Center for RESOURCE SOLUTIONS

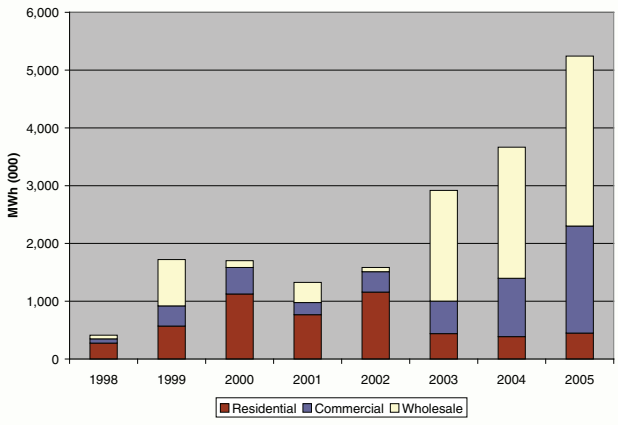
Green-e Verification Report

2005

Highlights

Green-e certified 5.2 million MWh of renewable energy sales in 2005 -up nearly 43% from 2004.

Figure 1: Green-e Certified Renewable Energy Sales by Customer Type, 1998-2005



5.2 million MWh in 2005

Green-e certified more than 53% of renewable energy sold in the U.S. voluntary renewable energy market in 2005.

53% market share

Sales of Green-e Certified Tradable Renewable Certificates (TRCs) increased by more than 56%, to almost 4.4 million MWh.

up 56%

The Green-e certified renewable energy consumed by end-users in 2005 was equivalent to the amount of electricity needed to power over 425,000 homes for a year.

425,000 homes

Companies who contracted to use the Green-e Logo through the Product Labeling Program to promote their commitment to Green-e certified renewable energy purchased 215,000 MWh of renewable energy in 2005.

215,000 MWh

Table of Contents

The 2005 Green-e Verification Report, by the Center for Resource Solutions, includes data on certified renewable energy products. The Center for Resource Solutions has been building consumer confidence in renewable electricity since 1997.

The Green-e Program is the only national certification program to offer certification for renewable energy in three product classes: Tradable Renewable Certificate (TRC), Green Pricing and Competitive Electricity. For more information about Green-e or for an electronic copy of this report, please visit the Green-e 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. For more information on the Center for Resource Solutions, please visit the CRS website at : www.resource-solutions.org.

Green-e

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Green-e Summary

The Green-e program certifies three classes of renewable energy products.

1. Tradable Renewable Certificate (TRC)[1] products offered nationwide. TRCs are renewable electricity attributes sold independently of electricity.

2. Utility Green Pricing Electricity products offered by utilities in electricity markets not open to retail competition.

3. Competitive Renewable Electricity products offered in competitive electricity markets by electricity service providers (ESPs).

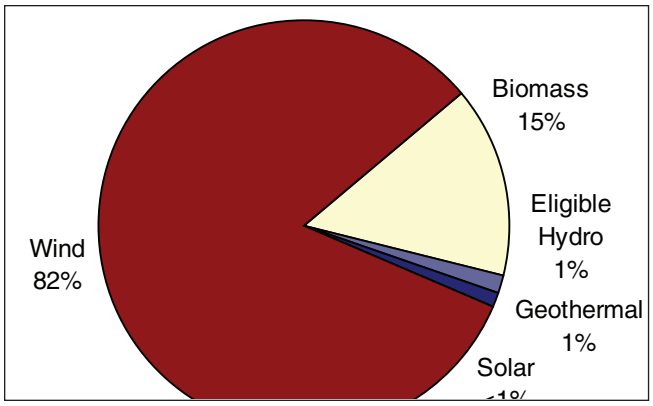
Additionally, the Center for Resource Solutions offers the Product Labeling Program (PLP) for businesses using the Green-e logo.

At the end of 2005, there were 51 participating businesses in the PLP, up 28 percent from 2004. Sales of Green-e certified TRCs and renewable electricity to participants increased by over 170 percent between 2004 and 2005, to 215,000 MWh.

Green-e product standards are in place in all 50 states. After extensive stakeholder consultation in 2005, Green-e released the Green-e National Standard in January of 2006, and it will become the sole Green-e standard on January 1, 2007.[2] This standard will be applied to all Green-e certified products regardless of product type or region.

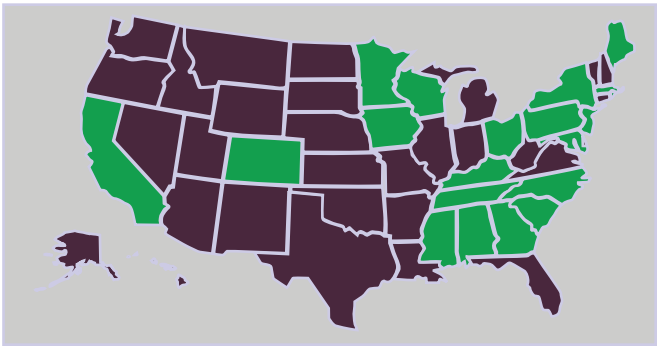
In 2005, 21 TRC marketers offered 28 Green-e certified TRC products that were available nationwide and were sold in 48 states.

Figure 2: Resource Mix for Renewables in Green-e Certified Sales (% of MWh), 2005



Green-e certified *electricity* products were offered in more regions than ever before. A total of 11 electricity retailers, eight utilities and 97 associated distributors sold Green-e certified renewable electricity in 20 states, shown in Figure 3.

Figure 3: States in Which Green-e Certified Electricity Products Were Sold in 2005 (indicated by states highlighted in green)



Green-e TRC, Green Pricing and Competitive Electricity sales of renewable energy totaled over 5.2 million MWh in 2005, growing from 3.7 million MWh in 2004 and 2.9 million MWh in 2003. This represents a 43 percent increase from 2004 to 2005.[3] A doubling in commercial TRC sales along with continued increases in wholesale TRC and Green Pricing sales account for the overall increase. In 2005, over 114,500 customers purchased Green-e certified renewable energy products.[4] Figure 4 displays the total Green-e certified renewables sales volume by product type since 1998.

[1] TRCs are also referred to as Renewable Electricity Certificates (RECs), Green Tags or Green Certificates.
[2] The Green-e National Standard is available at http://www.green-e.org/pdf/Green-e_National_Standard.v1.pdf
[3] Some of the electricity products are sold with 25%, 50% or 75% renewable electricity content. The remaining electricity is sourced from non-Green-e eligible resources, such as system power, fossil generation, or non-eligible renewables. The numbers reported here only account for the Green-e eligible renewable portion. The total volume of Green-e certified products sold in 2005, including any system power content, was more than 5.3 million MWh.
[4] The data in this report represent the number of customers at the end of 2005. In this report, the term "customers" is interchangeable with electricity accounts.

Figure 5 shows the number of customers by product type over the same period. The dramatic growth in green pricing customers over this time is due to increases in the number of certified products as well as increasing participation rates for existing products.

The early growth of renewable energy sales in deregulated markets stalled when some of these markets, particularly California, became embroiled in turmoil. While the overall volume of Green-e certified sales in ***competitive*** electricity markets has decreased, overall sales of Green-e certified products have increased every year since 2001. Table 1 summarizes Green-e certified sales in 2005 by program and customer type.

TABLE 1: Total Green-e Certified Renewable Sales by Product and Customer Type, 2005 (MWh) [5]

	Residential	Commercial	Wholesale	Total
TRCs	10,000	1,501,000	2,887,000	4,398,000
Green Pricing	370,000	98,000	0	468,000
Competitive Electricity	70,000	250,000	53,000	373,000
Total Sales	450,000	1,849,000	2,940,000	5,239,000

Figure 4: Total Green-e Certified Renewables Sales By Product Type, 1998 - 2005

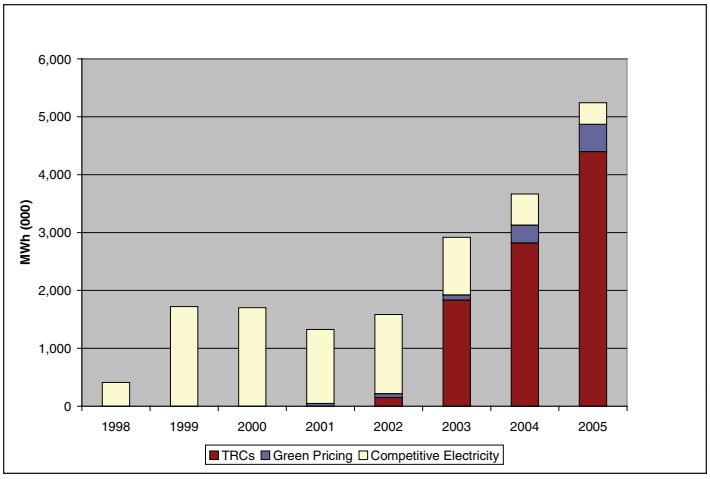
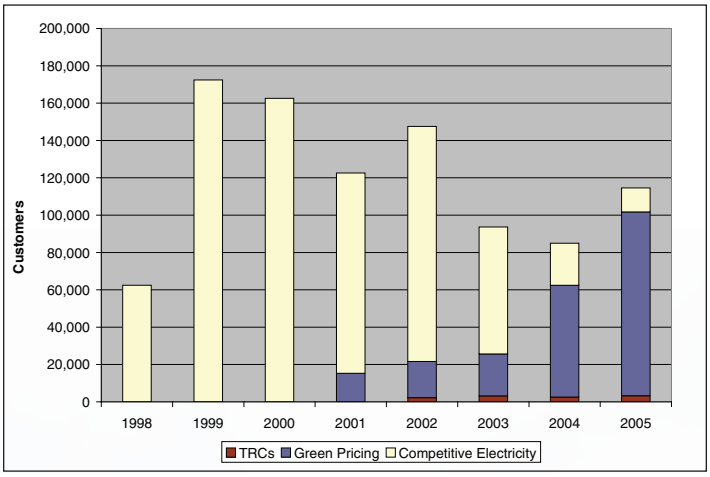


Figure 5: Customers Purchasing Green-e Certified Products, 1998 - 2005



[5] Figures are approximate due to rounding

Green-e Summary (cont.)

In 2005, more than 97 percent of the total renewable energy sales were from qualifying new renewable resources.[6]

Figure 6 displays the percentage of new renewables in Green-e certified sales over time.

Figure 6: Percent of Renewables Sales from New Renewables, 2001- 2005

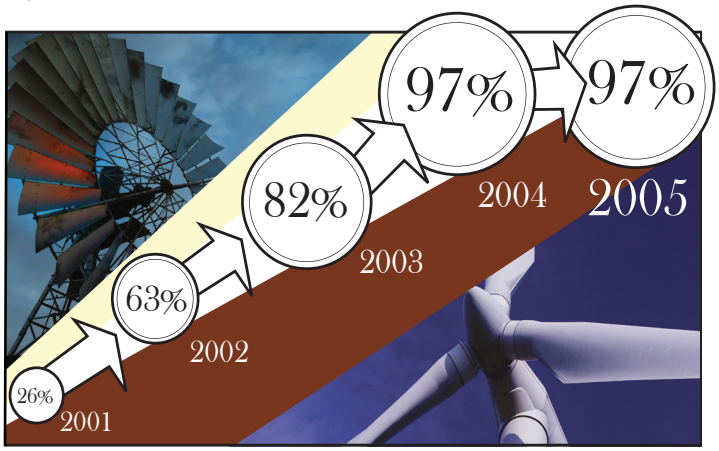


Table 2 summarizes the percent of total sales attributed to each fuel type in 2005, as well as the percent of that fuel type that comes from new renewable capacity.

TABLE 2: Resource Mix for Renewable Portion of Green-e Sales, 2005[7]

Resource Type[8]	*Share of Renewables*	*Percent New*
Wind	*82%*	*100%*
Biomass (includes landfill gas)	*15%*	*91%*
Small & Low Impact Hydro	*1%*	*22%*
Solar	*<1%*	*100%*
Geothermal	*1%*	*100%*

Our analysis of the geographic location of the renewable generation facilities supplying Green-e certified products shows that more than four-fifths of the MWh supplied to Green-e participants in 2005 came from 10 states or provinces.

Of these 10, 5 states – California, Wyoming, Kansas, Oregon and Washington – account for 68 percent of the generation, as shown in Table 3.

More than half of the sales of Green-e certified renewable energy were in California, Oregon and Washington, as shown in Table 4.

Only four states are in the top 10 in both supply and sales. This trend confirms the national and fluid character of the voluntary market for renewable energy.

TABLE 3:

Top 10 Generation States/ Regions, 2005

Rank by Total Generation Supplied in 2005

1	*CA*	**19%**
2	*WY*	**15%**
3	*KS*	**13%**
4	*OR*	**11%**
5	*WA*	**10%**
6	*OK*	**4%**
7	*KY*	**3%**
8	*Canada*	**3%**
9	*WI*	**3%**
10	*CO*	**3%**
	TOTAL	**85%**

TABLE 4:

Top 10 Sales States, 2005

Rank by 2005 Sales Volume

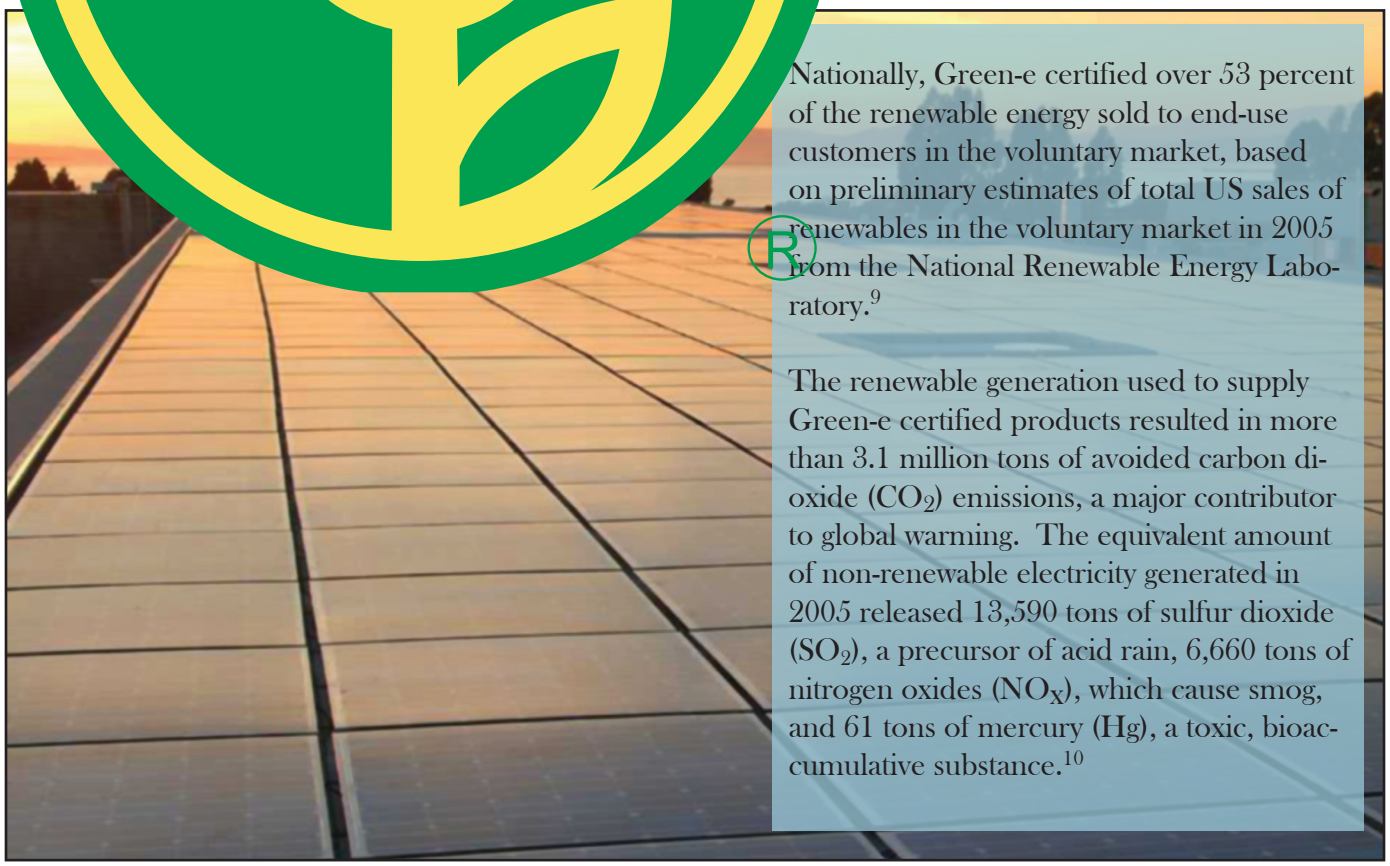
1	*CA*	**25%**
2	*OR*	**15%**
3	*WA*	**11%**
4	*CO*	**6%**
5	*NJ*	**6%**
6	*TX*	**5%**
7	*NY*	**5%**
8	*GA*	**4%**
9	*DE*	**3%**
10	*MA*	**2%**
	TOTAL	**83%**

6 New renewable resources are generation resources that became operational after regionally defined dates ranging from 1997 to 2002. These dates were determined by regional stakeholders as part of the Green-e standard setting process. For the full criteria describing new renewables, see the Green-e National Standard.

7 Figures are approximate due to rounding.

8 For detailed definitions of Green-e eligible resources, see the Green-e National Standard.

Green-e Environmental Benefits



Nationally, Green-e certified over 53 percent of the renewable energy sold to end-use customers in the voluntary market, based on preliminary estimates of total US sales of renewables in the voluntary market in 2005 from the National Renewable Energy Laboratory.[9]

The renewable generation used to supply Green-e certified products resulted in more than 3.1 million tons of avoided carbon dioxide (CO_2) emissions, a major contributor to global warming. The equivalent amount of non-renewable electricity generated in 2005 released 13,590 tons of sulfur dioxide (SO_2), a precursor of acid rain, 6,660 tons of nitrogen oxides (NO_X), which cause smog, and 61 tons of mercury (Hg), a toxic, bioaccumulative substance.[10]

[9] Excludes renewable energy sales that are the result of mandates, including RPS programs.

[10] Please note that renewable energy generators and/or purchasers cannot claim reduction of regulated "cap and trade" pollutants such as SOx (and in some cases NOx). This is be cause renewable energy facilities are not assigned emission reduction credits for SOx and only a few receive NOx credits. Therefore, in areas where these pollutants are under cap-and-trade regulation, renewable energy generation has no effect on the number of credits available. The Green-e program is the only certification program that actively monitors the claims of marketers to ensure that no false claims related to capped and traded pollutants are made. The SOx and NOx emissions comparisons are included in this report for data collection purposes only and are not intended to imply that emissions reductions of capped and traded pollutants occur due to renewable energy generation.

Businesses Promoting Green-e Purchases

The Center for Resource Solutions' Product Labeling Program (PLP) is now in its second year. The PLP allows businesses meeting certain renewable energy use criteria in their operations and product production to use the Green-e Logo on their packaging, web site and in press releases, and to make specific claims about energy use.

At the end of 2005, 51 businesses had contracts with the PLP, buying a total of over 215,000 MWh of Green-e certified renewable energy.

This is up from 40 businesses buying over 80,000 MWh in 2004, and represents a 170 percent increase.

PLP participants' purchases in 2005 accounted for almost 12 percent of Green-e certified commercial sales.

PLP participants cover a broad range of sizes, locations and industries, outlined in the adjacent box, but all have taken the smart business and environmental step of purchasing renewable energy. More than two-thirds of participants bought enough Green-e certified renewable energy to cover their entire annual electricity requirements in 2005, compared to half of participants in 2004. Nearly 80 percent of businesses bought TRCs, almost 14 percent bought renewable energy from their electricity provider, and the remaining participants generated their own electricity from Green-e eligible on-site renewable resources.

The PLP continues to grow. As of November 2006, there were 74 participants, of which 26 are committed to selling and developing 200 products that are made with at least 50 percent renewable electricity and that display the Green-e Logo. These businesses are demonstrating to consumers that they care about the environmental impact of production. Table 5 provides a summary of product logo use.

TABLE 5: Product Labelers, 2004 - Present

	Number of companies labeling their products	*Number of products*	*Product Types*
2004	*4*	*12*	*Fabric, olive oil, rice, & wine.*
2005	*12*	*152*	*Carpeting, coffee, fabric, juices, olive oil, paper, rice, shoes, solar powered electric vehicle, tea, tomatoes, wine and more.*
2006 to date	*26*	*200*	*In addition to those in 2005: CDs, computer services, ice, medical equipment, and mobile phones.*

Businesses Participating in PLP, 2005

Andrew Lane • Granum, Inc. / Choice Organic Teas • Rapid Color Printing • Ars Vivendi • Grays Harbor Paper, L.P. • ReCellular, Inc • Batdorf and Bronson Coffee Roasters • Harris Ranch Napa Valley LLC • Red Jellyfish • Beautyland Beauty Supply • ICF Consulting • Smucker Quality Beverages – Santa Cruz Organic Juices • Bentley Prince Street • Innovative Energy Systems / H2Gro Tomatoes • Solar Data Centers • Lockheed Martin • Stoel Rives, LLC • Debra Lynn Dad Communications • Bishop Ranch Veterinary Clinic • Interface Flooring Systems • Sprint CF Fresh • IPS Printers • St. Mark's School • Chautauqua Natural Foods • Jim Clift Design • Stanford Terrace Inn • Conservation Law Foundation • Keystone Resort • Steamboat Springs Ski & Resort Company • Counter Production, LLC • Lundberg Family Farms • Terratex Earthbound Farm • Mion Footwear (a Timber-Company) • The Tower Companies • Earthsite • Mohawk Fine Papers, Inc. • The Trium Group • Fitsgo, LLC • Humble Earth Natural Markets • MolletPhoto • UAQA, LLP – Hosting Direct / Solidload • French Hill Winery • New Leaf Paper • UN Senior Executive Household • Garden Court Hotel Palo Alto • Peninsula Conservation Center • Xtracycle • Good Earth Natural Foods • prAna • White Wave

Green-e Certified TRC Products

Twenty-one TRC marketers offered 28 certified products during calendar year 2005.

3 Phases Energy
Aquila
Bonneville Environmental Foundation
Clean & Green
Community Energy, Inc.
Constellation New Energy
Conservation Services Group
EAD Environmental
Empire District
Evolution Markets
Green Mountain Energy Co.
Native Energy
PowerLight
PPM Energy
Renewable Choice Energy
Renewable Ventures
Sky Energy
Sterling Planet
Viking Wind
VisionQuest
WindCurrent

Green-e certified TRCs can be generated in any state in the U.S. and in Canada as long as they meet local criteria in the Green-e standard. All 21 TRC marketers accept customers from any U.S. state, allowing for a nationwide voluntary TRC market. Table 6 shows the number of TRC marketers and products participating in Green-e starting in 2002, when CRS began certifying TRC products.

TABLE 6: Green-e TRC Market Participants and Offerings, 2002-2005

Year	Suppliers of Green-e Certified TRC Products	Number of Green-e Certified TRC Products
2002	7	11
2003	18	23
2004	21	29
2005	21	28

"As businesses and consumers strive to lessen their impact on the environment, TRCs have emerged as a practical and cost effective way to mitigate the risks of climate change. Green-e certification ensures that TRC customers are getting the environmental benefits for which they are paying."

-Dr. Jan Hamrin, CRS President

Green-e Certified TRC Products (cont.)

In 2005, 4.4 million MWh of TRCs were sold to residential, commercial and wholesale customers, a 56 percent increase over 2004 sales, and a 140 percent increase over 2003 sales. Purchases by commercial customers continued to rise, roughly doubling for the second year straight. Seventy-three percent of TRC customers were individual retail residential buyers, but greater than 99 percent of sales volume were attributable to non-residential and wholesale buyers. Approximately 80 percent of the certified wholesale sales were resold by monopoly utilities and competitive ESPs in non-Green-e certified products through retail green power programs. Table 7 provides sales by customer type for 2005 Green-e certified TRC sales.

Figure 7: Renewable Resource Mix for Green-e TRC Products (% of MWh), 2005

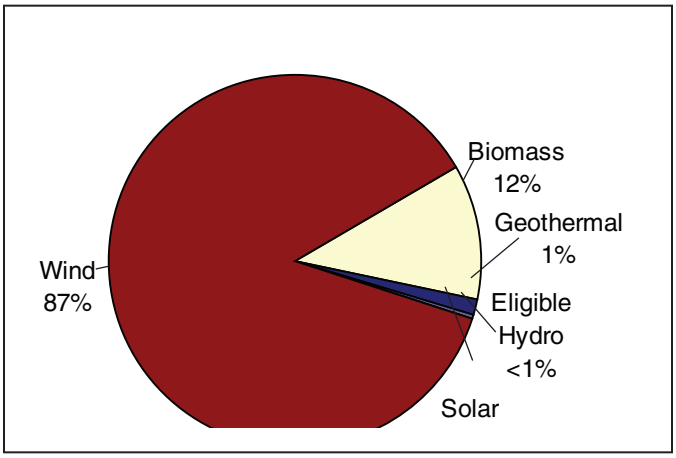


TABLE 7: Green-e TRC Customers and Renewables Sales, 2005 [11]

	Renewables Sales (MWh)	Change from 2004 (%)	Percent of Total TRC Sales	Customers	Average Renewables Purchase Size (MWh)
Residential	10,000	+46%	<1%	2,400	4
Commercial	1,501,000	+99%	34%	800	1,900
Wholesale	*2,887,000*	*+40%*	*66%*	*90*	*32,000*
Total	**4,398,000**	**+56%**	**100%**	**3,290**	**1,300**

The Green-e standard requires that TRCs be sourced entirely from new renewables.[12] Figure 7 shows the total resource mix for Green-e certified TRC sales for 2005. As in previous years, wind power continued to contribute the majority of supply, accounting for 87 percent of the total TRCs sold.

[11] Figures are approximate due to rounding.
[12] For the Green-e definition of new renewables, see footnote 6.

Green-e Certified Green Pricing Programs

In 2005, eight utilities and 97 associated distributors participated in the Green-e program, offering their customers Green-e certified electricity products in 12 states.

Alliant Energy (Iowa & Minnesota)

City of Palo Alto Utilities (California)

Roseville Electric (California)

Sacramento Municipal Utility District (California)

Santee Cooper (South Carolina)

Tennessee Valley Authority (TVA)[13]

We Energies (Wisconsin)

Xcel Energy (Colorado)

As Table 8 demonstrates, utility participation in the Green-e Green Pricing Program continues to grow.

TABLE 8: Green-e Green Pricing Market Participants and Offerings, 2001-2005

Year	Utilities with Green-e Certified Green Pricing Programs	Number of States with Green-e Certified Green Pricing Programs
2001	2	7
2002	4	8
2003	5	9
2004	7	11
2005	8	12

Purchases of Green-e certified renewable energy in green pricing products increased by more than 53 percent between 2004 and 2005. While one utility decertified its product in 2005, two new programs became certified, accounting for part of the increase in total MWh sold. More than 98,000 customers purchased Green-e certified green pricing products in 2005, an increase of more than 64 percent over 2004.

TABLE 9: Green-e Green Pricing Customers and Renewables Sales, 2005[14]

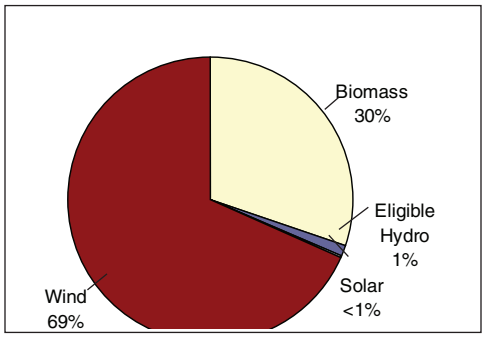
	Renewables Sales (MWh)	Change from 2004 (%)	Customers	Average Renewables Purchase Size (MWh)
Residential	370,000	+44%	93,000	4
Commercial	102,000	+100%	5,000	20
Total	**472,000**	**+53%**	**98,000**	**5**

This increase is in part due to a 130 percent leap in the number of commercial customers. Overall sales and customer participation are summarized in Table 9.

The participation rates in Green-e certified green pricing programs offered by the above utilities and distributors, measured as a percentage of the number of meters served by the utility, ranged from less than one percent to just over 14 percent. In addition, four of the Green-e certified green pricing programs are on NREL's Top Ten list for successful green pricing programs.

In 2005, the Green-e green pricing criteria allowed utilities to sell products that contain certain amounts of non-renewable resources. The total volume sold in Green-e certified green pricing products was 662,000 MWh. Of this, nearly 472,000 MWh were from renewables, and almost 99 percent of the renewable supply was from new renewable facilities. Figure 8 shows the renewable resource mix for Green-e green pricing sales. Similar to TRC sales, wind provided the majority of supply, at 69 percent.

Figure 8: Renewable Resource Mix for Green-e Green Pricing Products (% of MWh), 2005



[13] TVA's Green Power Switch product is offered in Alabama, Georgia, Kentucky, Mississippi, North Carolina and Tennessee.
[14] Figures are approximate due to rounding.
[15] NREL Green Power Network: Top Ten Utility Green Pricing Programs. http://www.eere.energy.gov/greenpower/resources/tables/topten.shtml for full list.
[16] For the Green-e definition of new renewables, see footnote 6.

Green-e Certified Competitive Electricity Products

The following 11 Electricity Service Providers (ESPs) offered 16 Green-e certified products for sale during calendar year 2005 in eight states.

AMP-Ohio (Ohio)

APS Energy (California)

Community Energy, Inc.
(Massachusetts & Rhode Island)

ConEdison Solutions (New York)

Constellation New Energy
(Massachusetts & New York)

Energy Cooperative of Pennsylvania
(Pennsylvania)

Green Mountain Energy Company
(New York)

People's Power and Light
(Rhode Island)

Pepco Energy Services
(Maryland, New Jersey & Pennsylvania)

PPL Energy Plus (Pennsylvania)

Select Energy
(Maryland, New Jersey & Pennsylvania)

TABLE 10: Green-e Competitive Market Participants and Offerings, 1998-2005

Year	Suppliers of Green-e Certified Competitive Electricity Products	Number of Green-e Certified Competitive Electricity Products
1998	11	15
1999	11	18
2000	17	27
2001	16	26
2002	9	19
2003	14	37
2004	13	27
2005	11	16

TABLE 11: Green-e Competitive Electricity Customers and Renewables Sales, 2005

	Renewables Sales (MWh)	Change from 2004 (%)	Customers	Average Renewables Purchase Size (MWh)
Residential	70,000	*-43%*	12,700	*6*
Commercial	249,000	*+22%*	140	1790
Wholesale	53,000	*-75%*	5	10,630
Total	**372,000**	**-31%**	**12,845**	**30**

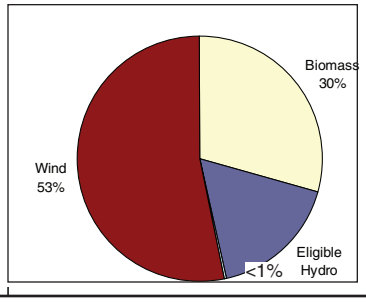
Table 10 shows historical figures for participants and products offered yearly from the beginning of the Green-e Competitive Electricity Program through 2005.

The total sales of renewables in Green-e certified competitive electricity products declined by 31 percent between 2004 and 2005. However, commercial sales increased 22 percent over 2004 figures, and commercial customers once again accounted for the majority of competitive electricity product sales. Table 11 summarizes 2005 Green-e certified competitive electricity renewables sales.

Two ESPs offered renewable resources in mixed products with non-renewable resources. The total sales of Green-e certified products, including the non-renewable portions, were over 432,000 MWh in 2005, and more than 86 percent of the energy in Green-e certified competitive electricity products was derived from renewable resources. Sixty-five percent of the renewable electricity supplied was from new renewable facilities.[17]

Figure 9 details the renewables resource mix for certified competitive electricity products in 2005. Wind is again the major contributor, though small hydroelectric plays a much more significant role compared to the resource mixes of TRCs and Green pricing products.

Figure 9: Renewable Resource Mix for Green-e Competitive Electricity Products (% of MWh), 2005



[17] For the Green-e definition of new renewables, see footnote 6.

Green-e certified sales continue to grow in 2006. At the time of publication, Green-e certifies 65 products offered by 144 marketers and utilities. For the latest information on the utilities and marketers selling Green-e certified products, please visit the Green-e website.

Green-e is a program of the Center for Resource Solutions, a national nonprofit organization that works to make it easier for people and organizations to use renewable energy as a way to mitigate global warming. CRS designs and operates national and international programs that support the increased supply and use of renewable energy resources such as wind, solar, biomass, geothermal, low-impact hydroelectric power, and other clean energy sources.

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