e. Evaluating the feasibility of developing a 25 to 50 MW generating facility connect to the City’s distribution system.

Proposed Implementation Plan Items for Strategy #4 – Local Generation	Estimated Completion
15. Provide an update of past local generation feasibility studies and actions to UAC and Council	Dec. 2010
16. Assess the potential for and feasibility of small local distributed and non-distributed, renewable and cogeneration projects, including using a FIT to encourage these projects.	Jan. 2011
17. Assess the potential, benefits and costs of developing and/or joint ownership of a 25 to 50 MW gas-fired power plant located in or near Palo Alto to meet load, reliability and local capacity needs.	Jun. 2011
18. Evaluate the City’s PLUG-In Program to encourage cogeneration including rules, regulations, and buy back rates and recommend modifications as needed.	Dec. 2011
19. Following receiving Council direction from Implementation Plan Initiative #10, develop a FIT proposal including rate, rules, regulations, standard contract form and limits.	To be determined
20. Assess the economics and potential of the anaerobic digester as a local generation resource for CPAU	Sep. 2011
21. Assess the need for and value of energy storage to support local renewable distributed generation resources. Determine any appropriate energy storage targets to be achieved by December 31, 2016, and December 31, 2021. Report back to the Council regarding what procurement targets, if any, are deemed to be appropriate so that the Council may adopt such procurement targets, if determined to be appropriate, by October 1, 2014.	Jun. 2012

5. **Climate Protection** – Reduce the electric portfolio’s carbon intensity by:
 - a. Supporting the City municipal government’s climate protection goals;
 - b. Promoting the use of technologies (e.g. incentives for cogeneration systems, promotion of EVs, in-home energy displays) and programs that will reduce the community’s carbon footprint at a cost of up to the City’s value of carbon;
 - c. Continuing to offer a renewable resource-based retail rate for all customers who want to voluntarily select an increased content of non-hydro renewable energy; and.
 - d. Evaluating quantitative goals for possible future implementation.

Proposed Implementation Plan Items for Strategy #5 – Climate Protection	Estimated Completion
22. Promote the City’s Plug-in program to encourage development of cogeneration systems.	On-going
23. Analyze electric vehicle (EV) charging patterns and evaluate rates to incent nighttime EV charging.	Jun. 2011
24. Meet AB32 mandated annual reporting requirements to California Air Resources Board on annual volumes of electricity purchases by resource.	Annually, next in Jun. 2011
25. Track and report annually on 6 major greenhouse gas emissions (CO ₂ , CH ₄ , N ₂ O, SF ₆ , HFCs, PFCs) for all of the City’s municipal operations and calculate electric portfolio’s overall emissions coefficients (lbs of CO ₂ , CH ₄ , and N ₂ O per MWh of purchases).	Annually, next in Sep. 2011
26. Evaluate the costs, benefits and impacts of the implementation of an electric portfolio carbon neutral policy and the setting of quantitative goals (e.g. carbon intensity, total GHG emissions).	Jan. 2012
27. Evaluate PaloAltoGreen program design and recommend modifications, as appropriate, including constructing PaloAltoGreen to assist in meeting Renewable Portfolio Standard goals.	Jun. 2012

6. **Hydro Resource Management** – Actively monitor and manage cost uncertainty related to variations in hydroelectric supply and maximize value of hydro resources by:
 - a. Planning for an average hydro year on a long-term basis;
 - b. Utilizing cost effective hydro resource management products; and
 - c. Implementing opportunities to maximize benefits and reduce costs of the Western Base Resource and Calaveras hydroelectric resources.

Proposed Implementation Plan Items for Strategy #6 – Hydro Resource Management	Estimated Completion
28. Evaluate potential rate adjustment mechanisms that would adjust electric rates based on hydrologic year type and develop a recommendation for a rate.	Apr. 2011
29. Assess the value related to Palo Alto’s participation in the CAISO’s Metered Subsystem Agreement and the use of the Calaveras hydroelectric project for load following.	On-going
30. Identify long-term opportunities to maximize the value of the Calaveras hydroelectric project as an energy storage resource.	On-going

Proposed Implementation Plan Items for Strategy #6 – Hydro Resource Management	Estimated Completion
31. Work with NCPA to seek opportunities to increase the efficiency of the Calaveras hydroelectric project and implement operational value maximizing strategies.	On-going

7. **Market Price Exposure Management** – Actively monitor and manage operational, counterparty and wholesale energy price risk in the short-term (up to three to five years) by:
- Maintaining an adequate pool of creditworthy suppliers; and
 - Diversifying supply purchases across commitment date, start date, duration, suppliers and pricing terms in alignment with rate stability objectives and reserve guideline.

Proposed Implementation Plan Items for Strategy #7 – Market Price Exposure Management	Estimated Completion
32. Evaluate a block purchase of up to 25 MW to meet base load needs for Jan-Mar and Nov-Dec for a term of up to 5 years.	Feb. 2011
33. Conduct an RFP for new electric master agreement counterparties.	Dec. 2011
34. Explore opportunities with NCPA, other municipal utilities and/or third party suppliers to reduce scheduling and/or operating costs.	On-going
35. Continue to implement a 3-year laddering strategy to manage market price uncertainty.	On-going

8. **Transmission and Reliability** – Pursue the reliability of supply at fair and reasonable transmission and delivery costs by:
- Actively participating through collaborative efforts with other entities, in local, regional, statewide and federal regulatory and legislative forums;
 - Participating in transmission and reliability market design forums to ensure that adopted market designs result in adequate reliability, workably competitive markets and equitable cost allocation;
 - Evaluating interconnection options to the City to increase service reliability and lower delivery costs; and
 - Exploring transmission opportunities and strategies to meet long-term renewable portfolio objectives beyond 2020.

Proposed Implementation Plan Items for Strategy #8 – Transmission and Reliability	Estimated Completion
36. Investigate transmission connection voltage upgrade from 115 to 230 kV, and the potential for a transmission reliability connection to west side.	On-going
37. Explore transmission opportunities and strategies to meet long-term renewable portfolio objectives beyond 2020.	On-going
38. Evaluate joint efforts for power plant ownership opportunities or long-term agreements to meet the City’s Resource Adequacy Program requirements.	On-going