

Adopted
12/11/12
Weaver/Friedman
All Ayes

RESOLUTION NO. 12-202

**A RESOLUTION OF THE COUNCIL OF THE CITY OF GLENDALE,
CALIFORNIA ADOPTING THE 2012 GLENDALE WATER & POWER
RENEWABLES PORTFOLIO STANDARD PROCUREMENT PLAN**

WHEREAS, the California Renewable Energy Resources Act, Senate Bill 2 (1st Extraordinary Session) ("SBX 1 2"), effective December 10, 2011, requires Publicly Owned Utilities, including the City of Glendale, to adopt, no later than December 31, 2012, a Renewable Portfolio Procurement Plan ("Procurement Plan") for compliance with Renewable Portfolio Standard requirements mandated by SBX 1 2; and

WHEREAS, Glendale Water & Power's 2012 Procurement Plan (attached hereto as Exhibit A) focuses on compliance with Compliance Period 1 under SBX 1 2, which requires that 20% of Glendale Water & Power's retail load is supplied by eligible renewable energy on average during calendar years 2011-2012; and

WHEREAS, notice of the City Council's consideration of the 2012 Procurement Plan was provided in accordance with the requirements of California Government Code section 54950 *et seq.*; and

WHEREAS, on December 11, 2012, the City Council held a public meeting wherein it considered the proposed 2012 Procurement Plan and the comments of any interested parties.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF GLENDALE:

That, in accordance with the requirements of SBX1 2, the City Council hereby adopts the 2012 Procurement Plan, which is attached hereto as Exhibit A and incorporated herein.

Adopted this 11th day of December, 2012.


Mayor

ATTEST:


City Clerk

APPROVED AS TO FORM


Senior Assistant City Attorney

Date: December 6, 2012



CITY OF GLENDALE CALIFORNIA
REPORT TO CITY COUNCIL

December 11, 2012

AGENDA ITEM

Status of GWP's Activities to Comply with State Environmental Mandates

1. Resolution approving the 2012 GWP Renewable Portfolio Standard (RPS) Procurement Plan for Compliance Period 1
2. Resolution authorizing the City Manager to execute a Phase II Renewable Project Agreement with the Southern California Public Power Authority (SCPPA) for a total amount not to exceed \$750,000;
3. Motion authorizing City Manager to execute an agreement with Financial Engineering Associates, Inc. (FEA) for the lease and maintenance of software for Glendale Water and Power for the purpose of evaluating the financial impacts of alternative renewable portfolios, for a term of three years and an amount not to exceed \$300,000; and
4. Resolution authorizing the City Manager to issue a Request for Proposals (RFP) for consulting services associated with acquiring a new Energy Trading and Risk Management (ETRM) system in an amount not to exceed \$250,000
5. Motion to Note and File and direct staff to delay the Report to Council on AB 2514 energy storage analysis until October 1, 2014

COUNCIL ACTION

Public Hearing []	Ordinance []	Consent Calendar []	Action Item <input checked="" type="checkbox"/>	Report Only []
Approved for <u>Dec. 11, 2012</u> calendar				

ADMINISTRATIVE ACTION

	Signature
Submitted Stephen M. Zurn, General Manager – GWP Department.....	
Prepared Steven G. Lins, Chief Assistant General Manager	
Lon L. Peters, Power Planning Manager	
Approved Scott Ochoa, City Manager.....	
Reviewed Michael J. Garcia, City Attorney.....	
Edward Fraga, Director of Information Services	
Bob Elliot, Director of Finance and Administrative Services	

RECOMMENDATION

GWP recommends that the City Council take a number of actions in order to assist the City in complying with California environmental mandates:

- (1) To comply with California's state Renewable Portfolio Standard (RPS) mandates, GWP recommends the adoption of the attached 2012 GWP RPS Procurement Plan, which is designed to ensure compliance with RPS mandates during Compliance Period 1 (2011-13).
- (2) In support of both compliance with California's state RPS mandates and implementation of California's cap-and-trade system for greenhouse gas (GHG) emissions, GWP recommends that the City Council authorize the City Manager to execute two agreements:
 - a. the Phase II Renewable Energy Project Agreement with the Southern California Public Power Authority (SCPPA) for a not-to-exceed amount of \$750,000 over approximately five years, and
 - b. an agreement with Financial Engineering Associates, Inc. (FEA) for the acquisition and maintenance of software for Glendale Water and Power for the purpose of evaluating alternative generation portfolios, for a term of three years, and an amount not to exceed \$300,000 over the three-year term.
- (3) GWP recommends that the City Council authorize the City Manager to issue an RFP for consulting services associated with the acquisition of a new Energy Trading and Risk Management system, for an amount not to exceed \$250,000, for the purposes of accurately tracking compliance with RPS mandates and cost-effectively managing GWP's carbon exposure.
- (4) Since the Phase II Renewable Energy Project Agreement incorporates energy storage, it is requested that Council delay the energy storage staff report pertaining to AB 2514 until October 1, 2014.

SUMMARY

This report provides an overview of GWP's activities to comply with recent State environmental mandates and recommends that the City Council adopt the Resolutions and Motions described herein in order to assist the City in meeting its compliance obligations.

Renewable Portfolio Standard (RPS) Requirements

GWP is required by state law to comply with recently enacted RPS mandates. California law requires the City of Glendale to adopt, no later than December 31, 2012, an RPS Procurement Plan ("Procurement Plan"). The major components of the Procurement Plan are also set forth in statute (SBx1-2). This state-mandated Procurement Plan can be revised over time as necessary to ensure compliance with state law under changing market conditions. Although GWP has had an RPS program since 2003, the new state mandates require acceleration in the shift toward renewable energy supplies.

Greenhouse Gas Emissions

GWP is also required to manage its GHG emissions as set forth in AB32 and related enabling legislation and regulations. Starting in January 2013, GWP must actively manage its GHG emissions within the confines of the state cap-and-trade program. In order to meet these new mandates, new contracts and software are required.

Resolution Adopting 2012 RPS Procurement Plan

No later than December 31, 2012, GWP must have in place a Procurement Plan for compliance with California Renewable Portfolio Standards. Certain elements of the Procurement Plan are set forth in statute. In addition, GWP must consider market conditions, options for procurement in order to meet the RPS obligations, and both near-term and long-term impacts on retail rates. In this Procurement Plan (see Exhibit A), GWP proposes focusing mainly on the obligation in Compliance Period 1, which is that 20 percent of GWP's retail load is supplied by eligible renewable energy on average during the calendar years 2011-13. It is recommended that the City Council adopt the 2012 RPS Procurement Plan set forth in Exhibit A to this report.

Motion Authorization Execution of SCPPA Renewable Development Agreement Phase II

In 2003, the City Council approved GWP's original RPS. On December 6, 2011, the City Council approved amendments to GWP's 2003 RPS to increase the renewable portfolio to 33% by December 31, 2020 (Exhibit B) in compliance with SBx1-2. The amendments also included procuring eligible renewable resources to meet the following interim goals:

Compliance Period One:	Average of 20% during calendar years 2011 through 2013
Compliance Period Two:	25% by December 31, 2016
Compliance Period Three:	33% by December 31, 2020
Beyond 2020:	33% Annual Target

To meet goals set forth in previous RPS programs, SCPPA and its member agencies, including Glendale, entered into an agreement in 2006 for the joint development, investigation, and procurement of renewable energy resources (Phase I SCPPA Agreement). The Phase I SCPPA Agreement is reaching its maximum funding authorization and will expire in September 2012. SCPPA and the member agencies have negotiated a Phase II renewable energy project agreement (Phase II Renewable Development Agreement) to continue the efforts to undertake due diligence for potential renewable energy resources from the present through at least 2020.

GWP staff is requesting the City Council's approval to execute the Phase II Renewable Development Agreement with SCPPA for a not-to-exceed contract amount of \$750,000. The Agreement will enable the City of Glendale to continue to participate with SCPPA and its member agencies in the joint development, investigation and procurement of renewable energy generation, purchase, transmission, and energy storage projects. The Phase II Renewable Development Agreement will assist GWP in meeting state mandated environmental requirements, while sharing the costs and risks associated with these developments among other SCPPA members.

The requested contract amount for Phase II is based on (a) GWP's experience with the Phase I Agreement; (b) competition among renewable project developers, which leads to greater standardization of contract terms; (c) the experience of SCPPA members with the development of several projects; (d) the expectation that we will have a lower "failure rate" (expressed in dollars) because projects can be chosen with greater precision than during Phase I; and (e) the expectation of entering into a specific renewable development project that would make more efficient use of the City's existing supplies of land-fill gas.

Motion Authorizing Execution of an Agreement with FEA, Inc.

Compliance with new RPS mandates and management of GWP's GHG emissions in the most cost-effective manner requires a new analytical tool to inform future decisions. This tool will help identify least-cost approaches to meeting RPS and GHG mandates, and quantify the risks of various generation portfolios. To fully analyze the rate impacts and risks of new projects to meet various mandates, including carbon reduction, a comprehensive software tool is required. Financial Engineering Associates, Inc. (FEA) has an application that can adequately model our power system taking into consideration carbon attributes, generation costs and output profiles, transmission and a multitude of scenarios at a considerable lower cost than what we have been using, while simultaneously developing in-house expertise.

Resolution Authorization a Request for Proposals for Consulting Services to Assist the City with the Procurement of a Replacement Energy Trading and Risk Management System

Compliance with new RPS mandates and management of GWP's GHG emissions in the most cost-effective manner requires additional tools to track actual and forecasted positions. Such positions include both the energy produced by renewable resources, for RPS compliance, and the GHG emissions associated with thermal resources, for carbon compliance. The existing energy trading software was not designed for current market conditions, RPS compliance or GHG compliance. In addition, the existing software is unable to handle current market conditions and requires manual workarounds that create the risk of errors. New software is required to help ensure compliance with state environmental mandates.

Motion Regarding Energy Storage Analysis

Pursuant to AB 2514, in February 2012 Council directed staff to analyze energy storage options and to return to Council with an update regarding energy storage procurement by October 1, 2013 (Exhibit D). In order to fully analyze the options in this growing industry under the Phase II Agreement, staff requests that the Council update be delayed until no later than October 1, 2014, which is allowed under the legislation for POUs.

FISCAL IMPACT

Given actions taken to date and costs incurred, the expected incremental cost of meeting the 20% RPS mandate in Compliance Period 1 is approximately \$450,000. This incremental cost consists of (a) renewable energy purchased for consumption in Glendale and (b) Tradable Renewable Energy Credits (T-RECs) that are not associated with any energy delivery. The incremental costs of renewable energy purchases will be recovered through Fund No. 552 and Organization No. 921 (Miscellaneous Outside Resources (Spot Purchases)) and passed through the Fuel Adjustment Charge. The incremental costs of RECs will be recovered through Fund No. 552 and Organization No. 921 (Miscellaneous Outside Resources (Spot Purchases)) and passed through the Fuel Adjustment Charge.

The proposed not-to-exceed amount of the Phase II Renewable Development Agreement is \$750,000. These funds would be used for project development expenditures, such as professional and technical services, including outside counsel through SCPPA, to conduct due diligence regarding potential renewable energy and energy storage projects. If GWP proposes to execute agreements for participation in a given SCPPA project, such project and the expected total costs thereof would be separately presented to City Council. Expenditures under the Phase II Renewable Energy Project Agreement are anticipated to continue for several years until GWP reaches its 2020 renewable energy requirements. However, additional development costs may be necessary after 2020 as well, if projects fail, suffer unexpected degradation of output, or reach the end of contract terms, or if load growth accelerates in the City of Glendale. If approved, funding for the Phase II Renewable Development Agreement will be included under Fund No. 552, Organization No. 921 (Power Management Resource Planning).

The proposed three-year lease of PowerWorks, which includes set-up and support by FEA, would cost \$100,000 per year, with an expected impact in FY2012-13 of \$50,000. The total fiscal impact over three years is \$300,000 (FY2012-13 through FY2014-15). If approved, funding for the FEA Lease for Fiscal Years 2012-13 through 2014-2015 will be included under Fund No. 552 and Organization No. 921 (Power Management Resource Planning).

The proposed new ETRM project includes \$250,000 for funding a consultant that would help determine which ETRM option will (a) help achieve compliance with RPS and make best use of carbon allowances, and (b) integrate seamlessly with other data management systems within the City.

It is expected that a new ETRM will carry a license fee of \$300,000 per year; in FY 2013, one-quarter of an annual license is expected to be required. If approved, funding for the ETRM for FY2013 and forward will be included Fund No. 552 and Organization No. 921 (Power Management Marketing and Scheduling). After the RFP is completed, a proposed consulting contract for the ETRM project will be presented to City Council for its approval.

Funding for the Renewable Energy Development Agreement Phase II, the lease of PowerWorks, and the acquisition of a new ETRM in FY 2013 will come from cost reductions expected in three areas: (a) reductions in drilling activities at the City's Pinedale gas reserves in Wyoming, (b) deferred capital upgrades on the Pacific DC Intertie, and (c) lower transmission costs because of the recent cancellation of a GWP transmission contract by LADWP.

CAMPAIGN FINANCE DISCLOSURE

In accordance with the City Campaign Finance Ordinance, the following are the names and business addresses of the members of the board of directors, the chairperson, CEO, COO, CFO, Subcontractors and any person or entity with ten percent interest or more in the company proposed for contract in this report:

Officers of Financial Engineering Associates, Inc. (FEA)

Full Name	Title	Business Address	City	State	Zip
Henry A. Fernandez	Executive Officer	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
David C. Brierwood	Executive Officer	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
David M. Obstler	Executive Officer	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
C.D. Baer Pettit	Executive Officer	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
Gary Retelny	Executive Officer	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
Benjamin F. DuPont	Director	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
Alice W. Handy	Director	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
Catherine R. Kinney	Director	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
Linda H. Riefler	Director	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
George W. Siguler	Director	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
Scott M. Sipprelle	Director	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
Patrick J. Tierney	Director	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005
Rodolphe M. Vallee	Director	One Chase Manhattan Plaza, 44 th Floor	New York	NY	10005

Subcontractors of **Financial Engineering Associates, Inc. (FEA)** are not used in the development of PowerWorks.

Investor Companies (holding ten percent or more): **Financial Engineering Associates, Inc. (FEA)**

Full Name	Title	Business Address	City	State	Zip
Morgan Stanley	Morgan Stanley Investment Management, Inc.	1585 Broadway	New York	NY	10036
T. Rowe Price Associates, Inc.	T. Rowe Price Associates, Inc.	100 E. Pratt Street	Baltimore	MD	21202

BACKGROUND

Renewable Energy Portfolio Requirements

The California Legislature and the California Energy Commission (CEC) have recently enacted new environmental laws and regulations, which have increasingly required GWP and other public and private utilities to transition from conventional generation assets to renewable forms of energy generation. One of the most significant recent legislative enactments was the passage in 2011 of California SBx1-2. SBx1-2 requires that GWP obtain 33% of all resources necessary to serve its load from renewable sources by 2020. SBx1-2 also mandates that GWP meet a number of intermediate renewable energy milestones prior to 2020. The 2012 RPS Procurement Plan is designed to help meet the first such milestone.

On December 16, 2003, the City of Glendale established a renewable portfolio standard (RPS) target of 20% renewable resources by year 2017, and up to 23% if economically feasible. On December 6, 2011, the City of Glendale revised its RPS target to meet SBx1-2 requirements, by adoption of the City's RPS enforcement plan. The City of Glendale's current RPS targets are as follows:

Compliance Period One:	Beginning with the later of January 1, 2011 and ending December 31, 2013.	An average of 20% RPS-eligible resource procurement for the compliance period.
Compliance Period Two:	By December 31, 2016	25% RPS-eligible resource procurement.
Compliance Period Three:	By December 31, 2020	33% RPS-eligible resource procurement.

Glendale is well on its way to meeting its renewable energy procurement requirements. GWP currently holds call options on fractions of three commercially operating wind projects, two in Washington State and one in Utah. If cost-effective, these call options can be exercised unilaterally by GWP during 2013 and 2014. In addition, GWP is working with other SCPA members on the development of contracts for the purchase of the output of solar and geothermal generation, and has short-term market options as well.

Exhibit A outlines GWP's proposed RPS Procurement Plan for 2012. The proposed Procurement Plan focuses on compliance with Compliance Period 1 (which requires that 20% of GWP's retail load is supplied by eligible renewable energy on average during calendar years 2011-2012). Based on contracts in place, GWP will need to acquire a combination of additional renewable megawatt-hours and transferable Renewable Energy Credits (RECs or T-RECs) during 2013 to meet the 20% requirement.

The Procurement Plan sets out the parameters for such acquisitions, which will be made by GWP's Energy Trading group, based on market conditions, GWP's retail loads, and the performance of renewable energy resources already under long-term contract. T-RECs have vintages: each megawatt-hour of renewable energy in a given year creates a REC (or, if separated from the energy, a T-REC) with the vintage of that year. Because T-RECs of multiple vintages trade at any given point in time, it may be cost-effective for the GWP Trading Group to make purchases of T-RECs during 2013 with vintages in 2014 or later, therefore the Procurement Plan permits such purchases. Finally, the Procurement Plan takes advantage of certain regulatory flexibilities permitted by SBx1-2: excess procurement, delay of timely compliance, and a reduction in the portfolio balance requirement. Excess procurement means that certain "surplus RECs" acquired in Compliance Period 1 may be "banked" for use in later Compliance Periods. Also, if conditions outside the control of GWP interfere with planned acquisitions of renewable energy in 2013, City Council may find that it is necessary to delay timely compliance with the RPS requirements, and/or to reduce the most expensive type of eligible renewable energy in GWP's portfolio.

SCPPA Renewable Development Agreement

SCPPA is a joint powers agency created in 1980 under the California Joint Exercise of Powers Act. On behalf of its member agencies, SCPPA finances the construction or acquisition of generation, transmission, natural gas reserve and renewable energy projects, issues tax exempt and taxable revenue bonds and generally coordinates, facilitates, and implements projects of mutual interest to its members.

The members of SCPPA are the Cities of Anaheim, Azusa, Banning, Burbank, Cerritos, Colton, Glendale, Los Angeles, Pasadena, Riverside and Vernon and the Imperial Irrigation District.

In 2006, the Southern California Public Power Authority (SCPPA) and its members, including the City of Glendale, entered into an agreement (the "SCPPA Phase I Agreement") to jointly undertake the investigation, planning and development of certain renewable electric energy projects. These efforts culminated in the creation of several joint action agency renewable energy projects. Glendale is a participant in several such SCPPA projects, including:

- Pebble Springs Wind Project
- Ormat Geothermal Project
- Linden Wind Energy Project
- Milford Wind Corridor Project (Phase II)
- Tieton Hydropower Project
- Windy Point/Windy Flats Project

Participation in the Linden, Milford and Windy Point/Flats Projects currently takes the form of call options that must either be exercised in 2013 and 2014 or allowed to lapse. These SCPPA projects have greatly assisted Glendale in satisfying its renewable portfolio standard requirements in a cost-effective manner. For example, on behalf of its members, SCPPA sometimes purchases renewable energy through prepayments for energy financed by tax-exempt debt, and through the total acquisition of renewable electric generating facilities including their associated lines, substations, interconnections, leases, licenses, contract rights, permits and other assets and infrastructure. Contracts to purchase the output of renewable contracts include options for purchase of the asset wherever feasible and economic.

In 2006, Council authorized the expenditure of \$300,000 for the development of renewable resources under what is now known as the Phase I Agreement. At that time, there was little experience in negotiating these agreements and conducting due diligence on proposed renewable projects. As a consequence, GWP, along with other SCPPA members, pursued the development of several projects, some but not all of which reached commercial operation.

Three projects achieved commercial operation, supported by SCPPA's sale of bonds. GWP's development costs were reimbursed from bond proceeds for these three projects. The other projects did not reach commercial operation and have been, or may be, abandoned. According to SCPPA's accounting, GWP's total expenses associated with both operating and non-operating projects under the Phase I Agreement was \$992,626.15, of which over half (\$563,318.32) was reimbursed from bond proceeds. GWP's net development expenditures under the Phase I Agreement were thus about \$430,000 over six years; several of the projects that were pursued during the Phase I Agreement failed to reach commercial operation for a variety of reasons.

The SCPPA Phase I Agreement has reached its total funding limit and will automatically expire. The Phase II Renewable Development Agreement allows for SCPPA, GWP and other SCPPA member agencies to jointly undertake due diligence with respect to potential renewable energy resources to assist GWP and other SCPPA members in complying with environmental requirements, including renewable energy portfolio standards. Acquisition of renewable energy also helps GWP manage its carbon footprint and reduce the cost of compliance with California greenhouse gas regulations.

SCPPA Renewable Energy Projects

Exhibit C sets forth a summary of the projects that GWP proposes to investigate and/or develop. The development of such proposed projects frequently involves extensive negotiations with the project developer. The necessary due diligence investigations into the technical and economic viability of a proposed project and the accompanying contract negotiations can frequently take a substantial amount of time and consume substantial resources.

Once the initial contract matters have been agreed upon, SCPPA and the participant member agency will normally enter into a power sales agreement through which SCPPA transfers to the SCPPA participants their proportionate shares of the rights, interests and obligations associated with the project, including the participants' proportionate shares of all energy output and all environmental attributes associated with the proposed renewable energy facility.

The Phase II Renewable Development Agreement

Under the Phase II Renewable Development Agreement, Glendale and SCPPA (and other SCPPA members signing a similar Phase II Renewable Development Agreement with SCPPA) will enlist those resources necessary to undertake due diligence with respect to potential joint renewable energy projects, including energy storage and transmission projects, and provide for the eventual deployment and financing of these renewable energy resources through SCPPA.

In order for Glendale to sign any contract or participate in any bond financing, the proposed contract or SCPPA bond financing must be presented separately to the City Council for its consideration.

Participation in the Phase II Renewable Development Agreement will allow Glendale to participate in SCPPA renewable procurement and project development efforts, subject to the maximum funding authority under the Phase II Renewable Development Agreement, without further City Council approval. This would allow Glendale to pay its proportionate share of professional and technical consultant services to evaluate potential renewable energy proposals as such costs are incurred. Such services may include:

- Verification of historical wind patterns, underground thermal fluid characteristics, or diurnal solar patterns and solar energy exposures in connection with decisions associated with the acquisition of potential wind, geothermal, or solar energy resources.
- Investigation and confirmation of the technical, regulatory, and legal feasibility of proposed new renewable resources and renewable generation technologies.

- Investigation of new energy storage technologies.
- Environmental review with respect to proposed renewable energy projects, including CEQA and where applicable, NEPA compliance.
- Legal assistance in handling complex transactions associated with the acquisition of renewable energy resources and/or the purchase and operation of renewable energy facilities.
- Bond counsel and expert legal advice on the use of federal tax exemptions with respect to various financing structures and financing options for the acquisition of renewable energy and/or the purchase and operation of renewable energy facilities.
- Due diligence investigations and analysis of the costs of developing, acquiring and/or operating specified renewable projects.
- Due diligence investigations and evaluations of the creditworthiness of proposed renewable energy project developers and providers.
- Interconnection and transmission feasibility investigations associated with the delivery of energy generated by proposed renewable energy projects from the point of generation to the service area of GWP.

Key Terms of the Phase II Renewable Development Agreement

- The Los Angeles Department of Water and Power (LADWP) is designated as the Project Manager responsible for coordinating renewable project meetings. SCPPA and its members will be required to indemnify and hold LADWP harmless with respect to acts, errors or omissions in the performance of its project management services.
- Glendale will participate in decisions regarding proposed projects by designating a Project Representative and Contract Administrator responsible for the administration of the Phase II Renewable Development Agreement on Glendale's behalf.
- Costs associated with review/due diligence on potential renewable projects will be allocated to participants on a pro-rata basis, based upon each participant's expressed interest in the Project. (For example, if a member expresses interest in purchasing five MW of a 100 MW potential project, that member will pay five percent of the development costs for that project.) If the member decides to end participation at any point in time, that SCPPA member will only pay for costs committed to such date.
- SCPPA will contract for technical or professional services, which will be undertaken through SCPPA, and SCPPA will bill members based upon the agreed allocations to each member participant.
- Glendale's expenditures under the Phase II Renewable Development Agreement are capped at \$750,000. It is anticipated that the actual costs could turn out to be less depending on how Glendale narrows its list of renewable options through the due diligence and review process. Further City Council approval would be required to exceed this expenditure level.

Better Comprehensive Analysis of Alternative Generation Portfolios

GWP relies on a diverse portfolio of generating resources and purchases from energy markets, including coal, nuclear, large hydro, wind, small hydro, natural gas, and landfill gas. In order to comply with California's RPS, additional renewable resources need to be added to the portfolio, which will generally displace purchases from energy markets, but could also cause the sale of some additional surplus energy into such markets, depending on the temporal shape of the output of the renewable resource. The least cost long-term portfolio of existing and new resources is not obvious. In order to develop specific recommendations for review by City Council, the following factors must be taken into account:

1. the expected cost of the renewable energy at the point of generation or at the point-of-delivery to SCPPA;
2. the expected hourly pattern of production of the renewable energy;
3. cost of transmission and ancillary services required to deliver the renewable energy to Glendale;
4. opportunity costs of using existing transmission rights, if available;
5. the incremental costs and risks of acquiring additional transmission rights, if necessary;
6. changes in the operation of pre-existing GWP generation resources as a result of the must-take nature of the renewable energy; and
7. changes in the purchase and sale of energy in energy markets as a result of the must-take renewable energy.

These factors should be evaluated over a period of several years, taking into account projected market prices of energy and natural gas, GWP's forecast of retail loads, and planned outages of specific generation and transmission resources, among many other considerations. Given GWP's existing portfolio of transmission assets (owned or leased), the integration of new renewable energy resources will typically require the acquisition of new transmission rights from LADWP, which can be a lengthy and costly process. GWP wishes to pinpoint requests for new transmission service, to help reduce the cost of integrating new renewable resources. In addition, analysis of these factors will help identify a least-cost long-run plan for the operation, maintenance, and repowering of the Grayson Power Plant to make best use of the City's landfill gas supplies.

In the next few months, GWP faces several decision points regarding renewable resources. One Power Purchase Agreement (PPA), for example, is nearing completion with a utility-scale solar developer, negotiations on a PPA with a geothermal developer are expected to start soon, and three call options on shares of wind projects must be either exercised or allowed to lapse. The net cost to GWP ratepayers of solar, geothermal, and wind resources is a function not only of the price at the point of delivery to SCPPA, but also the costs of transmission and integration to Glendale, and the prices of short-term power purchases that would be displaced by the new renewable resource.

Two renewable resources may have similar costs of generation but very different rate impacts. Estimating and projecting the net cost of these alternatives is a complex exercise, because changes over time in the operation of GWP's entire portfolio of generation and transmission assets must be considered. Seemingly small differences in price among renewable alternatives can have a significant effect on GWP's total power supply costs over the term of a PPA.

Since 2005, GWP has relied on a computer model managed by a different vendor for long-term portfolio evaluation. GWP is proposing to shift to FEA's PowerWorks model for three main reasons: (1) once the model is set up to incorporate GWP's existing resources, a flat annual fee allows GWP staff, working with FEA, to evaluate a large number of potential portfolios in a relatively short time each year; (2) some of the work can be brought in-house, reducing reliance on outside consultants; and (3) PowerWorks is capable of explicitly incorporating transmission constraints, RPS requirements, and expected carbon costs. Without this type of analysis, GWP is unable to (a) make cost-effective recommendations regarding RPS compliance, (b) provide near-term and long-term estimates of effects on retail rates, or (c) propose realistic budgets for power supply.

Replacement of the Energy Trading and Risk Management System

In 2002, GWP acquired the Henwood energy scheduling, trading, and accounting system to handle power and gas trading, scheduling and settlements. The Henwood system was designed to meet then-current standards for these functions. In 2008, GWP executed a contract with ACES Power Marketing to manage real-time operation of GWP's generation and transmission resources which required one-time changes to the Henwood system to ensure integration of Henwood with the ACES software. In late 2011, the annual license with Ventyx was renewed for one year, and GWP also indicated that alternatives to Ventyx would be reviewed in FY 2013.

Over the years, energy markets have undergone several significant changes. The complexity and volatility of wholesale and retail trading have escalated, as well as demands from risk management, compliance and reporting requirements for various regulatory agencies. The need to handle new and complex market dynamics is already beyond the capability of the current system; a patchwork of additional software, workarounds, spreadsheets and manual processes has been created and implemented.

In the last eight years, the Henwood software has gone through a series of owners. Based upon the level of support GWP is currently receiving, upgrading the existing product to address current business requirements is not in the best interest of ratepayers. The software has entered an "end of life" phase, maintenance and support have been limited to standard procedures, and no lower level code changes or new feature requests are being accepted. Henwood itself has proposed that GWP replace the current system and migrate to Monaco, another product offered by Henwood.

The new ETRM system should have:

- **A streamlined and automated process of handling index-based pricing.** Currently, manual data entry is used. Due to the increasing volume of this type of transaction, manual data entry of prices has become an extremely tedious, time-consuming and error-prone activity. Automation is preferred.
- **The ability to effectively capture more complex deals involving multi-leg and multi-commodity transactions.** Currently, staff must manually disaggregate these deals into individual buy-sell transactions. Invoicing and settlements has become much more difficult. Again, automation is preferred.
- **The ability to provide a transparent view of the entire portfolio.** This would eliminate the potential for missed deals due to incomplete information of our position across commodities.
- **The ability to support the Renewable Portfolio Standard (RPS) program and cap-and-trade obligations, including:**
 - Tracking of the renewable energy attributes of procured renewable energy;
 - Tracking the trade of Renewal Energy Certificates (RECs) separately from electricity; and,
 - Tracking and trading of emission allowances.
- **The ability to capture details of CAISO bidding and scheduling functionality with integration between GWP's ETRM system and the following CAISO systems:**
 - SIBR - scheduling infrastructure
 - CMRI - market awards and schedule prices
 - BAPI - settlements

The current manual process creates exposure to operational risks. Day-Ahead position tracking is not available until after daily imports from ACES have been received one day after the Trade Date.

- An e-Tagging interface to capture actual flow including curtailments or adjustments especially on CAISO Import/Export schedules after the HASP market awards are published.
- Transmission planning for schedule path, and tracking and accounting for flow of physical energy to ensure GWP does not go over contractual and physical transmission limits. The current method is a manual and cumbersome process.
- An integration infrastructure to facilitate transfer of data to and from the ETRM system.
 - Load Forecasts from PRT (or other weather/load forecasting tool), and generation forecasts for ORMAT, PPM Wind, Palo Verde, Tieton returns, Pasadena MPP which are already available in electronic format. Manual entry into Henwood increases exposure to operational risks.
 - Support for interfaces like API or WebServices that enable automated and scheduled uploading and downloading of data.
- An intuitive ad-hoc querying and reporting capability to facilitate counterparty settlements and invoicing processes, comply with regulatory reporting requirements, and data analysis.
- Compatibility with Microsoft Access 2007 and a process to accommodate the latest Microsoft upgrades. Microsoft Office 2007 users must roll back to Access 2003 in order to use some key functionalities of the current software.

Compliance with new RPS and GHG mandates raises new potential costs and risks for GWP, and a new ETRM is needed to track RPS and GHG compliance through time. Violation of the RPS mandate in 2013 could lead to significant penalties from the California Air Resources Board (CARB), and inadequately tracked GHG emissions could be very expensive, given current and expected market prices in 2013 and 2014. The proposed RFP for consulting services is expected to lead to a recommendation of a specific vendor for a new ETRM system, which would be run in parallel with Henwood during the spring of 2013. Assuming that a vendor is selected, GWP will bring a proposed multi-year agreement for the new ETRM to Council for review in early 2013.

EXHIBIT(S)

- Exhibit A: 2012 RPS Procurement Plan
- Exhibit B: 2011 Resolution amending the 2003 GWP Renewable Portfolio Standard
- Exhibit C: Proposed SCPPA Projects and Proposed GWP Shares
- Exhibit D: 2012 Motion directing staff to analyze energy storage options

EXHIBIT A

2012 RPS Procurement Plan for GWP

- (1) GWP will procure sufficient renewable energy to meet the obligations in Public Utilities Code (PUC) §399.30(b)(1) and (c)(1): 20% of retail sales during the first Compliance Period, which is January 1, 2011 through December 31, 2013.
- (2) (a) In Compliance Period 1 (CP1), GWP will make short-term acquisitions of renewable energy in wholesale markets that meet the criteria for Portfolio Content Categories 1 and 2 (PCC1 and PCC2) as defined in statute and regulation. Such acquisitions of energy will be limited in duration to CP1, and will take into account standard commercial risks (e.g., transmission, counterparties) in an effort to meet PCC1 and PCC2 obligations during CP1. (b) During CP1, GWP will also make purchases and sales to yield the maximum allowable quantity of RECs (for PCC3) with vintages in any of the three calendar years in CP1. (c) GWP will also make purchases and sales of RECs with vintages in CP2 and/or CP3 based on the expected performance of GWP's renewable resources and market conditions, and taking into account the limits in PUC §399.16(c)(2) on PCC3 amounts in CP2 and CP3.
- (3) In determining the PCC1-2 energy and PCC3 RECs to be acquired during CP1, GWP will first count the actual output of renewable energy resources contracted for or acquired prior to June 2010 (a.k.a., "grandfathered resources") and delivered to GWP's retail load, including any firming/shaping contracts that contain true-up amounts that are settled during the first quarter of calendar 2014.
- (4) The difference between (a) 20% of GWP's retail sales and (b) the output of grandfathered resources during 2011-13, including true-ups, will determine GWP's need for additional renewable energy and RECs for compliance in CP1.
- (5) GWP's RPS need in CP1 will be met by purchases in the three Portfolio Content Categories (PCC1-3) in accordance with current statutory and regulatory requirements, taking into account the ability to use the "optional compliance measures" in PUC §399.30(d): excess procurement, delay of timely compliance, and portfolio balance requirement reduction.
- (6) Excess procurement: If the sum of (a) the production of renewable energy during CP1 from GWP's resources under contract or owned as of June 1, 2010, (b) GWP's acquisition of PCC1-2 energy during CP1, and (c) GWP's acquisition of PCC3 RECs during CP1 exceeds (d) 20% of GWP's retail sales during CP1, then such "excess procurement", minus the sum of (e) amounts procured under contracts of less than ten years in duration and (f) PCC3 RECs, will be banked for application in a future compliance period, in the same manner as PUC §399.13(a)(4)(B).
- (7) Other optional compliance measures: If circumstances beyond the control of GWP, as described in PUC §399.15(b)(5), interfere with the acquisition of renewable energy during CP1, then GWP's governing body may find reasonable cause for (a) a delay in timely compliance with RPS procurement requirements in CP1 and/or (b) a reduction in the portfolio balance requirement for PCC1 during CP1.

Adopted
12/6/11
Weaver/Najarian
All Ayes

RESOLUTION NO. 11-236

**A RESOLUTION OF THE COUNCIL OF THE CITY OF GLENDALE,
CALIFORNIA ADOPTING AND IMPLEMENTING GLENDALE'S RENEWABLES
PORTFOLIO STANDARDS ENFORCEMENT PROGRAM AND AMENDING
GLENDALE WATER & POWER'S 2003 RENEWABLES PORTFOLIO STANDARD**

WHEREAS, on December 16, 2003, the Glendale City Council adopted a Renewable Portfolios Standard for the City of Glendale, wherein the City set a target that 20% of its retail electric energy sales would include eligible renewable resources by the year 2017, and that, to the extent the City succeeded in obtaining renewable resources at reasonable cost, the City would increase its goal to 23% (the "2003 RPS Standard"); and

WHEREAS, the California Renewable Energy Resources Act, Senate Bill 2 (1st Extraordinary Session) ("SBX1 2") will become effective December 10, 2011 and will require Publicly Owned Utilities ("POUs") including the City of Glendale, to adopt and implement a renewable energy resource enforcement program and a procurement plan that requires the City to procure specified minimum quantities of eligible renewable energy resources over certain periods; and

WHEREAS, the renewable procurement requirements and milestone dates set forth in SBX 1 2 differ from the 2003 RPS Standard, and therefore require modification of the 2003 RPS Standard; and

WHEREAS, SBX1 2 requires the Glendale City Council, as the City's governing board, to adopt and implement a Renewables Portfolio Standards Enforcement Program; and

WHEREAS, SBX1 2 requires the Glendale City Council, as the City's governing board, to ensure that the amount of eligible renewable energy resources to be procured by the City for the period from January 1, 2011 to December 31, 2013 is equal to an average of 20% of retail sales; and that the City makes reasonable progress to ensure the procurement of eligible renewable energy resources achieves 25% of retail sales by December 31, 2016, and 33% of retail sales by December 31, 2020 and in all subsequent years; and

WHEREAS, SBX1 2 authorizes the City Council, as the City's governing board, to adopt cost limitations for procurement expenditures of renewable energy resources at levels that avoid disproportionate rate impacts, and further allows for the delay of timely compliance under certain circumstances, including lack of eligible renewable energy resources;

WHEREAS, on November 3, 2011, the City provided public notice of the City Council's consideration of the proposed RPS Enforcement Program and amendments to its 2003 RPS *via* the City of Glendale and Glendale Water & Power websites and by posting notice on the bulletin board outside City Hall. Notice of the meeting and links to the online notices were also provided to the CEC for publication on its website; and

WHEREAS, the December 6, 2011 the City Council held a public meeting wherein it considered the proposed RPS Enforcement Program and amendments to the 2003 RPS Program and the comments of any interested parties.

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NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF GLENDALE:

SECTION 1. The 2003 RPS Program is hereby amended to meet the requirements of SBX1 2 as set forth in Attachment A hereto, which is incorporated herein.

SECTION 2. A program for the enforcement of the applicable requirements of SBX1 2 is hereby adopted and implemented for the City of Glendale, as follows:

- (A) **Definitions.** The definitions set forth in Exhibit A hereto are incorporated herein.
- (B) **RPS Compliance Periods and Targets.** As required by sections 399.30(b) and (c)(1)-(2) of the California Public Utilities Code ("PUC"), the City Council adopts the following renewable energy resource procurement goals as a percentage of retail sales, for the compliance periods set forth below:

<u>Compliance Period One:</u>	Beginning with the later of January 1, 2011, or the effective date of PUC 399.30 and ending December 31, 2013.	An average of 20% RPS-eligible resource procurement for the compliance period.
<u>Compliance Period Two:</u>	By December 31, 2016 By January 1, 2014 through December 31, 2016	25% RPS-eligible resource procurement. Sufficient procurement to reflect reasonable progress to ensure the 25% goal is achieved.
<u>Compliance Period Three:</u>	By December 31, 2020 January 1, 2017 through December 31, 2020	33% RPS-eligible resource procurement. Sufficient procurement to reflect reasonable progress to ensure the 33% goal is achieved.

(C) Deviation from Procurement Content Category Requirements

The City Council may waive or reduce a procurement content requirement to the extent that GWP demonstrates and the City Council finds that it cannot comply with such requirement because of any of the following:

- (a) Conditions beyond the control of the City due to any one of the conditions set forth in PUC section 399.15(b)(5); or
- (b) Other conditions adopted by the City Council based on facts reasonably found by the City Council to be consistent with the intent of PUC sections 399.15(b)(5) or 399.16.

(D) Deviation from Compliance Timelines

Pursuant to PUC section 399.30(c)(2), the City Council may permit the City to delay timely compliance with procurement deadlines, where consistent with PUC section 399.15(b)(5) or other conditions or facts reasonably found by the City Council to be consistent with the intent of PUC section 399.15(b)(5).

(E) Banking Rules

The City Council may adopt measures permitting the City to accumulate excess procurement in one compliance period to be applied to any subsequent compliance period, provided that the quantity of excess procurement is determined in a manner consistent with PUC section 399.13(a)(4)(B).

(F) Cost Limitations

The City Council may establish limits on the procurement expenditures for all RPS-eligible resources used to comply with RPS procurement requirements. Any such limitations shall be based on elements consistent with PUC section 399.15(c)(1)-(3) and with policies and rules established by the City Council, including rate regulation and existing bond covenants. The cost limitation value, if adopted, shall be incorporated into Attachment A hereto as an amendment.

(G) Enforcement and Reporting RPS Performance

1. The City Council directs the City Manager and the General Manager of GWP to ensure that the City is compliant with the requirements of SBX1 2, as applicable to the City.
2. The City Council directs the City Manager or his/her duly authorized designee to inform the City Council at a public meeting in the event that the City will not meet the procurement requirements set forth above, subject to the flexible compliance mechanisms described herein or in Attachment A hereto, or as otherwise permitted by SBX1 2. As soon as reasonably practicable following his/her informing the City Council, the City Manager or his/her duly authorized designee shall develop and present a plan to bring the City into compliance.
3. The City Council directs the General Manager of GWP to annually provide data to the City Council, its customers and to the CEC regarding compliance with the RPS procurement requirements, as required by PUC section 399.30.

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SECTION 3. Except for matters specifically reserved under SBX1 2 for action by the City Council, as governing board of the City, the General Manager of GWP is authorized and directed to do and perform all acts required herein to fulfill obligations applicable to the City under SBX1 2.

Adopted this 6th day of December 2011.



Mayor

ATTEST:


City Clerk

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS
CITY OF GLENDALE)

I, Ardashes Kassakhian, City Clerk of the City of Glendale, hereby certify that the foregoing Resolution No. 11-236 was adopted by the Council of the City of Glendale, California, at a regular meeting held on the 6th day of Dec., 2011 and that the same was adopted by the following vote:

Ayes: Manoukian, Najarian, Quintero, Weaver, Friedman
Noes: None
Absent: None
Abstain: None



City Clerk

APPROVED AS TO FORM


Senior Assistant City Attorney
Date: 12-1-11

Attachment A

Glendale Water & Power Renewables Portfolio Standard

This Glendale Water & Power Renewables Portfolio Standard (RPS Program), effective December 6, 2011, amends the Glendale Water & Power Renewables Portfolio Standard adopted by the City Council on December 16, 2003 (the 2003 RPS Standard). The RPS Program shall apply to the City of Glendale, operating through its utility department, Glendale Water & Power (GWP).

Objectives

Broadly, GWP's object is to reliably meet Glendale's electric energy needs at stable and reasonable rates in an environmentally sensitive manner. This objective is effectuated through an integrated resource plan that incorporates *thermal resources, short-term purchases, and demand-side management programs* in addition to renewable resources.

Specific objectives include:

- Meet the State mandate to encourage renewable resources
- Obtain a diverse portfolio of cost-effective renewable resources
- Develop local renewable resources
- Minimize adverse impact of acquiring new renewable energy resources on customer electric rates

Definitions

All references to Public Resources Code (PRC) and Public Utilities Code (PUC) sections are to those sections as amended by the provisions of the California Renewable Energy Resources Act, Senate Bill 2 (1st Extraordinary Session) (SBX1 2).

The definitions set forth in PRC 25741 and PUC 399.12 are incorporated herein.

"CEC" refers to the State Energy Resources Conservation and Development Commission.

Qualified Renewable Resources

Qualified renewable resources shall be those that qualify as renewable resources under SBX1 2 and implementing regulations, as may be enacted and amended from time to time.

RPS Compliance Periods and Targets

As required by PUC 399.30(b) and (c)(1)-(2), the City Council adopts the following renewable energy resource procurement goals as a percentage of retail sales, for the compliance periods set forth below:

<u>Compliance Period One:</u>	Beginning with the later of January 1, 2011, or the effective date of PUC 399.30 and ending December 31, 2013.	An average of 20% RPS-eligible resource procurement for the compliance period.
<u>Compliance Period Two:</u>	By December 31, 2016 By January 1, 2014 through December 31, 2016	25% RPS-eligible resource procurement. Sufficient procurement to reflect reasonable progress to ensure the 25% goal is achieved.
<u>Compliance Period Three:</u>	By December 31, 2020 January 1, 2017 through December 31, 2020	33% RPS-eligible resource procurement. Sufficient procurement to reflect reasonable progress to ensure the 33% goal is achieved.

Procurement Content Categories

The General Manager of GWP shall assign all RPS-eligible resources procured by the City to their appropriate procurement category in accordance with the provisions of PUC section 399.30(c)(3), consistent with PUC section 399.16.

Grandfathering of Procurement Content Category Requirements

The General Manager of GWP shall count all resources meeting the requirements of PUC section 399.16(D) in full toward the procurement requirements set forth in this RPS Program, if all of the following conditions are met:

- (a) the renewable energy resource was eligible under the rules in place as of the date when the contract was executed;
- (b) any contract amendments or modifications occurring after June 1, 2010, do not increase the nameplate capacity or expected quantities of annual generation, or substitute a different renewable energy resource; provided that the duration of the contract may be extended if the original contract specified a procurement commitment of 15 years or more.

This provision permits, but does not require, resources meeting the requirements of PUC section 299.16(d) to be exempted from the procurement content requirements.

Strategies for Meeting GWP's RPS Objectives

- Procure new renewable resources through a combination of cost-effective long-term contracts, short-term purchase, and development of local solar photovoltaic generation capabilities.
- Seek resources that are cost-effective, with minimal impact on customer energy costs.
- Use of PBC funds for RPS purposes will be determined by City Council and included in the PBC budget subject to separate approval through the PBC budgeting process.
- Renewable resources will be procured to the extent they fulfill unmet needs identified in GWP's integrated resource plan and supplemental short-term resource needs.
- GWP will not terminate, abrogate, or otherwise end any existing long-term contract to meet the renewable target portion of its energy portfolio.
- The GWP Commission and City Council shall consider rate impacts, including the cost of associated transmission to deliver the energy to GWP's service territory, when approving contracts for additional renewable resources.



CITY OF GLENDALE CALIFORNIA
REPORT TO CITY COUNCIL

December 6, 2011

AGENDA ITEM

Report: Adoption of a Renewables Portfolio Standard Enforcement Program and Amendment of Glendale Water & Power's existing Renewables Portfolio Standard to meet 33% renewable resources by December 31, 2020 and the additional requirements of Senate Bill X1 2.

1. Resolution adopting and implementing Glendale's Renewables Portfolio Standards Enforcement Program and amending Glendale Water & Power 2003 Renewables Portfolio Standard.

COUNCIL ACTION

Public Hearing <input type="checkbox"/>	Ordinance <input type="checkbox"/>	Consent Calendar <input checked="" type="checkbox"/>	Action Item <input type="checkbox"/>	Report Only <input type="checkbox"/>
Approved for _____ calendar				

ADMINISTRATIVE ACTION

Submitted
Glenn O. Steiger, General Manager – GWP..... *Glenn Steiger* ^{Signature}

Prepared
Valerie Puffer, Power Contracts Manager..... *Valerie Puffer*

Reviewed
Steven G. Lins, Chief Assistant General Manager *Steven G. Lins*

Approved
James E. Starbird, City Manager..... *James E. Starbird*

Reviewed
Michael J. Garcia, City Attorney..... *Christine Godinez*
Christine Godinez
Sr. Asst. City Attorney

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RECOMMENDATION

It is recommended that the City Council approve a Resolution to adopt and implement the Glendale Renewables Portfolio Standard Enforcement Program (RPS Enforcement Program) and amend Glendale *Water & Power's* (GWP) 2003 Renewables Portfolio Standard, increasing Glendale's renewable portfolio to 33% by December 31, 2020, in compliance with Senate Bill X1 2 (Simitian) (SBX1 2).

SUMMARY

The California Renewable Energy Resources Act, SBX1 2, for the first time, includes publicly owned utilities (POUs) like Glendale *Water & Power* in a state-wide renewable portfolio standard and imposes significant new requirements to acquire and use qualified renewable energy resources to serve their retail electric customers. The bill will become law on December 10, 2011. The goal of SBX1 2 is to meet a target of 33% renewable resources by December 31, 2020. SBX1 2 also assigns expanded responsibilities to the California Energy Commission (CEC) to provide regulatory oversight of compliance by each POU.

SBX1 2 requires the Glendale City Council, as GWP's governing board, to adopt a program for the enforcement of Section 399.30 of the Public Utilities Code as amended by SBX1 2 by January 1, 2012. The City Council, through the RPS Enforcement Program, directs GWP to procure a minimum quantity of electricity products from eligible renewable energy resources, including renewable energy credits, as a specified percentage of total kilowatt hours sold to GWP retail customers, and to adopt and implement all other measures needed to comply with SBX1 2.

Consideration of the RPS Enforcement Program is subject to the Brown Act. As required by SBX1 2, public notice of the proposed adoption of the RPS Enforcement program was posted thirty (30) days in advance of the December 6, 2011 meeting. Notice of the Proposed Adoption of an RPS Enforcement Program was posted on the City of Glendale and Glendale *Water & Power* websites on November 3, 2011. Additionally on the same day, a copy of the Notice was also posted on the bulletin board outside of City Hall. Prior to today's meeting a copy of the proposed Enforcement Program and City Council report were posted on the City of Glendale website. As required by SBX1 2, a link to the meeting notice and information was also provided to the California Energy Commission.

On December 16, 2003, the City Council adopted the Glendale *Water & Power* (GWP) Renewables Portfolio Standard (RPS) to meet a target of 20% eligible renewable resources by year 2017, and up to 23% if economically feasible. Amendments to the RPS are necessary to meet the new SBX1 2 statutory requirements.

Amendments to the RPS include procuring eligible renewable resources to meet the following goals:

Compliance Period One:	Average of 20% during calendar years 2011 through 2013
Compliance Period Two:	25% by December 31, 2016
Compliance Period Three:	33% by December 31, 2020
Beyond 2020:	33% Annual Target

Renewable contracts entered into by GWP prior to June 1, 2010 will be grandfathered to meet the RPS goals if they meet the requirements as stated in Section 399.16(d) of SBX1 2. Contracts entered after that date must meet one of three categories of renewable products – (1) in-state California product, (2) firmed and shaped product, and (3) any other product not falling under the in-state or firmed and

shaped product categories, with declining caps on product categories two and three for each compliance period.

FISCAL IMPACT

Adoption of an RPS Enforcement Program will have little or no fiscal impact to Glendale's ratepayers. GWP Power Management staff will provide annual updates to Council to provide documentation of procurement activities under the approved RPS Enforcement Program. The full fiscal impact of meeting the 33% renewable target will be analyzed by staff and brought to City Council once the guidelines are clear as to which renewable products can be used to meet the requirements.

BACKGROUND

State Senate Bill (SB 1078) effective January 1, 2003, required POU's to initiate plans to increase renewable resources in the POU's resource mix. SB1078 left the specific details for the POU governing board to decide the appropriate target for the RPS goals. On December 16, 2003 Glendale City Council established an RPS target of 20 percent renewable resources, including Hoover power (large hydropower) in the inventory, by 2017 and up to 23% if economically feasible.

Most recently State Senate Bill (SBX1 2) was signed by Governor Brown in April 2011, which becomes effective December 10, 2011. SBX1 2 establishes the California Renewable Energy Resources Act and modifies and/or adds provisions in the Public Resources Code sections 25740 through 25751 and Public Utilities Code Sections 399.11 through 399.31. SBX1 2 increases the RPS procurement to 33% by 2020, expands the requirements to include POU's and gives the Energy Commission new regulatory responsibilities with respect to POU's. SBX1 2 also makes other changes to the RPS program, including replacing the annual procurement targets with multi-year compliance periods and creating renewable energy product categories with specific procurement requirements for each compliance period for new renewable procurement.

Although certain requirements of SBX1 2 are clear, detailed guidelines and regulations are being developed by the CEC regarding procurement of the various renewable resources needed to satisfy each compliance period. These regulations and the RPS guidebook revisions are expected to be finalized in mid-2012.

SBX1 2 requires all utilities, including POU's, to meet three Compliance Period (CP) obligations for renewable resources with specific percentage targets for procurement to fulfill unmet long-term generation resource needs. GWP will determine its unmet long-term generation resource needs.

Compliance Periods:

Compliance Period One:	January 1, 2011 through December 31, 2013
Compliance Period Two:	January 1, 2014 through December 31, 2016
Compliance Period Three:	January 1, 2017 through December 31, 2020

Annually, thereafter, for each calendar year starting with 2021

Specified Renewable Procurement Targets for each Compliance Period:

Compliance Period One:	Average of 20% of retail sales during the compliance period
Compliance Period Two:	25% of retail sales by December 31, 2016
Compliance Period Three:	33% of retail sales by December 31, 2020

From 2021 the annual goal of 33% renewable resources must be maintained

SBX1 2 also creates new renewable product categories for new RPS eligible resources procured after June 1, 2010.

CATEGORY		LIMITS
Category 1	<ul style="list-style-type: none"> • Has a first point of interconnection with a California balancing authority • has a first point of interconnection with distribution facilities used to serve end users within a California balancing authority • is scheduled from an eligible renewable energy resource into a California balancing authority without substituting electricity from another source, or has an agreement to dynamically transfer electricity to a California balancing authority. 	Limited to not less than 50% for Compliance Period 1 (2011-2013), 65% for Compliance Period 2 (2014-2016), and 75% thereafter
Category 2	<ul style="list-style-type: none"> • Firmed and shaped eligible renewable energy resource scheduled into a California balancing authority. 	Limited to anything left over after meeting Category 1 and 3 limits
Category 3	<ul style="list-style-type: none"> • Eligible renewable energy resource, including unbundled renewable energy credits, and other eligible resources that do not qualify under Categories 1 and 2. 	Limited to not more than 25% for Compliance Period 1 (2011-2013), 15% for Compliance Period 2 (2014-2016), and 10% thereafter

This resolution gives the City Council authority to enforce the SBX1 2 requirements for GWP, directs GWP to modify GWP's existing RPS to expand the goals to meet the three compliance period obligations and acknowledge the new renewable procurement categories, and ensures that GWP will meet those targets.

Glendale keeps the discretion regarding the mix of renewable energy resources for the purpose of ensuring resource adequacy and reliability, and the reasonable costs incurred for eligible renewable energy resources owned by the utility. Allowable delays in meeting the targets, banking options for excess procurement in one compliance year to another and cost limitations on procurement products may be adopted by City Council as modifications to the RPS Enforcement Program in the future.

Periodically, but no less than annually, *GWP* will report back to the City Council and to the CEC with regard to *GWP*'s renewable procurement activities and progress in meeting the POU requirements of SBX1 2. Glendale will provide a 10 day public notice if making substantial changes to the RPS Enforcement Program or RPS Procurement Plan.

EXHIBIT(S)

Exhibit A – Glendale *Water & Power* Renewables Portfolio Standard 2003

**Glendale Water & Power
Renewables Portfolio Standard**

Background

State Senate Bill 1078 (SB1078) was signed into law on September 12, 2002 and became effective on January 1, 2003. The legislation modifies the California Public Utilities Code Section 387 to include a specific renewable resource requirement for investor owned utilities (IOUs) and also includes provisions that apply to publicly owned utilities such as Glendale Water & Power (GWP). Specifically, the provisions applicable to GWP read as follows:

- Each governing body of a local publicly owned electric utility, as defined in Section 9604, shall be responsible for implementing and enforcing a renewables portfolio standard that recognizes the intent of the Legislature to encourage renewable resources, while taking into consideration the effect of the standard on rates, reliability, and financial resources and the goal of environmental improvement.
- Each local publicly owned electric utility shall report, on an annual basis, to its customers, the following:
 - Expenditures of public goods funds collected pursuant to Section 385 for renewable energy resource development. Reports shall contain a description of programs, expenditures, and expected or actual results.
 - The resource mix used to serve its customers by fuel type. Reports shall contain the contribution of each type of renewable energy resource with separate categories for those fuels considered eligible renewable energy resources as defined by Section 399.12.

The City of Glendale supports a broad range of low-income, energy conservation, renewable energy, and research, development, and demonstration programs through GWP's extensive public benefit program (PBC) portfolio. Funded through a separate state-mandated charge on GWP revenues, these programs offer substantial benefits to our low-income customers, while encouraging the wise use of GWP energy resources. GWP intends to continue to provide these programs for our customers.

Objectives

Broadly, GWP's objective is to reliably meet Glendale's electric energy needs at stable and reasonable rates in an environmentally sensitive manner. This objective is effectuated through an integrated resource plan that incorporates thermal resources, short-term purchases, and demand-side management programs in addition to renewable resources.

Specific objectives include:

- Meet the State mandate to encourage renewable resources
- Obtain a diverse portfolio of cost-effective renewable resources

- Develop local renewable resources
- Minimize adverse impact of acquiring new renewable energy resources on customer electric rates

Qualified Renewable Resources

- Renewable resources are defined as non-fossil fuel electric generating resources including: biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, hydroelectric generation, digester gas, municipal solid waste, landfill gas, ocean wave, ocean thermal, tidal current, renewable components of system sales from other parties, or renewable distributed generation on the customer side of the meter.
- Renewable components of system sales obtained from other parties for resale shall qualify to the extent they can be verified.
- GWP's existing Hoover hydroelectric entitlements shall qualify.
- New hydroelectric projects must be less than 30 MW to qualify.
- Renewable resources may be located within the Western Electricity Coordinating Council region.

RPS Target

- Resources used to meet GWP's retail electric energy sales will include 20% eligible renewable resources by year 2017.
- To the extent that GWP is successful in obtaining renewable resources at reasonable cost, GWP will increase its goal to 23 percent.

Strategies for Meeting GWP's RPS Objectives

- Procure new renewable resources through a combination of cost-effective long-term contracts, short-term purchases, and development of local solar photovoltaic generation capabilities.
- Seek resources that are cost-effective, with minimal impact on customer energy costs.
- Use of PBC funds for RPS purposes will be determined by City Council and included in the PBC budget subject to separate approval through the PBC budgeting process.
- Renewable resources will be procured to the extent they fulfill unmet needs identified in GWP's integrated resource plan and supplemental short-term resource needs
- GWP will not terminate, abrogate, or otherwise end any existing long-term contract to meet the renewable target portion of its energy portfolio.
- The GWP Commission and City Council shall consider rate impacts, including the cost of associated transmission to deliver the energy to GWP's service territory, when approving contracts for additional renewable resources.

Reporting RPS Performance

Beginning with energy sold in Glendale for the period July 1, 2003 to June 30, 2004, GWP will report the following information to its customers annually:

- **GWP's resource mix used for retail electric sales, by fuel type, including each type of renewable resource used**
- **GWP's expenditure of PBC funds used for renewable energy and renewable resource development**

RENEWABLE PROJECTS UNDER CONSIDERATION

<u>Resource</u>	<u>Annual MWh</u>	<u>Share of Retail Load</u>
Wind 1	52,562	4.8%
Wind 2	14,454	1.3%
Wind 3	10,643	1.0%
Geothermal 1	15,768	1.5%
Geothermal 2	16,644	1.5%
Solar 2	32,850	3.0%

MOTION

Moved by Council Member Manoukian, seconded by Council Member Weaver, that the Council of the City of Glendale notes and files the February 28, 2012 report to the City Council regarding energy storage activities and hereby opens a proceeding, pursuant to Assembly Bill 2514 (2010), to determine appropriate targets, if any, for procuring viable and cost-effective energy storage systems. The City Council directs Glendale Water & Power to further analyze energy storage options and to return to the City Council with an update regarding energy storage procurement no later than October 1, 2013.

Vote as follows:

Ayes: Manoukian, Najarian, Weaver, Quintero

Noes: None

Absent: Friedman

Abstain: None

THE MOTION WAS ADOPTED AT THE REGULAR CITY COUNCIL MEETING OF: Tuesday,
February 28, 2012.

APPROVED AS TO FORM



DATE 3/23/12

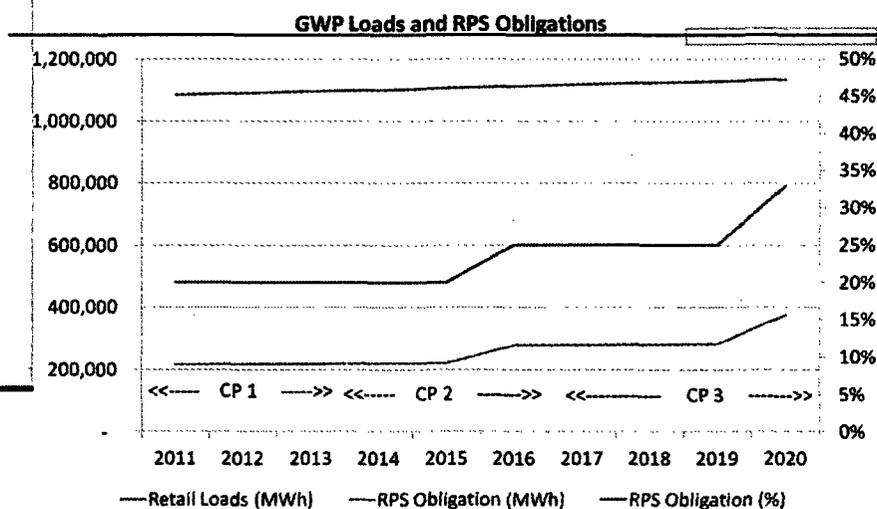
GWP Compliance with State Environmental Mandates

December 11, 2012

Overview

- Status of GWP's Renewable Compliance
- RPS Procurement Plan
- SCPPA Phase II Renewable Development Agreement
- License for PowerWorks (FEA, Inc.)
- RFP for new Energy Trading and Risk Management System (ETRM)
- Delay in storage analysis to 2014

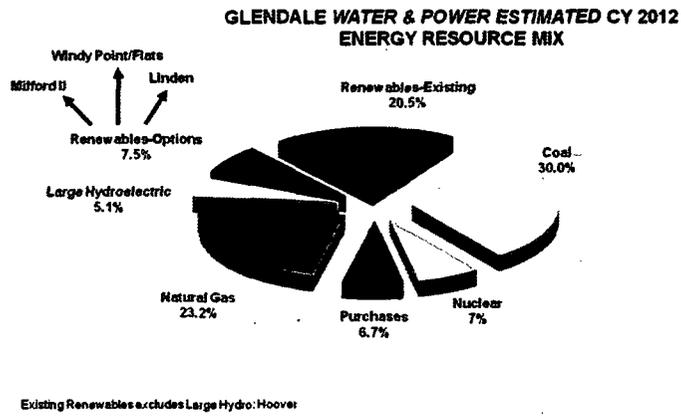
Status of Meeting RPS Obligations



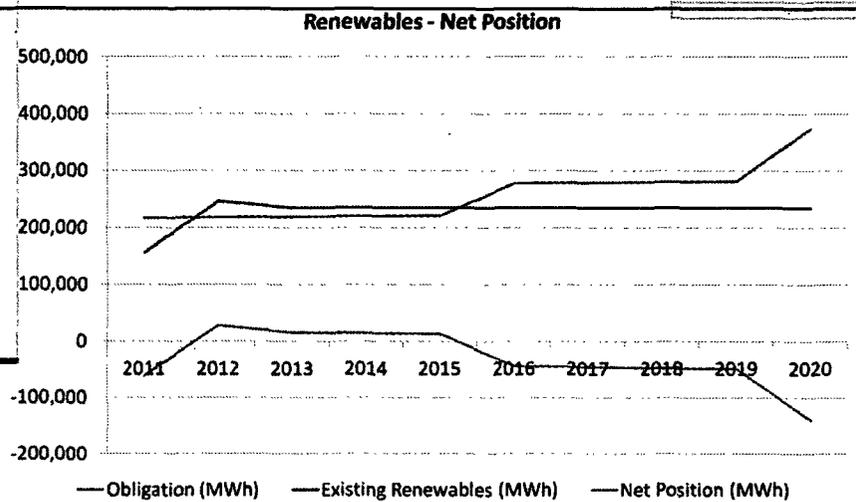
Renewable Resources in GWP's Portfolio

- Ormat Geothermal (CA)
- Highwinds (CA)
- Pebble Springs (OR)
- Pleasant Valley (WY)
- Tieton – small hydro (WA)
- Grayson LFG (CA)
- Glendale CC – small solar (CA)

GWP's Generation Portfolio



"Mind the Gap"



RPS Procurement Plan

- First Procurement Plan req'd by statute (SBx1-2)
- Must be adopted by Council by 12/31/12
- Regulations are still in draft form
- Focus on Compliance Period 1 only (2011-13)
- Proposed strategy relies on short-term purchases of energy and RECs
- Recognizes GWP's current financial condition
- May be revised during 2013 if necessary

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RPS Procurement Plan

- Most renewable supplies already under contract
- Net short position for CP1 is quite small
- Focus of procurement plan is purchases of short-term energy in Buckets 1 and 2, and T-RECs in Bucket 3
- Goal is compliance for 2011-13 (CP1)
- Circumstances beyond the control of Glendale may delay timely compliance and/or reduce obligation in Bucket 1
- Costs will flow through the FAC

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SCPPA Phase II Development Agreement

- Phase I Agreement started in 2006; has run out of money
- Future development of renewable projects depends in part on cooperative funding through SCPPA
- Phase II Agreement allows Glendale greater control over its own development expenses
- Phase II Agreement should last long enough to achieve RPS compliance through 2020

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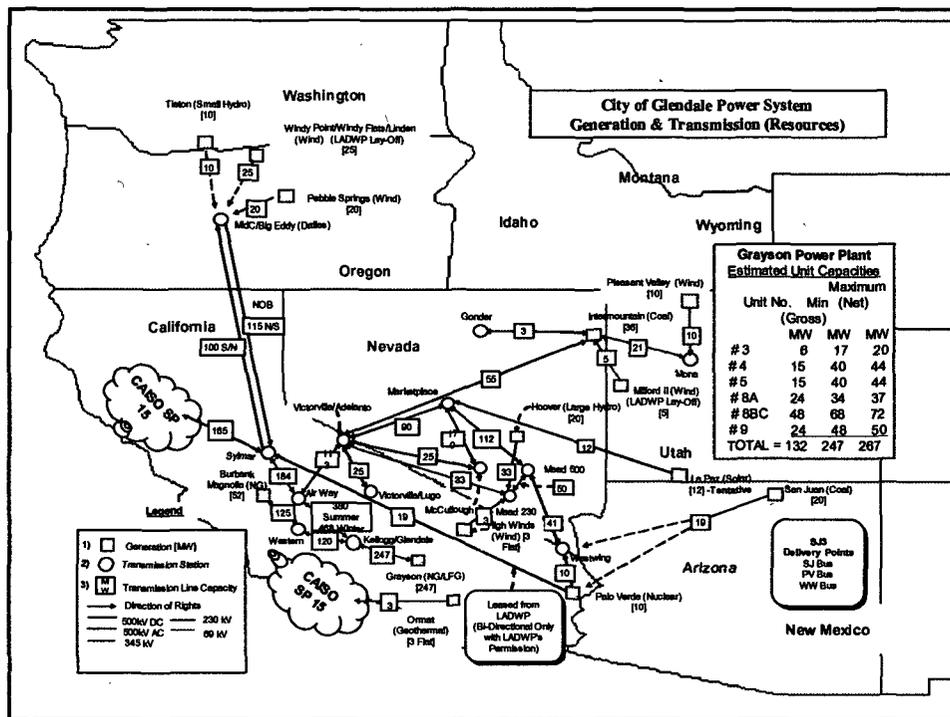
SCPPA Phase II Development Agreement: Activities

- Verification of renewable energy output projections
- Outside technical and legal assistance
- Environmental reviews
- Issue of bonds for pre-paid energy
- Due diligence efforts
- Interconnection and feasibility studies

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New Renewable Resources

- Wind options
 - Windy Point/Flats (WA)
 - Linden (WA)
 - Milford II (UT)
- Geothermal in Imperial Valley (CA)
- LFG at repowered Grayson
- Geothermal in Nevada
- Solar in California (utility scale)
- Biomass in Washington



PowerWorks

- Adding renewable generation will displace non-renewable energy purchases, mainly from spot market
- Different renewable projects have different displacement patterns
- Cost of renewable energy at the bus-bar is not a sufficient measure of cost-effectiveness
- Impact on GWP's overall generation and transmission portfolio must be estimated

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PowerWorks

- Shift from reliance on outside expertise and special hardware to a license for software that can be operated by staff on existing hardware
- Dramatic increase in ability to run scenarios
- Can be used for studies of repowering Grayson as well
- Better models GWP's assets, compared with existing software (e.g., transmission)

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Energy Trading & Risk Management (ETRM) System

- Existing trade capture software
 - past its shelf life
 - no longer supported by the vendor
 - not capable of handling complex energy transactions, RPS compliance and GHG compliance
 - not capable of timely reporting of positions to management
- More “real-time” tracking is important to control total costs of energy to ratepayers

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ETRM: Objectives

- Reduce reliance on manual data entry
- Capture complex deals automatically
- Provide view of entire portfolio of assets
- Track RPS and GHG compliance in real-time
- Better manage transmission rights
- Reduce risk of CAISO transactions
- Communicate with other GWP systems

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Requested Approvals

- Submission of 2012 RPS procurement plan to the CEC
- Execution of the SCPA Renewable Development Agreement Phase II
- Execution of license agreement for PowerWorks
- Issue of RFP for consultant to assist in selecting new ETRM
- Delay in storage analysis to 2014