## The Los Angeles Department of Water and Power

## **Green Power for a Green LA Program**







## **2002 Annual Report**





### Dear Green Power for a Green LA Customer:

The Los Angeles Department of Water and Power (LADWP) wants to thank you for being our partner and supporting the Green Power for a Green LA (Green Power) program. Your continuing support of the Green Power program will assist in ensuring a cleaner, greener Los Angeles for future generations.

The enclosed program report covers the 2002 calendar year. LADWP made great strides in the Green Power program in 2002 and many of our achievements are highlighted in this most current version of our 2002 Annual Report. In this report we have also included our outline for future plans for the Green Power Program and more information about the future direction of the program will be in the 2003 report, which we anticipate releasing in the next few months.

The LADWP has demonstrated vision and responsible environmental stewardship for over 100 years. Through your participation in the Green Power program, you have demonstrated a similar commitment to bringing clean, renewable energy to the City of Los Angeles. It is very rewarding to see companies such as yours embrace these important environmental programs.

Again, we want to thank you for your continuing support of the Green Power program and for your vision and leadership.

Lillian Kawasaki Assistant General Manager Environmental Affairs and Economic Development

### Wind energy

Wind turbines (windmills) use strong, steady wind to create electricity. Wind power emits no pollution and has very little impact on the land. Wind energy can be produced where the wind blows with consistent force.



## **Small hydropower**

Hydropower facilities provide electricity by channeling water through a turbine linked to a generator. Small hydropower is considered to be less than 30 megawatts.



## **Geothermal energy**

Geothermal energy is generated by converting hot water or steam from deep beneath the Earth's surface into electricity. Geothermal plants emit very little air pollution.



## **Biomass energy**

Organic matter, called biomass, comes from landfills or wastewater treatment plants, and as it degrades creates gases that can be collected and burned in a power plant or used in a fuel cell to create electricity. Some biomass can also be directly burned in a power plant to generate electricity.



### **Solar Power**

Solar photovoltaic cells, which are made of silicon, convert the sun's energy into electricity without air pollution emissions or noise, cleanly powering homes and businesses.



## Green Power 2002 Summary

The year 2002 represented the fourth year of operation for the Green Power program. In 2002, Green Power supported the following:

- •An increase in customer participation to over 87 thousand megawatt-hours of renewable energy which is enough energy for 30,000 homes and which avoids 87 million pounds of greenhouse gas emissions if generated by conventional means.
- •Completion of one of the largest known micro-turbine generation projects. The project can generate 1.5 megawatts of green power from the landfill gas at Lopez Canyon in Los Angeles. The plant will produce more than 5,000 megawatt-hours per year based on a 60 percent capacity factor.
- •Commenced negotiations to purchase a portion of the renewable green energy from a 6 megawatt biomass plant at the Bradley landfill site in Los Angeles. The plant is scheduled to operate in the first month of 2003 and it will produce approximately 42,000 megawatt-hours based on an 80 percent capacity factor.
- •The Green Power program participated in the 2002 Run for a Green LA in October 2002. The event drew over 4,000 runners and spectators. Many of the Green Power program participants received recognition at this very popular event. The event included the unique Mountain Trail Run, a 5K, 10K and a Kiddie Run.

In addition to the achievements of the Green Power program in 2002, significant program changes were also implemented. In the past, both direct renewable energy purchases and renewable energy credits (green tickets) combined with imported energy were used to meet the Green Power program demand. As the Green Power program has grown and local renewable energy sources are identified and developed, the focus of the Green Power program will be on local generation projects instead of purchasing energy on the open market. Renewable energy credits will not be used in the future. The Green Power program is now self-sustaining as it no longer receives any funding from the Public Benefits program.

## **Looking Forward – Future Direction Outline**

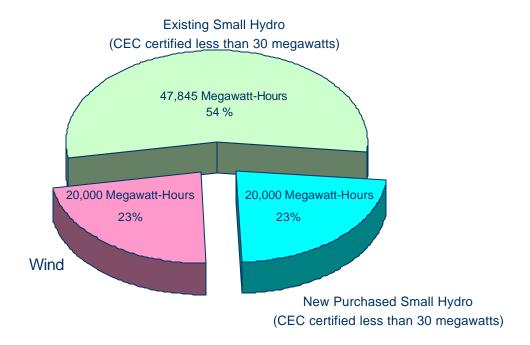
To target clean renewable energy sources as close to Los Angeles as possible, a number of potential projects have been identified, as shown in Table 1 below. Funds collected from Green Power customers may be placed in a Renewable Energy Option Adjustment account as shown in the financial disclosure statement, to support the development of these resources. In addition, Green Power customers may continue to receive an equivalent portion of their specified renewable energy allocation from LADWP's small hydroelectric generation resources. These resources are certified as renewable by the California Energy Commission. These program changes are consistent with the ordinance establishing the Green Power program and support our focus on local renewable energy generation projects. Please visit our website at www.LADWP.com for updates on these and other projects as they progress through design and construction. This Annual Report is also available on-line at www.LADWP.com.

<u>Table 1</u>
Potential Local Renewable Energy Sources

Site	Capacity (MW)	Annual Energy (MWh)	Potential Completion Year
Lopez Canyon	1.5	5,000	In-Service
(Micro Turbine)			
Lopez Canyon	6	42,000	In-Service
(Reciprocating engine)			
Solar Photovoltaic	.75	1,300	On-Going
Small Hydro Retrofit	17	50,000	On-Going
Distributed Generation	.25	1,500	2003
Wind	120	360,000	2005
Small Hydro	5	20,000	2007
Biomass	40	330,000	2008
Geothermal	30	230,000	2008
Total Potential	220.5	1.039.800	

## **Green Power for a Green LA 2002 Renewable Energy Mix**

In 2002, the Green Power program utilized a number of clean energy sources to fulfill program needs. The majority of the power originated from small hydroelectric and wind resources. All renewable energy supplied to customers under the program are California Energy Commission (CEC) certified. To acquire CEC certification, all small hydroelectric generators must be less than 30 megawatts.



These numbers are in accordance with the annual report prepared by the LADWP Financial Services Organization

## **Background**

On May 13,1999, the LADWP launched the Green Power program. Through this Green Power program, customers voluntarily pay a premium on their monthly utility bills to help promote renewable energy in Los Angeles.

LADWP's Green Power program is among the most comprehensive green power programs in the country, offering customers clean energy from renewable sources. The Green Power program gives Los Angeles residents, businesses, and governmental agencies a stake in helping to preserve and protect our environment through their purchases of green power from the LADWP. The use of green power provides electricity from sources that are clean, renewable, and environmentally friendly. Available energy-efficiency products and services provided by other LADWP programs can largely offset the slightly higher costs of choosing green power for many customers.

LADWP's Green Power program is funded through a voluntary premium, known as the Renewable Energy Adjustment Factor (REAF), that is collected from LADWP customers. All monies collected through the REAF supports the development of renewable energy or renewable energy purchases and is also used for the administration of the Green Power program. For the first three years, the Green Power program received a subsidy from the LADWP's Public Benefits program in order to help cover its startup costs. Today, the Green Power program is now completely self-sufficient and no longer receives the subsidy.

The continued success and impact of the Green Power program will benefit generations to come by reducing air pollution and global warming, while preserving the earth's limited natural resources. The program also raises awareness of the importance of protecting our environment, and attracting new industries and jobs to the Southern California region.

In accordance with its enabling ordinance, the Green Power program operates on a marginal cost basis. Thus, the Renewable Energy Adjustment Factor (REAF) is intended to collect money to offset any additional costs incurred by LADWP as a result of acquiring renewable energy resources.

Table 2 below shows the Statement of Revenues, Other Credits, and Expenses for Green Power through December 2002. The statements were prepared in accordance with the City rate ordinance with data provided by LADWP's Financial Services Organization. The amount in the Over/(Under) Recovery of Program Expenses line item represents the balance in the Renewable Energy Adjustment Account as described in the enabling rate ordinance. It is a carry forward balance required to be utilized for future Green Power program project development or renewable energy purchases.

Los Angeles Department of Water and Power Green Power for a Green LA Statement of Revenues, Other Credits, Expenses For the Calendar Year Ending December 31, 2002.

Residential consumption (MWh)	31,518
Non-residential consumption (MWh)	56,349
Residential meters	30,426
Non-residential meters	1117
Revenue and Other Credits	
Renewable energy adjustment factor revenue	\$ 2,635,360.26
Avoided cost credit	1,637,058.00
Public benefits subsidy	-
Total Credits	\$ 4,272,418.26
Expenses	
Purchased green power	\$ 1,450,000.00
Marketing	881,485.60
Administration	768,778.65
Total expenses	\$ 3,100,264.25
Program operating income	\$ 1,172,154.01
Additional charge per ordinance	73,160.31
Over/(Under) Recovery of Program Expenses	\$ 1,098,993.70

In 2002, green power energy to meet customer demand was obtained through energy purchases, and through operation of LADWP's renewable supply facilities, as certified by the California Energy Commission.