

ORDINANCE NO. _____

AN ORDINANCE OF THE COUNCIL OF THE CITY OF
GLENDALE APPROVING THE POWER SALES AGREEMENT
BY THE CITY WITH THE SOUTHERN CALIFORNIA PUBLIC
POWER AUTHORITY FOR THE LA PAZ SOLAR TOWER
PROJECT

WHEREAS, pursuant to the provisions relating to the joint exercise of powers found in Chapter 5 of Division 7 of Title 1 of the Government Code of the State of California, as amended (the "Joint Powers Act"), the City of Glendale (the "City") and certain other public bodies (collectively, the "Members") have entered into a Joint Powers Agreement, as amended (the "Joint Powers Agreement"), which creates the Southern California Public Power Authority ("SCPPA"), a public entity separate and apart from the Members.

WHEREAS, pursuant to the terms of the Joint Powers Act and the Joint Powers Agreement, SCPPA has the power, for the purpose of promoting, maintaining and operating electric generation and transmission on behalf of its Members, to plan, develop, contract for, finance, acquire, design, undertake, own, construct, operate and administer projects involving systems, methodologies and programs for the acquisition, supply, procurement and delivery of secure, long-term reliable supplies of renewable electric energy and to cause such projects to be planned, developed, contracted for, financed, acquired, designed, constructed, operated, maintained, and administered and to provide by agreement for the performance and carrying out of any such activities.

WHEREAS, the City has need for a long-term source of renewable energy to satisfy City's renewable portfolio standard requirements and desires to ensure the reliable delivery of solar energy to fulfill a portion of these requirements.

WHEREAS, SCPPA and certain of its Members, to wit, currently the Cities of Anaheim, Azusa, Banning, Burbank, Glendale, Pasadena and Riverside and the Imperial Irrigation District (collectively, the "Project Participants") have investigated the feasibility of the purchase of solar electric capacity and energy and the acquisition and development of solar energy and related facilities in order to provide a long-term supply of renewable energy to meet a portion of the electrical generation needs of the Project Participants while also helping them meet policy and regulatory goals for increasing the amount of electricity obtained from renewable energy resources.

WHEREAS, SCPPA and the Project Participants have identified a solar energy facility known as the La Paz Solar Tower Project (the "Project"), that will be owned by EnviroMission (USA), Inc., a Delaware corporation ("EnviroMission") and an affiliate of EnviroMission Limited. The Project is to have a nameplate capacity of 200 MW and is to be located in western La Paz County, Arizona. The Project will include the siting, construction and installation of the solar tower facility containing, among other things, thirty-two 6.25 MW pressure-staged turbine generators. SCPPA desires to acquire a major portion of the electric capacity and energy of the Project from EnviroMission, and each Project Participant desires to obtain electric capacity and associated energy and environmental attributes of the Project from SCPPA pursuant to a La Paz

Solar Tower Project Power Sales Agreement between SCPPA and such Project Participant (the "Power Sales Agreement").

WHEREAS, SCPPA proposes to enter into a Power Purchase Agreement with EnviroMission (the "Power Purchase Agreement") to provide, among other things, for the purchase by SCPPA of approximately 103 MW of capacity and associated energy and environmental attributes from the Project. The form of the Power Purchase Agreement is attached as an Appendix to the Power Sales Agreement.

WHEREAS, the Power Purchase Agreement also provides for SCPPA and EnviroMission to enter into an Option Agreement providing SCPPA with options to purchase a percentage ownership interest in the Project equivalent to the percentage of the capacity of the Project purchased by SCPPA under the Power Purchase Agreement. Exhibits to the Option Agreement include the forms of a Participation Agreement (the "Participation Agreement") and a Project Operation and Maintenance Agreement (the "Project O&M Agreement") which are to be entered into by SCPPA with EnviroMission if SCPPA exercises its purchase option. The Participation Agreement and the Project O&M Agreement provide for the management and operation of the Project by SCPPA and EnviroMission as co-owners.

WHEREAS, in the event that it exercises its option to purchase such ownership interest in the Project, SCPPA would issue its bonds to finance the cost of acquisition of such ownership interest.

WHEREAS, the Power Sales Agreement provides for the purchase by a Project Participant from SCPPA of a designated amount of Project capacity and the associated energy and environmental attributes, whether such purchase be from the capacity and associated energy and environmental attributes of the Project purchased by SCPPA under the Power Purchase Agreement, or, if SCPPA exercises its option to purchase the ownership interest in the Project, from the capacity and associated energy and environmental attributes supplied from SCPPA's ownership interest in the Project. Under the terms of each Power Sales Agreement the designated amount of a Project Participant's Capacity Amount, Output Entitlement Share or Cost Share (as defined therein) may be increased or decreased by up to 50% but only subject to the conditions set forth in the Power Sales Agreement, including the approval by the representative of such Project Participant on the Project Coordinating Committee established pursuant to the Power Sales Agreement (the "Project Coordinating Committee") and the approval of the SCPPA Board of Directors.

WHEREAS, for its purchase of Project capacity and associated energy and environmental attributes, a Project Participant is to pay to SCPPA on a take or pay basis its share of SCPPA's costs with respect to the Project (including debt service on SCPPA bonds if SCPPA should acquire the ownership interest in the Project), all in accordance with the terms of the Power Sales Agreement.

WHEREAS, there has been submitted to this Council the form of the Power Sales Agreement by and between SCPPA and the City of Glendale for the purchase of 12 MWs of Project capacity and associated energy (subject to adjustment in accordance with the terms of the Power Sales Agreement), including as an Appendix thereto, the form of the Power Purchase

Agreement with the form of Option Agreement attached as Appendix J to the Power Purchase Agreement and the forms of the Participation Agreement and Project O&M Agreement attached as Exhibits to the Option Agreement (the "Glendale Power Sales Agreement").

WHEREAS, the Council of the City of Glendale finds and determines that it is in the best interests of the City and its residents to purchase Project capacity and the associated energy and environmental attributes from SCPPA pursuant to the Glendale Power Sales Agreement.

NOW, THEREFORE, BE IT ORDAINED by the Council of Glendale:

1. The Council hereby approves the Glendale Power Sales Agreement, including all Appendices and attachments thereto, between the City and SCPPA with respect to the La Paz Solar Tower Project, in substantially the form submitted to the Council.

2. The City Manager of Glendale or his designee is hereby authorized to execute and deliver the Glendale Power Sales Agreement, with such changes, insertions and omissions as shall be approved by the City Manager or his designee (such approval to be conclusively evidenced by such execution), and the City Clerk is hereby authorized to attest to such execution.

3. The City Manager of Glendale or his designee is further authorized to execute and deliver any and all other documents and instruments and to do and cause to be done any and all acts and things necessary or advisable for carrying out the responsibilities and transactions under the Glendale Power Sales Agreement as contemplated by this Ordinance, which shall include, without limitation, (i) authorization for the City Manager or his designee to direct the representative of the City appointed to the Project Coordinating Committee to approve adjustments of the Project capacity to be purchased by the City as provided for under the Glendale Power Sales Agreement (or to approve such adjustment himself or herself, should the City Manager be the City's appointed representative to the Project Coordinating Committee), and (ii) authorization to execute and deliver any agreements, documents and instruments necessary to carry out the City's participation and responsibilities under the Glendale Power Sales Agreement. In addition, the City Manager of Glendale or his designee is further authorized to procure, on such terms and conditions as the City Manager or his designee deems advantageous to the City, energy, capacity, transmission services and ancillary services necessary or useful for purposes of firming, shaping, regulating, transmitting and delivering to the City's electric system the Project energy purchased by the City from SCPPA.

4. Should the City Manager of Glendale be absent or otherwise not available to execute and deliver the agreements, documents or instruments or to carry out the other responsibilities provided by or authorized in this Ordinance, then his designee shall be authorized to act in his stead.

5. If any part of this Ordinance is held to be invalid for any reason, such decision shall not affect the validity of the remaining portion of this Ordinance, and this City Council hereby declares that it would have passed the remainder of this Ordinance, if such invalid portion thereof has been deleted.

6. Pursuant to Section 54241 of the Government Code of the State of California, this Ordinance is subject to the provisions for referendum applicable to the City.

7. The City Clerk shall certify to the passage and adoption of this Ordinance and cause this Ordinance to be published after adoption as required by law for ordinances of the City generally.

8. Unless a petition shall be filed requiring that this Ordinance be submitted to referendum, thirty (30) days from and after its enactment this Ordinance shall take effect and be in full force, in the manner required by law.

PASSED AND ADOPTED this ____ day of _____, 2011.

Ara Najarian,
Mayor of the City of Glendale

ATTEST:

City Clerk

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss.
CITY OF GLENDALE)


I, ARDASHES KASSAKHIAN, City Clerk of the City of Glendale, certify that Ordinance No. _____ was passed by the Council of the City of Glendale, California, at a regular meeting held on the ____ day of _____, 2011, and that same was passed by the following vote:

Ayes:

Noes:

Absent:

ARDASHES KASSAKHIAN, City Clerk

APPROVED AS TO FORM

CITY ATTORNEY
12-14-10



CITY OF GLENDALE CALIFORNIA
REPORT TO CITY COUNCIL

December 14, 2010

AGENDA ITEM

La Paz Solar Tower Project Power Sales Agreement with the Southern California Public Power Authority (SCPPA)

1. Ordinance approving the La Paz Solar Tower Project Power Sales Agreement with the Southern California Public Power Authority (SCPPA)

COUNCIL ACTION

Public Hearing [] Ordinance [X] Consent Calendar [] Action Item [] Report Only []

Approved for 12/14/10 calendar

ADMINISTRATIVE ACTION

Submitted

Glenn O. Steiger, General Manager - GWP.....

Signature

Prepared

Steven G. Lins, Assistant General Manager - Supply.....

Jack Dolan, Integrated Resources Planning Administrator.....

Approved

James E. Starbird, City Manager.....

Reviewed

Scott H. Howard, City Attorney.....

RECOMMENDATION

It is recommended that the City Council pass an Ordinance approving the La Paz Solar Tower Project Power Sales Agreement with the Southern California Public Power Authority (SCPPA), and authorize the City Manager, or his designee, to execute the said Agreement.

SUMMARY

Glendale Water & Power (Glendale) has participated with other Southern California Public Power Authority (SCPPA) members in investigating renewable energy resources. These resources include generation of energy from small-hydro, wind, solar, geothermal, biomass, and landfill gas. Glendale and other SCPPA members have determined that this proposal for the purchase of solar-powered electrical energy provides an option for a reliable and cost-effective renewable resource, as well as for resource diversification.

Through SCPPA, Glendale and other SCPPA members have negotiated a Power Purchase Agreement (La Paz PPA) with EnviroMission USA, Inc. (Seller). SCPPA participant members in the La Paz Solar Tower Project (Project) are expected to include Glendale, Burbank, Pasadena, Azusa, Anaheim, Riverside, and the Imperial Irrigation District (IID). Other non-SCPPA members are anticipated to participate in the Project for the available remaining capacity. Upon execution of the La Paz Solar Project Power Sales Agreements (PSAs) between SCPPA and all of its participant members, SCPPA will execute the La Paz PPA.

The Project, located in La Paz County, Arizona, will have a capacity of 200 MW, of which SCPPA's share will be 101 MW or 50.5% of the Project. This first-time, full-scale Project is based on a prototype 50 MW unit, which has successfully operated in Spain for over eight years. It is anticipated that the Project will be completed in June, 2014.

The PSAs set forth the SCPPA participant shares for a total of 101 MW as follows:

- Glendale – 12 MW or six percent of the Project (the entire Project of 200 MW)
- Burbank – 27 MW or 13.5 percent of the Project
- Pasadena – Ten MW or five percent of the Project
- Azusa – Two MW or one percent of the Project
- Anaheim – Ten MW or five percent of the Project
- Riverside – 25 MW or 12.5 percent of the Project
- IID – 15 MW or 7.5 percent of the Project

The La Paz PPA is structured for SCPPA to purchase solar energy from the Seller over a 30-year term. In addition, SCPPA has the option to purchase its share of the Project at Fair Market Value (FMV) prior to six months of the tenth anniversary of the Commercial Operation Date (COD) of the Project. If SCPPA acquires ownership of the Project, and after any Project bonds are paid off, SCPPA will transfer ownership of the Project to the participants in accordance with their Project participant shares. It is anticipated that SCPPA's cost for energy from the Project over a 30-year period will approximate \$1.664 billion.

Glendale will pay SCPPA on a take-or-pay basis for its share of SCPPA's costs with respect to the Project (including debt service on SCPPA bonds if SCPPA should acquire an ownership interest in the Project), all in accordance with the terms of the PSA.

Glendale's share of the Project output will be delivered to the Delivery Point (Marketplace 500 kV Substation or McCullough 500 kV Substation located in the vicinity of Boulder City, Nevada). Glendale will utilize its entitlement in the Mead - Adelanto Transmission System, as well as other contracted transmission service rights with the Los Angeles Department of Water & Power (LADWP), for ultimate delivery to Glendale's electric system.

SCPPA, or its designee, will serve as the Project Manager to administer the Project on behalf of itself and the SCPPA Project participants. SCPPA will bill Glendale for its share of the costs for this service.

FISCAL IMPACT

The solar energy associated with the Project for production up to a 63% capacity factor will cost \$95.50/MWh for the first 15 years, increasing by \$1.00/MWh each year thereafter. For any excess energy resulting from a capacity factor greater than 63%, the price for the excess energy will be reduced by 40%.

Under the assumption that the Project will continually produce at a 63% capacity factor commencing in fiscal year 2013-14, Glendale will:

- Receive an annual amount of energy of approximately 66,225 MWh.
- Pay a 30-year levelized energy price of \$99.50/MWh at the Delivery Point.

Since the Project will not be available until FY 2013-2014, annual expenses for the Agreement will be included in future budgets under Account No. 45510 (Fund No. 552, Organization No. 921), Project No. 11660, and Activity No. UP207. Glendale's average annual cost for the expected output of 66,225 MWh is estimated to be \$6.6 million per year, amounting to approximately \$198 million over 30 years. Accordingly, this purchase will reduce the annual requirement for "spot market" purchases by 66,225 MWh for the duration of the PSA.

BACKGROUND

The City Council adopted a Renewables Portfolio Standard (RPS) for Glendale on December 16, 2003. The RPS calls for the addition of cost-effective renewable resources to meet 20%, and the possibility of 23% of Glendale's retail electric energy needs by 2017. Additionally, the RPS outlined the strategies for accomplishing said goals through a combination of long-term, short-term, and local projects. The Project is estimated to contribute approximately 6% of the retail electric energy needs in meeting Glendale's RPS goals. Acquiring renewable energy associated with this Project would be an important step in meeting Glendale's RPS goals, and in reducing the production of Greenhouse Gases (GHG).

In 2007 and 2008, SCPPA received 63 proposals for renewable energy projects. Twenty-six were considered, and 14 were developed into negotiations. Glendale ranked the proposals based on factors such as costs, delivery to Glendale on available transmission interconnection points, likelihood of completion, and how well it would complement other Glendale energy sources.

As negotiations for the Project proceeded, it became apparent that the Project would provide Glendale with the opportunity for more flexibility in its overall renewable generation portfolio. Thus, Glendale will benefit by participating in the Project.

Description of the La Paz Solar Tower Project

The Project generates 100% of its electricity through low-temperature (less than 200° F.) solar thermal energy. As such, the entire output of the Project qualifies as an eligible renewable energy resource per the California Energy Commission. The Seller has formally applied for and received pre-certification through the California Renewable Portfolio Standard Program.

The solar tower technology relies on very few moving parts, and its three major components include a tower, the collector zone, and the turbines. The technology uses solar isolation and radiation to heat air beneath a large translucent collector (greenhouse) that creates a constant flow of air to drive electricity-generating turbines. The turbines are located at the base of the tower in the center of the collector, and the movement of the heated air through these turbines is caused by the updraft effect created by the tower. The Project is also capable of generating energy under cloud cover or at night, as long as there is a temperature differential between the base and top of the tower. One of the many strengths of the solar tower design is the ability to utilize low-cost heat storage to shape the power output to match demand load during the course of a day.

The solar tower system produces power using pressure-staged wind turbines. As a result, no fresh water is used for power production. Instead, the technology captures fresh water on the roof of its large greenhouse providing more than enough water for all on-site needs. Furthermore, the solar tower system incorporates a heat storage system that does not use nor does it require fossil fuel back-up. Consequently, the solar tower can be located in areas without access to water or natural gas, thus eliminating concerns about water and fuel supply.

The pertinent characteristics of the tower design are as follows:

- 200 MW capacity
- High capacity factor – at least 60%
- Zero emissions
- Zero water used for power production or cooling
- 75+ year life
- No fossil fuel required for back-up
- Integrates numerous forms of readily available and proven low temperature heat storage
- Generates reliably over an extended period of time
- Energy is competitively priced

The Project will be constructed in La Paz County, Arizona. The facility will occupy approximately 5,700 acres and will have a capacity of 200 MW. The Project is designed to use thirty-two 6.25 MW pressure-staged turbines provided by General Electric. Moreover, the Project with a 2,400 foot tower, along with a massive collector covering a four square mile area, is expected to annually off-set more than a million tons of GHG typically produced by fossil fuel generators of the same scale. The COD of the Project is expected to be June, 2014.

The La Paz Solar Tower Power Purchase Agreement

The La Paz PPA contains the following key terms:

- **Quantity:** One hundred and one (101) MW for SCPPA; including all associated capacity, energy, and environmental attribute rights. SCPPA's total Project energy output on an annual basis is expected to be 558,000 MWh at a 63% capacity factor. Glendale's share would be 12 MW, or approximately 66,225 MWh per year.
- **Renewable Energy Credits:** Glendale will receive its share of all associated renewable energy credits and other environmental attributes, including credit for reducing GHG emissions by offsetting electric generation from fossil fuels.
- **Delivery:** The Project's Delivery Point is the Marketplace 500 kV Substation or the McCullough 500 kV Substation.
- **Term:** Thirty years commencing on COD. The La Paz PPA would terminate if SCPPA purchases the Project prior to six months of the tenth anniversary of the COD.
- **Price:** As discussed in the Fiscal Impact section earlier in this report, the Project has a 30-year levelized energy price of \$99.50/MWh at the Delivery Point for the term of the PPA.
- **Guaranteed Energy:** If there is a failure to achieve at least a 48% capacity factor (related to SCPPA's share) starting in the third year of operation, SCPPA can terminate the PPA after two consecutive years of non-performance.
- **Milestone Dates & Security (Secured by Letter of Credits from Seller):** (All security amounts are to be prorated consistent with SCPPA's share of the Project.)

1. Financing	July 1, 2011	\$0.75 million
2. Permit	October 1, 2011	Increased to \$1 million
3. Interconnection	January 1, 2012	Increased to \$2 million
4. Start of Construction	July 1, 2012	Increased to \$3 million
5. COD	July 1, 2014	Increased to \$15 million
- **Option(s):** SCPPA has the option to purchase its share of the Project prior to six (6) months of the tenth anniversary of the COD of the Project. Additionally, SCPPA has an option to purchase a second facility on comparable terms with standard escalators.

Transmission Services

Additional arrangements are currently in place for Glendale to effectively use the energy generated from this Project.

- The cost of transmission from the Project to the Marketplace 500 kV Substation or McCullough 500 kV Substation is not an additional cost for Glendale, since it is included in the La Paz PPA cost structure.
- At the Delivery Point, the Project output must be integrated into the LADWP transmission system. Currently, Glendale holds sufficient long-term contracted transmission service rights with SCPPA and LADWP in order to transmit the energy for ultimate delivery into Glendale's electric system.

EXHIBIT(S)

- Exhibit A: Ordinance Approving the La Paz Solar Tower Project Power Sales Agreement with the Southern California Public Power Authority (SCPPA)

- Exhibit B: La Paz Solar Tower Project Power Sales Agreement between the Southern California Public Power Authority (SCPPA) and the City of Glendale