



CRS

center for  
resource  
solutions

## 2015 Green-e Verification Report

**This Annual Verification Report** highlights the results of the annual verification process audit for Green-e® participants in Green-e Climate, Green-e Energy, and Green-e Marketplace. Green-e is North America's leading independent certification and verification program for renewable energy and greenhouse gas emission reductions in the voluntary market. To learn more, visit [www.green-e.org](http://www.green-e.org).

Published October 16, 2016



**Green-e**

## About Center for Resource Solutions

**Center for Resource Solutions (CRS) creates policy and market solutions to advance sustainable energy and mitigate climate change.** CRS is a U.S.-based nonprofit with global impact. We develop expert responses to energy and climate change challenges with the speed and effectiveness necessary to provide real-time solutions. Our leadership through collaboration and environmental innovation builds policies and consumer-protection mechanisms in renewable energy, greenhouse gas reductions, and energy efficiency that foster healthy and sustained growth in national and international markets.

## About Green-e

**For nearly 20 years, CRS has developed and implemented consumer-protection standards for the voluntary renewable energy and carbon offset markets through the Green-e programs.** These standards mandate a rigorous accountability for retail products sold to consumers, bringing a level of transparency that can bolster consumer confidence in the industry. Green-e has three programs:

**Green-e Energy** is North America's leading voluntary certification program for renewable energy. Since 1997, Green-e Energy has certified renewable energy that meets environmental and consumer protection standards developed in conjunction with leading environmental, energy, and policy organizations. Green-e Energy requires that sellers of certified renewable energy disclose clear and useful information to potential customers, allowing consumers to make informed choices. For more information, see [www.green-e.org/energy](http://www.green-e.org/energy).

**Green-e Climate** is the global retail standard and certification for carbon offsets sold in the voluntary market. The program provides critical oversight and transparency in the retail market for greenhouse gas (GHG) emission reductions (carbon offsets), from the project through to the end consumer. Green-e certifies that carbon offsets contain real, verified reductions from high-quality and additional projects, and is the only independent program that verifies sales, correct delivery, and exclusive retail ownership of reductions. Green-e also reviews marketing materials for accuracy and requires disclosure of important information in order to prevent deception and allow offset buyers to make an informed and impactful decision. For more information, see [www.green-e.org/climate](http://www.green-e.org/climate).

**Green-e Marketplace** certifies companies and products across a range of industries, from beverages to paper manufacturers to electric vehicles, and offers a range of services to communicate and promote clean renewable energy and carbon offsets for their operations and activities. For more information, see [www.green-e.org/marketplace](http://www.green-e.org/marketplace).

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# Summary

**Since 1997, Center for Resource Solutions' Green-e program has focused its efforts on expanding markets for clean energy.** Our belief is a democratic one—that individuals and businesses should be able to make the choice for clean power and drive renewable energy growth forward. Green-e's three programs provide assurances to consumers that the product they purchase is making a difference, is not double-counted, and is as advertised. Participating companies undergo an annual verification audit; comply with Green-e's truth-in-advertising, environmental quality, and best practices requirements; and are granted the use of the Green-e certified logo on their certified products. The verification results for 2015 are presented here.

## Green-e Energy

Green-e Energy certified retail sales reached over 44 million megawatt-hours (MWh) in 2015, the highest number of certified retail MWh to date, and equivalent to over 1.2% of the total U.S. electricity mix. Nearly half of the installed wind capacity in the U.S. is participating in Green-e Energy certified transactions,<sup>1</sup> and 2015 saw over 331,000 MWh come from solar generation, almost more than triple that of 2014. In 2015 there were over 827,000 retail purchasers of Green-e certified renewable energy, including over 36,000 businesses. 2015 also saw an increase in certified utility green pricing sales and customers of certified utility green pricing products, resulting in an all-time high—more retail customers than ever before are purchasing Green-e Energy certified products through their utility.

## Green-e Climate

As the global retail standard for carbon offset certification, Green-e Climate brings chain-of-custody oversight to the voluntary offset market. Green-e Climate provides critical retail protections and assurances for buyers, sellers, and project standards, including confidence in product marketing and overall quality. Green-e Climate provides critical retail protections and assurances for buyers, sellers, and project standards, including confidence in product marketing and overall quality. Sales in 2015 hit the highest certified sales volume in the history of the program. This was driven by large commercial purchases and Leadership in Energy and Environmental Design (LEED) building certification, which requires Green-e Climate certification (or equivalent) for offsets that can be awarded points for LEED certification.

## Green-e Marketplace

Green-e Marketplace recognizes organizations that use renewable energy or carbon offsets and enables them to demonstrate their environmental commitment and communicate with stakeholders through the use of the nationally recognized Green-e logo and additional promotional tools. Throughout the year, Green-e Marketplace focused on improving the program offering for current participants, while laying the groundwork for future growth. Participation in the program decreased modestly, but exciting new partnerships also developed, like the first zoo to become Green-e certified. Overall, Marketplace participants purchased or generated over 620,000 MWh of renewable energy in 2015, a 100,000 MWh increase over the previous year.

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1. Based on total U.S. wind power capacity installed in 2015 according to AWEA's *U.S. Wind Industry Annual Market Report 2015*. Available at <http://awea.files.cms-plus.com/Annual%20Report%20Capacity%20and%20Generation%202015.pdf>

# Green-e Energy

Green-e Energy is the leading certification program for voluntary renewable energy products in North America. Green-e Energy certified renewable energy products are sold in the following different types:

- **Green Pricing Programs.** Renewable electricity sold by electric utilities in regulated electricity markets, offered in addition to the renewable electricity included in standard electricity service.
- **Competitive Renewable Electricity.** Similar to a green pricing program, but sold by an electric service provider in a deregulated electricity market.
- **Renewable Energy Certificates (RECs).** A REC represents the non-electricity, renewable attributes of one MWh of renewable electricity generation, including all the environmental attributes, and is a tradable commodity that can be sold separately from the underlying electricity. RECs allow for a larger and more efficient national market for renewable energy. Direct transactions and on-site use are reported with RECs in this report.

- **Community Choice Aggregation (CCA).** Also known as Municipal Aggregation, CCAs allow cities and counties to aggregate customers in a regulated market within a defined jurisdiction to secure alternative electricity supply contracts on a community wide basis. For the purposes of this report, CCAs are counted with Competitive Renewable Electricity numbers.
- **Direct and On-Site Certification.** Direct purchases are made directly from renewable generators as an alternative to purchasing from a utility, competitive electricity supplier, or a renewable energy certificate marketer, while on-site renewable energy is consumed at the same location where it is produced. Direct and on-site numbers are reported as part of overall REC numbers for the purposes of this report.

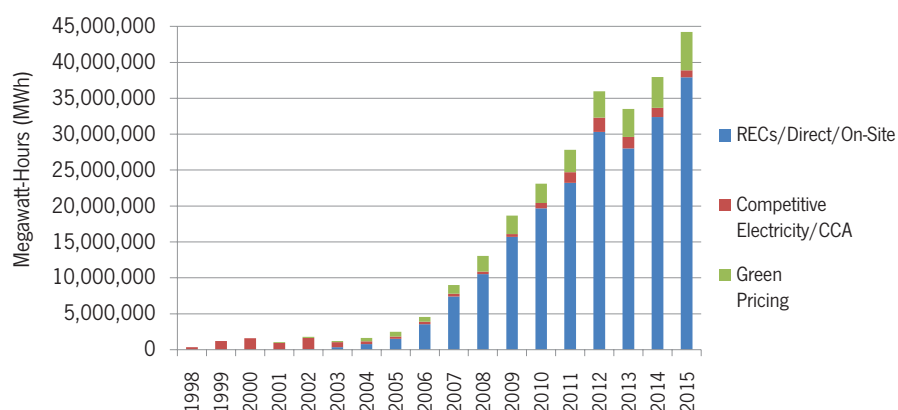
On behalf of consumers buying renewable energy products certified by Green-e Energy, the program requires that such products undergo an independent annual audit to demonstrate compliance with Green-e Energy's rigorous consumer

protection and environmental standards. Green-e Energy requires that sellers of certified renewable energy products provide full and accurate information to their customers, deliver the renewable energy they promise, and source from renewable energy generators that meet Green-e Energy's resource eligibility requirements, developed by stakeholders and the independent Green-e Governance Board over nearly 20 years.

As the public's awareness of the impacts of pollution arising from electricity generation, energy security issues, and sustainable economic development has risen, the demand for renewable energy has increased greatly, as shown here. In fact, voluntary certified renewable energy sales in the U.S. have increased an average of 13% each year since 2011. When Green-e Energy began in 1997, it was the first certification program of its kind, and it has remained the most respected renewable energy certification program in North America.

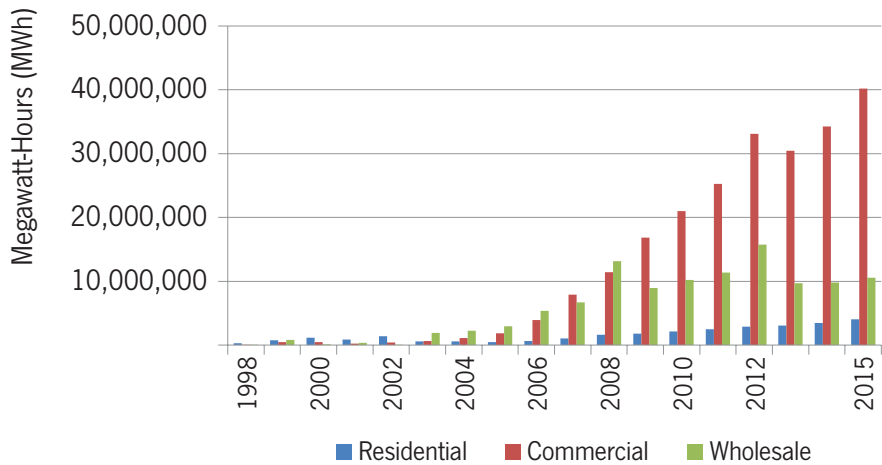
**Figure 1**  
**Green-e Energy Certified Retail Sales by Product Type, 1998–2015 (MWh)**

In 2015, Green-e Energy certified retail sales totaled 44,232,000 MWh, an overall increase of 17% compared to 2014 sales. Green-e Energy certified sales have increased at an average rate of 13% per year over the past four years. REC sales (including direct transactions and on-site use) continue to drive the majority of certified sales, and grew by 17% in 2015. Certified sales through green pricing programs offered by regulated utilities grew by 24% compared to 2014. Total certified competitive electricity sales (including CCAs) followed the same trend observed last year, decreasing by 24% from 2014 levels, driven in part by volatility in the competitive electricity market and voluntary decertification of some competitive electricity products.



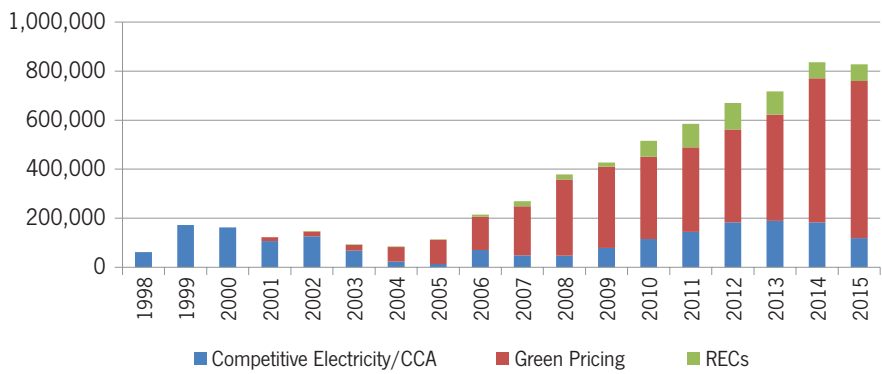


**Figure 2**  
Green-e Energy Certified Sales by Customer Type, 1998–2015 (in MWh)



Sales by customer type grew approximately 16% from 2014 for residential customers and 17% for non-residential customers, with the latter accounting for the vast majority of certified MWh purchased at more than 40 million MWh. While MWh sold as certified wholesale transactions again increased at the rate of 8% from 2014, residential sales increased by 16% and went beyond 4 million MWh, as more utilities increasingly seek Green-e Energy certified green pricing options for their customers. Although there are significantly more residential customers that purchase Green-e Energy certified renewable energy, they tend to purchase smaller amounts than non-residential customers.

**Figure 3**  
Number of Retail Customers Purchasing Green-e Energy Certified Products by Type, 1998–2015



Although 2015 saw a slight dip in the total number of customers purchasing certified products compared to 2014, the number of customers enrolled in a certified Green Pricing option has continued to grow, reaching 641,000 customers for a 9% growth from the previous year. The number of Competitive Electricity purchasers decreased to 119,000, accounting for the overall decrease in customers buying certified products.

**Figure 4**  
States With Green-e Energy Certified Renewable Electricity Options, 2015



Many customers throughout the U.S. have the option to purchase Green-e Energy certified renewable energy through their local utility or electric service provider. In 2015, bundled certified renewable electricity options were available in 37 states. This geographic spread across the country means that more electricity customers in many parts of the United States have the option to purchase certified renewable electricity than ever before. RECs unbundled from electricity are available to buyers regardless of location. Businesses purchasing large MWh volumes tend to purchase unbundled RECs, often for multiple locations, while residential customers and businesses purchasing smaller volumes tend to purchase a bundled electricity product available through their utility or electric service provider.

**Table 1 Total Green-e Energy Certified Sales of Renewable Energy by Product Type and Customer Type, 2015 (in MWh, rounded)**

	Retail Residential	Retail Commercial	Wholesale
RECs	260,000	37,695,000	10,537,000
Green Pricing	3,239,000	2,061,000	0
Competitive Electricity/CCA	526,000	451,000	0
<b>Total Sales</b>	<b>4,025,000</b>	<b>40,207,000</b>	<b>10,537,000</b>
<b>Total Retail: 44,232,000 MWh</b>			
<b>Total Unique Certified: 49,803,000 MWh</b>			
<b>Total Certified Transactions: 54,769,000 MWh</b>			

▲ **The total volume of all Green-e Energy certified transactions in 2015 reached over 54.7 million MWh.**

This total represents all transactions, including both certified retail sales to electricity end users looking to make a green power use claim and wholesale sales to resellers of renewable MWh that did not claim the renewable electricity or RECs themselves. Green-e Energy

certified wholesale transactions exceeded 10.5 million MWh in 2015. Of these certified wholesale transactions, over 4.9 million MWh were resold in Green-e Energy certified retail transactions. The remaining 5.6 million MWh were sold in non-Green-e Energy certified transactions to utilities, electric service providers, power marketers, and other buyers in the voluntary market—a slight

increase from the 5.5 million MWh sold in non-certified transactions in 2014. Removing the instances of renewable MWh certified by Green-e Energy at both the wholesale and retail levels, Green-e Energy certified sales of over 49.8 million unique MWh in 2015, an increase of 14% from 2014 and the highest total of certified unique MWh to date.

**TABLE 2: Top 10 States by Retail Sales Volume (in MWh) in 2015**

WASHINGTON 10% CALIFORNIA 9% ARIZONA 7%  
 NEW YORK 7% TEXAS 7% OREGON 5% ILLINOIS 5%  
 WISCONSIN 4% MARYLAND 4% DISTRICT OF COLUMBIA 4%

▲ **Top Ten States Purchasing Retail Green-e Energy Certified Renewable Energy by Percent of Total Certified Retail Sales (MWh), 2015.**

Green-e Energy collects data on the number of retail customers by state and the MWh of certified products provided to them. The top 10 states in terms of sales volume have remained almost unchanged over the past few years. In 2015, Washington remained the highest volume state for certified retail sales. With Arizona as a newcomer to the top 10, the West once again dominates this list with over 35% of sales going to states in the WECC (Western region). Yet compared to previous years, the top 10 states represent only 62% of the total volume of certified retail sales, showing a greater distribution of sales of certified products across the country as compared to 2014.

▶ **Retail customers buying Green-e Energy certified renewable energy are spread out throughout the U.S.**

Retail customers buying Green-e Energy certified renewable energy are spread out throughout the U.S. 81% of retail customers are located in these top 10 states in 2015. The West takes the top three spots with Oregon once again having the most retail customers of certified renewable energy, and the WECC containing more than 58% of retail customers in 2015. There is a large degree of overlap between these two “Top Ten” lists, however the key point of difference lies in the purchase size of residential and non-residential customers. The states with the highest volumes have more non-residential customers.

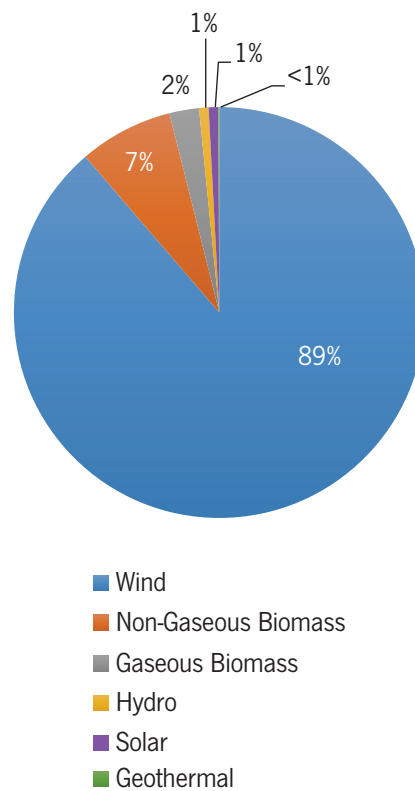
**Table 3 Percent of Total Retail Customers by State, 2015**  
(Includes REC sales)

Oregon	26%
California	11%
Washington	8%
Utah	6%
Colorado	6%
Minnesota	6%
Michigan	5%
Virginia	4%
Wisconsin	4%
Texas	4%

► **In 2015, Green-e Energy sales came from a range of resources across the United States and Canada.**

The resource mix of the voluntary market is mostly wind-dominated, with wind facilities reaching 89% of the total supply. Output from almost 50% of installed wind facilities in the U.S. is sold in Green-e Energy certified transactions, based on total capacity. Although solar energy represents only a small portion of the MWh supply, total MWh have nearly tripled compared to 2014. On the other hand, the proportion of hydro in the resource mix decreased in 2015 as hydro facilities age and phase out of Green-e Energy eligibility.

**Figure 5**  
Contributions of Renewable Resource Types to Total Green-e Energy Certified Retail Sales, 2015\*



**Table 4** Top Ten States and Provinces Supplying Renewable Energy to Green-e Energy Certified Retail Sales by Percent of Total Certified MWh, 2015

Texas	27%
Oklahoma	22%
Kansas	10%
Iowa	6%
Nebraska	6%
Idaho	3%
Washington	3%
Florida	3%
North Dakota	3%
British Columbia	2%

**Green-e Program Governance**

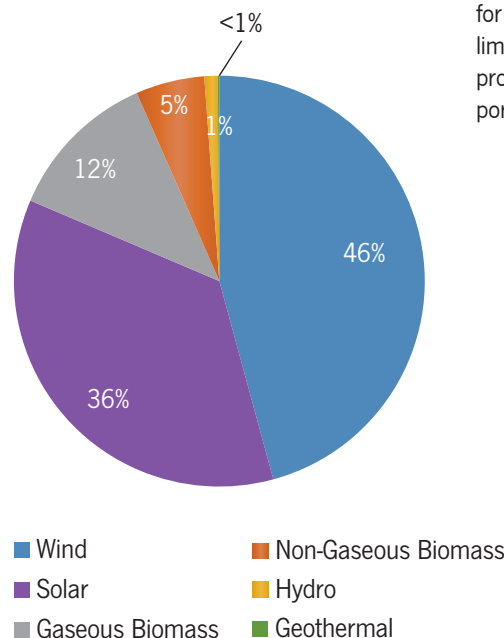
Green-e Energy and Green-e Climate are governed by the independent Green-e Governance Board. CRS serves as the program administrator. The Board ensures that the program's standards and policies are appropriate and necessary to meet its stated goals and objectives. The Board regularly reviews the program's standards in consultation with stakeholders and amends them as necessary so that they remain consistent with changing circumstances and evolve with market conditions.

▲ **Just over 85% of the renewable energy certified by Green-e Energy was sourced from 10 states.**

2015 saw a decrease in the proportion of supply sourced from Texas, but supply from both Texas and Oklahoma account for just under 50% of the total supply of renewable electricity certified by Green-e in 2015. This is primarily related to the high wind content in many certified products, and the high rate of potential for (and installation of) wind facilities in the Midwest and Southern states such as Texas and Oklahoma. The difference between states with generators versus purchasers of renewable energy demonstrates how the market for RECs is allowing customers with limited access to local renewable energy products to support changes in generation portfolios in the US and Canada.

► 850 unique generation facilities with a total capacity of nearly 39,600 MW supplied Green-e Energy certified products in 2015. Supply came from more wind facilities (389) than any other resource type, and wind comprises more than 93% of overall capacity. Overall, 150 fewer facilities were used in 2015 compared to 2014, but overall capacity in 2015 was comparable to 2014, continuing a trend of utilization of higher capacity generators than in the past. This trend is reflected particularly in solar facilities; while the number of unique solar facilities utilized in 2015 (aggregated utility rooftop solar programs are counted as one facility) dropped by over 120 facilities from 2014, total solar capacity utilized increased by around 180 MW, reflecting a trend toward larger scale facilities that is especially prevalent in direct transactions and on-site use.

**Figure 6**  
Total Number of Facilities by Resource Type



\* Gaseous Biomass includes landfill gas, wastewater methane, digester gas, biogas, and other biogenic gases. Non-gaseous Biomass includes wood waste, sawmill waste, black liquor, agricultural waste, biodiesel, fuel crops, and other resources as described in the *Green-e Energy National Standard*, available at [www.green-e.org/standard](http://www.green-e.org/standard).

▼ **Certified REC sales continue to steadily climb, with across the board growth of 17% in terms of total retail REC sales experienced in 2015 over 2014.**

The market is still driven by non-residential customers, although the number of these customers actually declined in 2015 by 9% from 2014. Yet

non-residential customers purchased on average 500 MWh more per customer from 2014, from 1,700 MWh in 2014 to 2,200 MWh in 2015, accounting for the growth in MWh sales in the non-residential sector. Larger purchase sizes means that the overall MWh volume increased despite customer numbers

decreasing. Residential customers grew by 7% from 2014 to 2015 and purchased around 17% more MWh in 2015. Based on the most recently available National Renewable Energy Laboratory (NREL) data, Green-e Energy certified sales are estimated to make up nearly 90% of all retail REC sales in the U.S.

**Table 5 Green-e Energy Certified Sales of Renewable Energy Certificates by Customer Type, 2015**

	2015 Sales (MWh, rounded)	MWh: Percent Change From 2014	Percent of Total Retail REC Sales	Customers	Customers: Percent Change from 2014	Average Purchase Size (MWh)
Residential	260,000	17%	<1%	50,000	7%	5
Non-Residential	37,695,000	17%	99%	17,000	-9%	2,200
<b>Total Retail</b>	<b>37,956,000</b>	<b>17%</b>	<b>100%</b>	<b>68,000</b>	<b>3%</b>	<b>560</b>
Wholesale	10,537,000	8%		60	-26%	169,950

▼ **Many customers can purchase a bundled renewable electricity product from their local electric utility.** Utility green pricing programs certified by Green-e Energy consistently make up the majority of the National Renewable Energy Laboratory's Top Ten rankings in terms of customer participation rate, total number of subscribers, total MWh sold, and green power sales as a percentage of total retail electricity sales.\* In 2015, these programs grew at a rapid rate of 24% from 2014. A 9% growth in the total amount of residential customers contributed to the growth of certified Green Pricing sales, but the average purchase size grew to 5 MWh in 2015 from 4 MWh in 2014, meaning the average residential customer is purchasing one extra MWh of renewable electricity annually. Non-residential customers followed a similar pattern, increasing their average purchase by 14 MWh from last year despite a steady number of customers. There is now more Green-e Energy certified renewable energy sold through green pricing programs than ever before, covering an increasingly large area of North America.

**Table 6 Green-e Energy Certified Sales in Green Pricing Programs by Customer Type, 2015**

	2015 Sales (MWh, rounded)	MWh: Percent Change From 2014	Percent of Total Green Pricing Sales	Customers	Customers: Percent Change from 2014	Average Purchase Size (MWh)
Residential	3,239,000	33%	61%	625,000	9%	5
Non-Residential	2,061,000	11%	39%	16,000	-1%	130
<b>Total</b>	<b>5,300,000</b>	<b>24%</b>	<b>100%</b>	<b>641,000</b>	<b>9%</b>	<b>8</b>

▼ **In states where the electricity market is deregulated, customers have the option to choose their electric service provider (ESP).** Residential and non-residential sales and total customers of certified competitive electricity products both dropped in 2015. The decrease in non-residential customers choosing to purchase renewable energy through ESPs could be due to an industry trend of large companies shifting their energy strategy to include more on-site renewable installations, energy efficiency, or direct power purchase agreements with renewable energy facilities or utilities, while on the residential side the drop was driven in part by volatility in the competitive electricity market and voluntary decertification of some competitive electricity products.

**Table 7 Green-e Energy Certified Sales of Electricity by Electric Service Providers by Customer Type, 2015**

	2015 Renewable Sales (MWh, rounded)	MWh: Percent Change From 2014	Percent of Total Competitive Electricity Retail Sales	Customers	Customers: Percent Change from 2014	Average Purchase Size (MWh)
Residential	526,000	-36%	64%	116,000	-31%	5
Non-Residential	451,000	-3%	36%	3,000	-81%	160
<b>Total Retail</b>	<b>977,000</b>	<b>-24%</b>	<b>100%</b>	<b>119,000</b>	<b>-35%</b>	<b>8</b>

\* See NREL's "Top Ten Utility Green Power Programs" at <http://apps3.eere.energy.gov/greenpower/resources/tables/topten.shtml>.



**294** companies participated in Green-e Energy in 2015 including **64** sellers offering **78** Green-e Energy certified REC products, **229** utility green pricing program participants offering **36** certified green pricing programs,<sup>\*</sup> and **14** competitive electricity suppliers offering **20** certified renewable electricity programs.

- |   |  |  |
|---|--|--|
| 3 Phases Renewables                                   | Green Mountain Energy Company                    | Origin Climate                                 |
| 3Degrees  | Green Power EMC                                  | Orion Renewable Energy Trading Group LLC       |
| ACT Commodities Inc. (Amsterdam Capital Trading B.V.) | Greenlight Energy                                | PacifiCorp                                     |
| AEP Energy  | Iberdrola Renewables (formerly PPM Energy)       | Platte River Power Authority (PRPA)            |
| Alameda Municipal Power                               | Indianapolis Power & Light Company (AES)         | Portland General Electric (PGE)                |
| ALLETE Clean Energy                                   | J.P. Morgan Ventures Energy Corporation          | Powerex Corp                                   |
| Alliant Energy  | Just Energy                                      | Puget Sound Energy (PSE)                       |
| Ambit Energy, LP                                      | LG&E and KU Energy (formerly E.ON U.S.)          | Reliant Energy                                 |
| Ameren Missouri                                       | Liberty Power                                    | Renewable Choice Energy                        |
| Apple, Inc.   | Luminant Energy Company, LLC                     | Sacramento Municipal Utility District (SMUD)   |
| Arcadia Power   | Marin Clean Energy                               | Salt River Project (SRP)                       |
| Arizona Public Service (APS)                          | MC Squared Energy Services                       | Santee Cooper                                  |
| Austin Energy   | McKinney LFG, LLC                                | Seattle City Light                             |
| Blue Delta Energy, LLC                                | MidAmerican Energy Company Energy Trading        | Silicon Valley Power—City of Santa Clara (SVP) |
| Blue Rock Energy, Inc.                                | MidAmerican Energy Services                      | South Jersey Energy Company (SJE)              |
| Blue Spruce Energy Services                           | MP2 Energy                                       | Sterling Planet, Inc.                          |
| Bonneville Environmental Foundation (BEF)             | Native Hawaiian Energy                           | Stream Energy                                  |
| Carbon Solutions Group (CSG)                          | NativeEnergy                                     | Suez Energy Resource NA, Inc.                  |
| Cascade Renewable Energy                              | New York Power Authority (NYPA)                  | Tennessee Valley Authority (TVA)               |
| City of Palo Alto Utilities (CPAU)                    | NextEra Energy Resources, LLC                    | The CarbonNeutral Company, LLC                 |
| Clear Energy Brokerage & Consulting, LLC              | Noble Americas Energy Solutions LLC              | TransAlta                                      |
| Community Energy, Inc.                                | North American Power and Gas, LLC (NA Power)     | TransCanada Power Marketing Ltd.               |
| ConEdison Solutions (ConEd)                           | Northern Indiana Public Service Company (NIPSCO) | TXU Energy                                     |
| Constellation Energy Services, Inc.                   | NRG Business Solutions                           | We Energies                                    |
| Constellation NewEnergy                               | NSTAR Electric Company                           | Westar Energy, Inc.                            |
| Consumers Energy Company                              | OneEnergy Renewables                             | WGL Energy Services                            |
| Direct Energy   |  | WPPI Energy                                    |
| Dominion Virginia Power                               |  | Xcel Energy                                    |
| DTE Energy  |  |  |
| EDF Trading   |  |  |
| Element Markets, LLC                                  |  |  |
| Ethical Electric                                      |  |  |
| FirstEnergy Solutions Corp.                           |  |  |
| Georgia Power   |  |  |
| Glacial Energy V.I.                                   |  |  |
| Good Energy   |  |  |
| Great Eastern Energy (GEE)                            |  |  |
| Green Harbor Energy                                   |  |  |

### Consumer Protection

The Green-e Energy verification audit and review process protects customers by ensuring that the renewable electricity or RECs purchased and sold by the certified provider were not sold to more than one customer and that only one party has claimed use of that MWh of renewable energy. Replacement RECs are required when supply that has been submitted is ineligible for certification under the Green-e Energy National Standard. Common reasons for ineligible RECs are double claims (meaning another

entity in the chain of custody has claimed to be using the renewable energy) and product-specific restrictions (such as variation from the geographic-proximity requirements of electricity products). In 2015, the Green-e Energy audit identified less than 10 MWh of reported supply as ineligible for Green-e Energy certification, which necessitated procurement of replacement supply by participants. This is due to a sustained market education outreach by Green-e staff and increased due diligence on the part of Green-e Energy participants in procuring supply.

<sup>\*</sup> Retail distributors not listed

# Green-e Climate

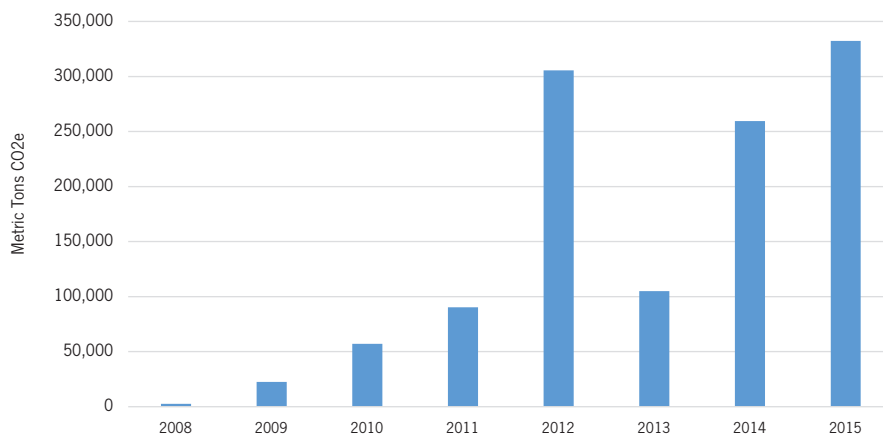
Green-e Climate is the global retail standard for carbon offset certification, bringing chain-of-custody oversight to the voluntary offset market. Green-e Climate provides critical retail protections and assurances for buyers, sellers, and project standards, including confidence in product marketing and overall quality.

Sales in 2015 hit the highest certified sales volume in the history of the program (see Figure 7). This was driven by large commercial purchases and Leadership in Energy and Environmental Design (LEED) building certification, which requires Green-e Climate certification (or equivalent) for offsets that can be awarded points for LEED certification.

In 2015, Green-e Climate certified sales of greenhouse gas (GHG) emissions reductions occurred at 15 different projects, all located in the United States. They were landfill gas methane capture (92.2% of supply), coal mine methane capture (7.45% of supply), and livestock gas methane capture (<1% of supply). In 2015, projects used to supply Green-e Climate certified carbon offsets were registered with two endorsed project standards—the Climate Action Reserve and the Verified Carbon Standard. The Climate Action Reserve represented 55% of total supply used and the Verified Carbon Standard represented the remaining 45% (see Figure 8).

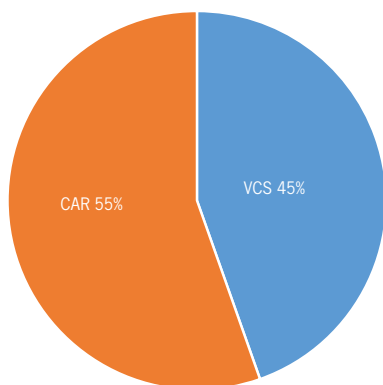
Nearly 99% of certified sales in 2015 were to commercial buyers, in either one-time or multi-year offline, over-the-counter transactions. **Over a third (32%) of certified sales in 2015 were sales for LEED building certification** (see Figure 9). Buyers were located in the U.S., Bolivia, Canada, China, Czech Republic, Greece, and Hong Kong. In the U.S., buyers of Green-e Climate certified carbon offsets were located in 28 states and the District of Columbia. Buyers located in Texas bought the largest amount of certified carbon offsets in 2015, followed by Nevada and New York, and the largest number of buyers were located in California, Vermont, and Maryland.

**Figure 7**  
Green-e Climate Growth (current Endorsed Programs only)

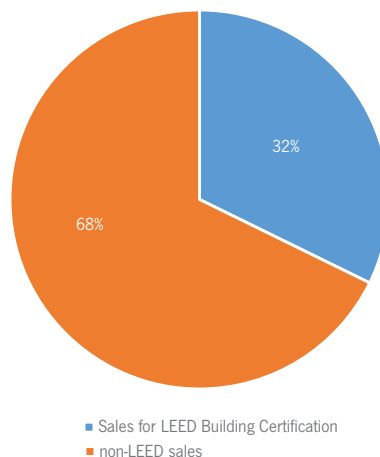


The total volume of certified carbon offsets sold grew by 28% in 2015 from 2014, to over 332,000 metric tons carbon dioxide-equivalent (CO<sub>2</sub>e).

**Figure 8**  
Green-e Climate Endorsed Programs RY2014



**Figure 9**  
Sales of Green-e Climate Certified Carbon Offsets for LEED Certification RY2014



# Green-e Marketplace

Green-e Marketplace recognizes organizations that use renewable energy or carbon offsets and enables them to demonstrate their environmental commitment and communicate with stakeholders through the use of the nationally recognized Green-e logo and additional promotional tools. Throughout the year, Green-e Marketplace focused on a suite of new program benefits (e.g. communications guide, sales deck, reusable infographics etc.) that help new participants hit the ground running with their communications and marketing efforts, and existing participants leverage their participation in Green-e into increased sales. The

event certification built on 2014's launch, and was featured at the California Adaption Forum, the New Partners for Smart Growth Conference, and during a special St. Patrick's Day promotion.

Overall, the total number of Green-e Marketplace companies participating in 2015 decreased from the previous year to 32. The Detroit Zoo joined the program through a partnership with ITC Holdings, making them the first zoo to become Green-e Certified. At the end of 2015, there were over 500 products and companies certified by Green-e Marketplace. ●

In 2015, Green-e Marketplace participants purchased or generated 620,711 MWh of renewable energy.



► These products from Intelligent Nutrients and Kendall-Jackson Wines are just two of the more than 500 products certified by Green-e Marketplace.





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