



Green-e Verification Results 1999

Electricity Service Providers offering Green-e certified products undergo an annual independent process audit to verify that they meet Green-e standards.

This annual verification is an integral part of the Green-e effort to build consumer confidence in renewable-based electricity and to spur demand for renewable power in restructured markets.

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Introduction

Electricity that is certified by the Green-e Program must meet environmental and consumer protection standards, established through the Green-e advisory process, by the non-profit Center for Resource Solutions. Electricity Service Providers (ESPs) who sell certified electricity undergo an annual independent process audit to verify that they meet Green-e standards. This document presents the results of the Green-e process audit for 1999. In addition to the audit, Green-e also performs a biannual review of ESP marketing materials to make sure that information provided in all media (e.g. websites, radio commercials, customer bill inserts) is truthful and does not overstate environmental benefits.

Information Verified by Green-e Process Audit

The Green-e process audit is different from a traditional financial audit in that the auditor only reviews those materials and processes dictated by a set of Agreed-Upon Procedures. The auditor reviews a company's contracts, invoices and metering data to verify the quantity and type of renewable power purchased and sold. More specifically, the independent auditor annually verifies that the ESP has contracts and processes that support the following Green-e requirements:

- the ESP purchased enough renewable power from eligible resources, in quantity and type, to meet customer demand for each specific Green-e electricity offering or "product;"
- any non-renewable portion of the electricity product had the same level or a lower level of emissions for SO_x, NO_x and CO₂ when compared to the fossil portion of the regional system power mix;
- the information in the Annual Power Content Label was accurately calculated and displayed (*retail* ESPs and power pools only);
- the renewable power purchased and sold by the ESP was not sold to more than one customer or subsidized through the regulated rate base of one of California's investor owned utilities;
- the ESP did not make any specific purchases of nuclear power for this product;
- the process for recording the amount of power sold to customers is accurate based on a statistical sampling of customer bills; and
- in California, the Annual Retail Supplier Report forms filed with the California Energy Commission (CEC) are accurate and supported by contracts and/or invoices for power purchased and sold (*retail* ESPs and power pools only).

Green-e Providers

In 1999, Green-e branched out from California to include Pennsylvania and New Jersey. Pennsylvania offered Green-e certified products in early 1999; and New Jersey first offered certified electricity in November 1999. This report includes New Jersey results within the Pennsylvania data. Nationwide in 1999, 4 wholesalers and 7 retailers participated in the Green-e Program, offering 18 renewable products. Eleven of the products were offered as 100% renewable, six as 50% renewable, and one as 75% renewable.

Green-e Customers

Over 128,000 California households (equivalent to approximately 350,000 people) were served Green-e certified electricity in 1999. In Pennsylvania, over 16,700 households (50,000 people) were served Green-e certified electricity in 1999¹.



**How many people were
served by Green-e
certified electricity in
1999?**



There were approximately 26,500 non-residential (industrial, small and large commercial and agricultural) California accounts served by Green-e certified power. In Pennsylvania, there were 1,233 commercial accounts. Companies such as Kinko's, the Gap, and Fetzer Vineyards are a few among the larger commercial customers to choose Green-e certified power. They are accompanied by cities like Chula Vista and Santa Monica, California and federal locations

¹ Number of people is determined by multiplying the total number of people who switched their electricity account to Green-e certified electricity by three, the average household size in both states.

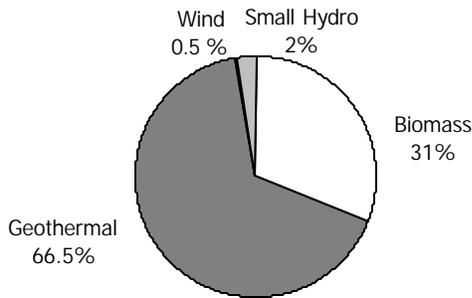
like the Environmental Protection Agency laboratory in Richmond, California. The total load served by Green-e electricity products in 1999 was approximately 1,227,000 MWh. An estimated 62% of this load was sold to residential customers and 38% to non-residential customers. Green-e *wholesale* suppliers sold over 800,000 MWh of renewable power into the competitive market during 1999. Approximately 70% of this was used to supply Green-e retailers.

A comparison of California Public Utility Commission data (DASR reports) shows that at the end of 1999², Green-e certified offerings represented 80% of the direct access residential market in the state. In other words, 80% of the people who switched ESPs switched to a Green-e certified product. In Pennsylvania, according to the Office of Consumer Advocates, the switch to Green-e certified electricity represented only 4% of all switches to an alternative supplier. This drastic difference in percentages could be due to the California Customer Credit Subaccount, which enabled ESPs to offer renewable electricity at a discounted price. Pennsylvania did not offer a similar incentive to switch to a renewable energy provider.

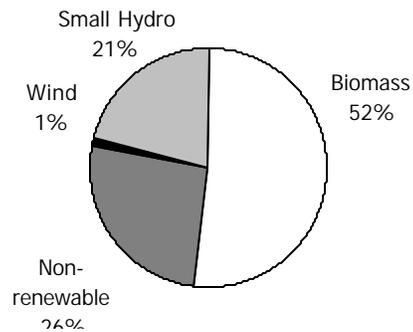
Types of Renewables

Green Power products sold in California had, on average, a greater percentage of renewable power than those sold in Pennsylvania (note: the Pennsylvania pie chart includes some non-renewables). The Customer Credit Subaccount may have influenced the high percentage of renewables in California. In addition, the renewable power products sold in California contained, on average, mostly geothermal and biomass resources while the Pennsylvania products contained mostly landfill gas and small-scale hydropower.

California Energy Resources purchased for Retail Green-e Products in 1999



Pennsylvania Energy Resources purchased for Retail Green-e Products in 1999



Environmental Benefit

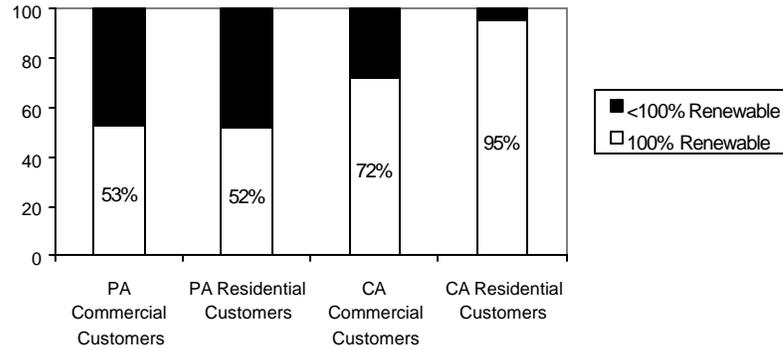
The total Green-e certified electricity in California in 1999 resulted in a pollution savings of 293 tons of sulfur dioxide (SO₂) which causes acid rain; 950 tons of nitrogen oxide (NO_x) which causes smog; and over 114,500 tons of carbon – a major contributor to global warming.

In Pennsylvania, the regular system power mix is much dirtier than in California, especially in carbon compounds and SO₂ emissions. Therefore, a much smaller amount of certified electricity used in Pennsylvania produces a much higher pollution offset than the equivalent Green-e load in California. Pennsylvania emissions offset included 950 tons of SO₂, over 242 tons of NO_x and 118,500 tons of carbon.

² The CPUC reports that 156,397 residential customers in California were receiving their electricity from an alternative supplier in 1999. This represents 1.8% of the residential California market and 2.1% of the direct access load. The Pennsylvania Office of Consumer Advocates reported that 408,414 of PA customers received their power from an alternative provider in 1999. Direct access customers are those who have switched their electricity provider.

Renewable Content Mix

ESPs went beyond their commitment to customers in offering renewable power. In California, all the electricity purchased for Green-e was 100% renewable, even though three products were marketed as less than 100% renewable. These results show that ESPs have delivered more green power to the grid than promised – a benefit for consumers, renewable power producers and the environment. This finding follows the 1998 Green-e Verification Results which also documented that Green-e certified products had met and exceeded the program's environmental and consumer protection standards.



The graph above shows the percentage of customers that purchased 100% renewable products versus customers who chose products based on less than 100% renewables. Most purchasers of Green-e certified power prefer 100% renewable.

Green Market and New Renewables

The Green-e *new* renewables standard requires that certified products contain a specified percentage of new renewable resources. In California, Pennsylvania and New Jersey, “new renewables” are generated from wind, solar, geothermal or biomass facilities that have come on line since 1997; and in New England, since 1998. In the second year after states restructure their electricity market, Green-e requires 5% of the total product to be supplied from new renewable resources. In California and Pennsylvania, the 5% new renewable is required as of 2000. In New Jersey, Maryland and Delaware, the 5% standard will take effect in 2001.

Consumer demand for renewables – especially from large commercial and industrial customers – is already spurring plans by several ESPs and wholesalers to meet future power needs through the construction of new renewables. In 1999, Enron Wind Company built a new 16.5 Megawatt (MW) wind facility; Green Mountain Energy Company built a 2 MW wind facility in California, a 10.4 MW wind farm in Pennsylvania and two solar arrays (one in California and one in Pennsylvania) with 232 kW total energy capacity. The Sacramento Municipal Utility District purchased all of the electricity from a new 8.3 MW landfill gas facility for its Greenergysm program. These new projects add up to over 20MW of new renewables, built to supply Green-e certified products in 1999. The electricity purchased from *new* renewables nationwide in 1999 offset 36.5 tons of SO₂, 950 tons of NO_x, and 123.7 tons of carbon.

For More Information

Green-e is the nation's only certification program for electricity offerings based on renewable energy supply. For more information about Green-e and to see these verification results on-line, please visit our website at www.green-e.org. For other Green-e questions or comments, please call our toll free number at 1 888 63-GREEN or contact the Center for Resource Solutions at (415) 561-2100.



The Green-e Program is administered by the Center for Resource Solutions, a non-profit organization. CRS is dedicated to bringing together diverse interests to preserve our environment, encourage sustainable economic growth, and promote clean energy for present and future generations.

