



Innovation for Our Energy Future

Status of the Voluntary Renewable Energy Markets



**Renewable Energy
Markets 2010
Conference**

Lori Bird, NREL

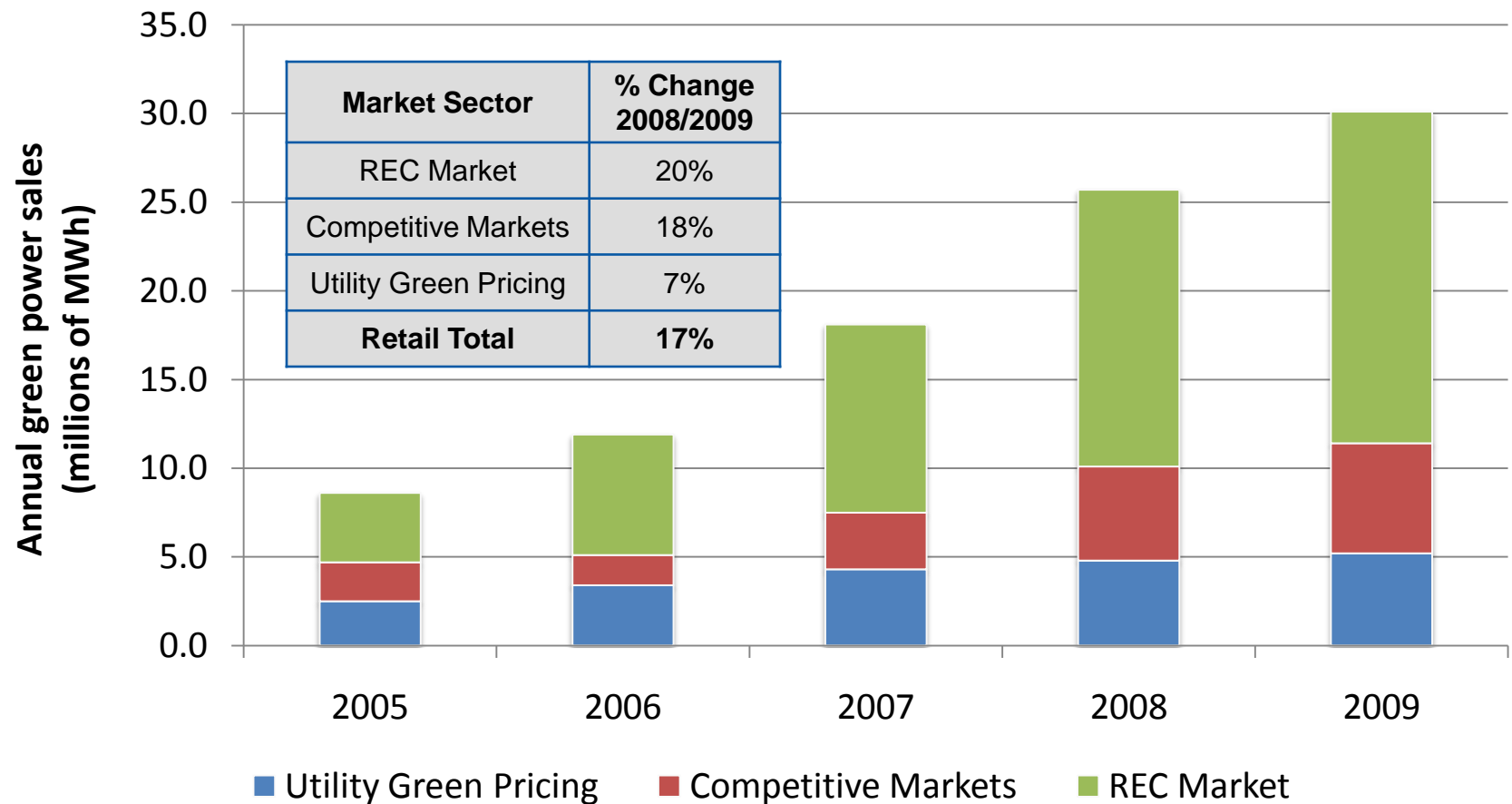
October 20, 2010

Portland, OR

Overview

- Voluntary market growth in 2009
- Sales and customer trends
- Price premiums and REC prices
- Highlights from 2010
- Market forecast

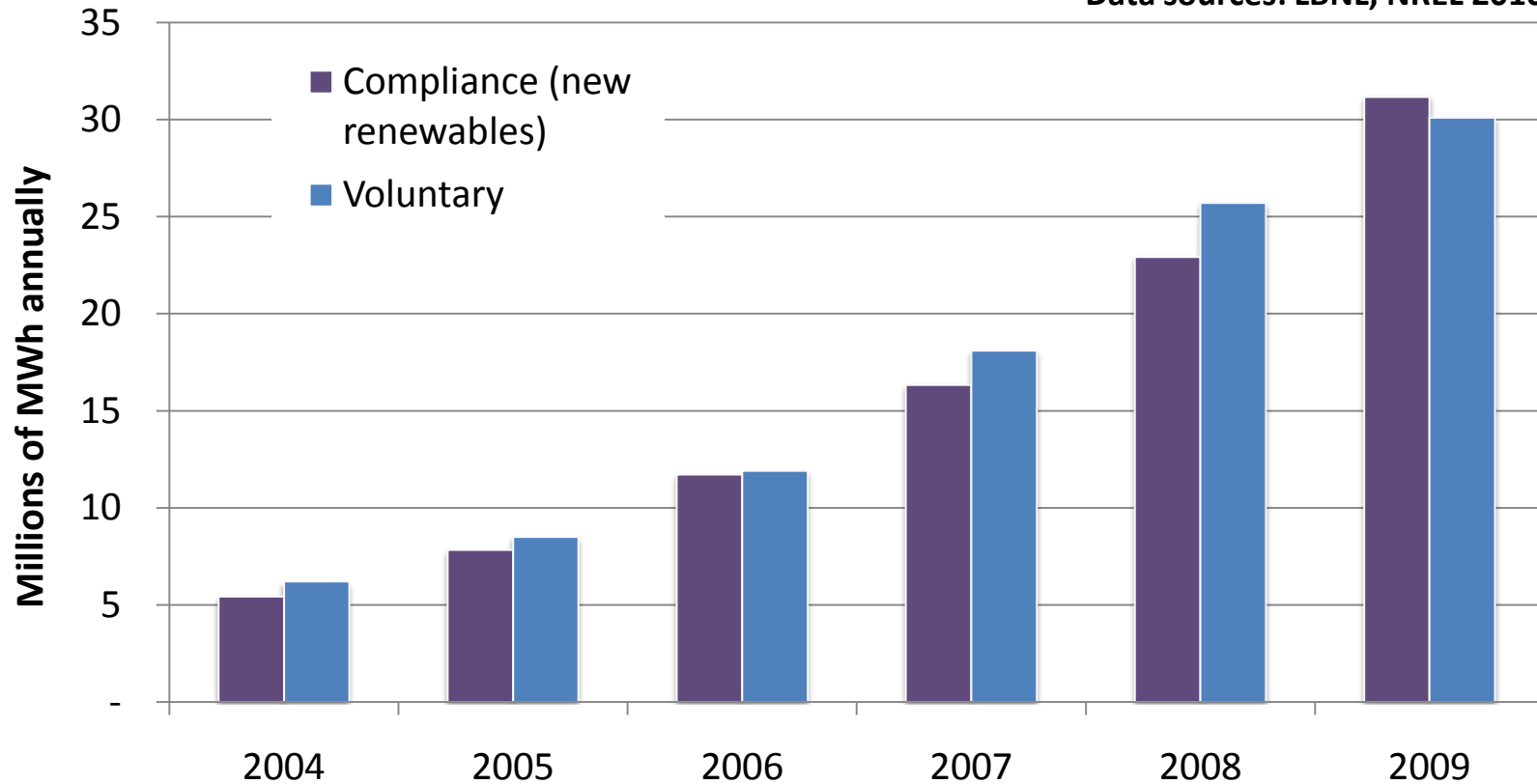
Green Power Sales Up in 2009 by 17%



REC market sales continued to lead growth; growth in all sectors was slower than last year. Mixed market - some programs/marketers reported losses.

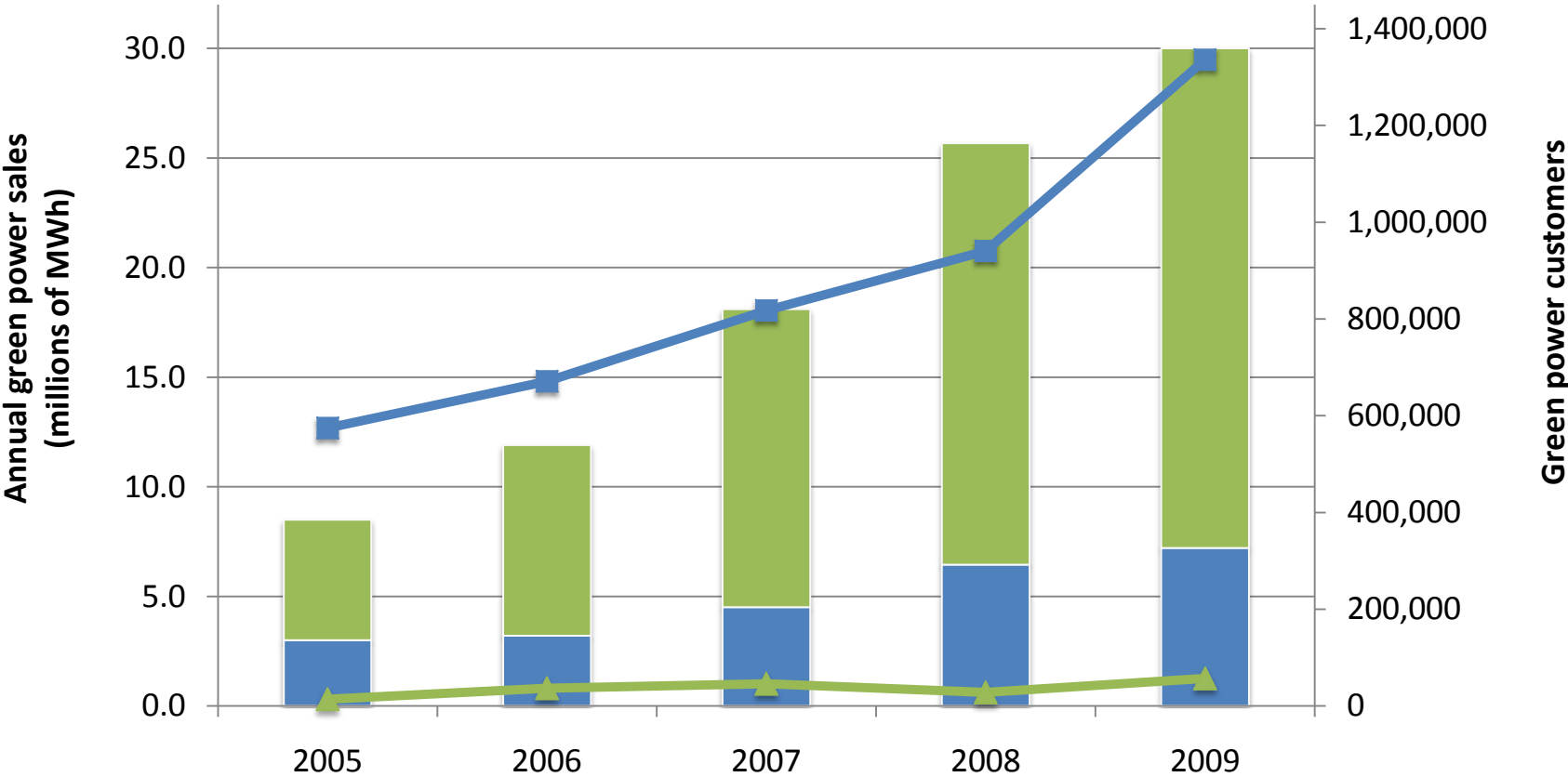
Voluntary Markets on Par with Compliance Markets

Data sources: LBNL, NREL 2010



- *Voluntary markets have been sizable, on par with new renewables required by state RES targets.*
- *In 2009, requirements for new renewables from compliance markets overtook the voluntary market for the first time.*
- *Compliance market requirements increase significantly in coming years.*

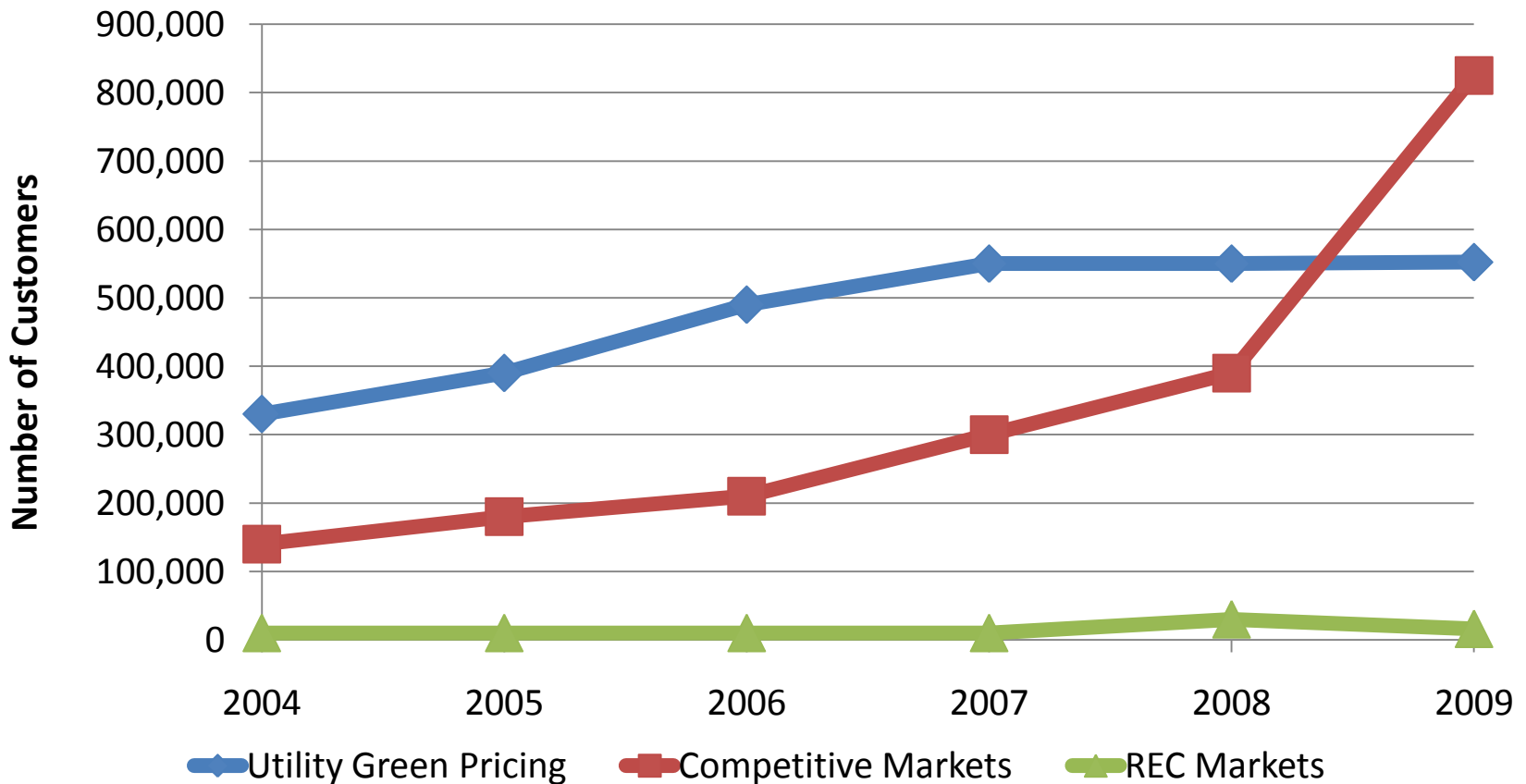
Nonresidential Purchases Still Dominate Market



■ Residential sales ■ Nonresidential sales ▲ Nonresidential customers ■ Residential customers

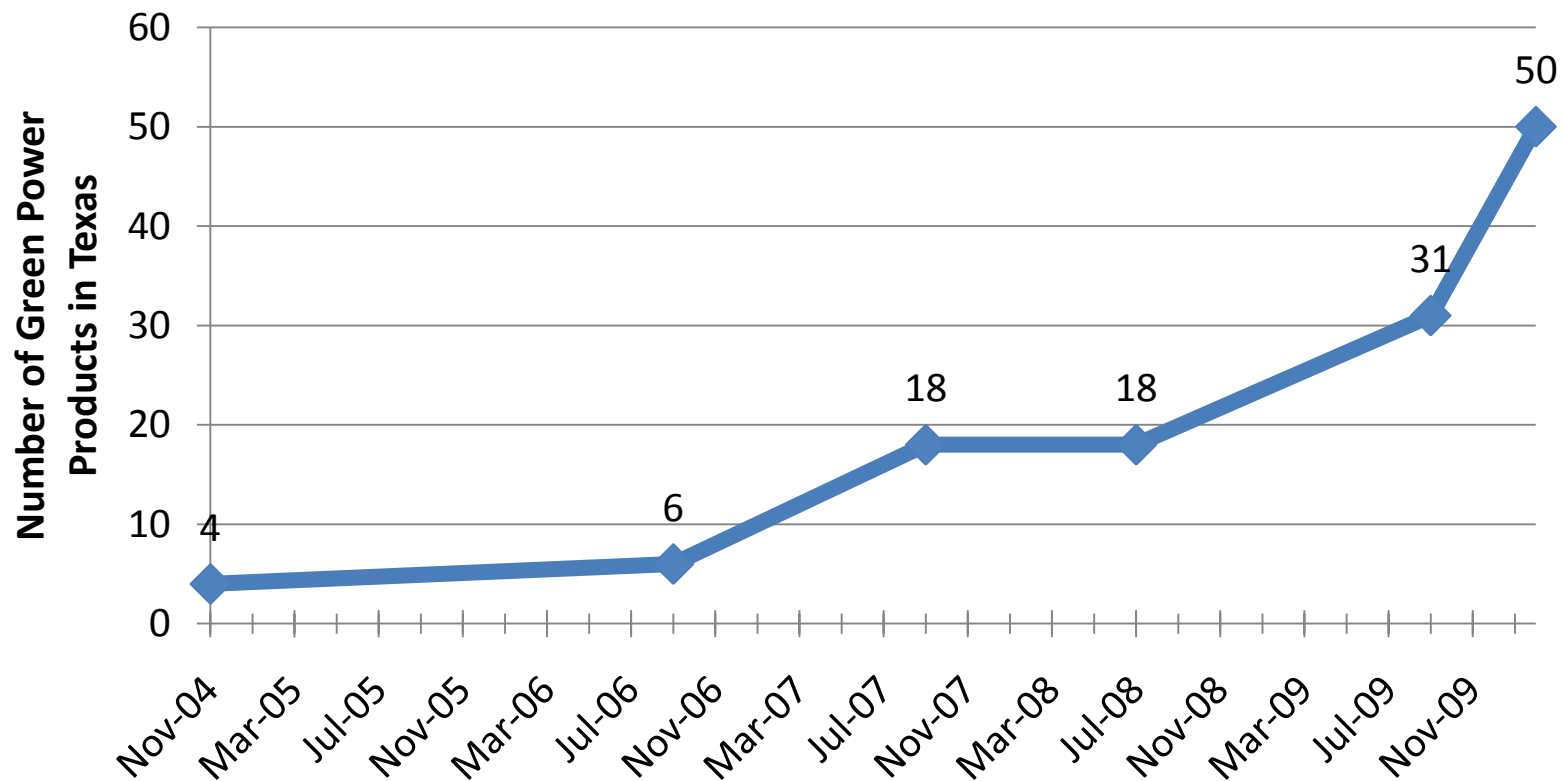
Nonresidential purchases represented more than 75% of annual green power sales in 2009.

Customer Numbers Surge, Led by Texas



Participation in REC markets and utility green pricing programs remained relatively flat; one new competitive program pushed competitive market participation up by 110%.

Surge in RE Offerings in Texas

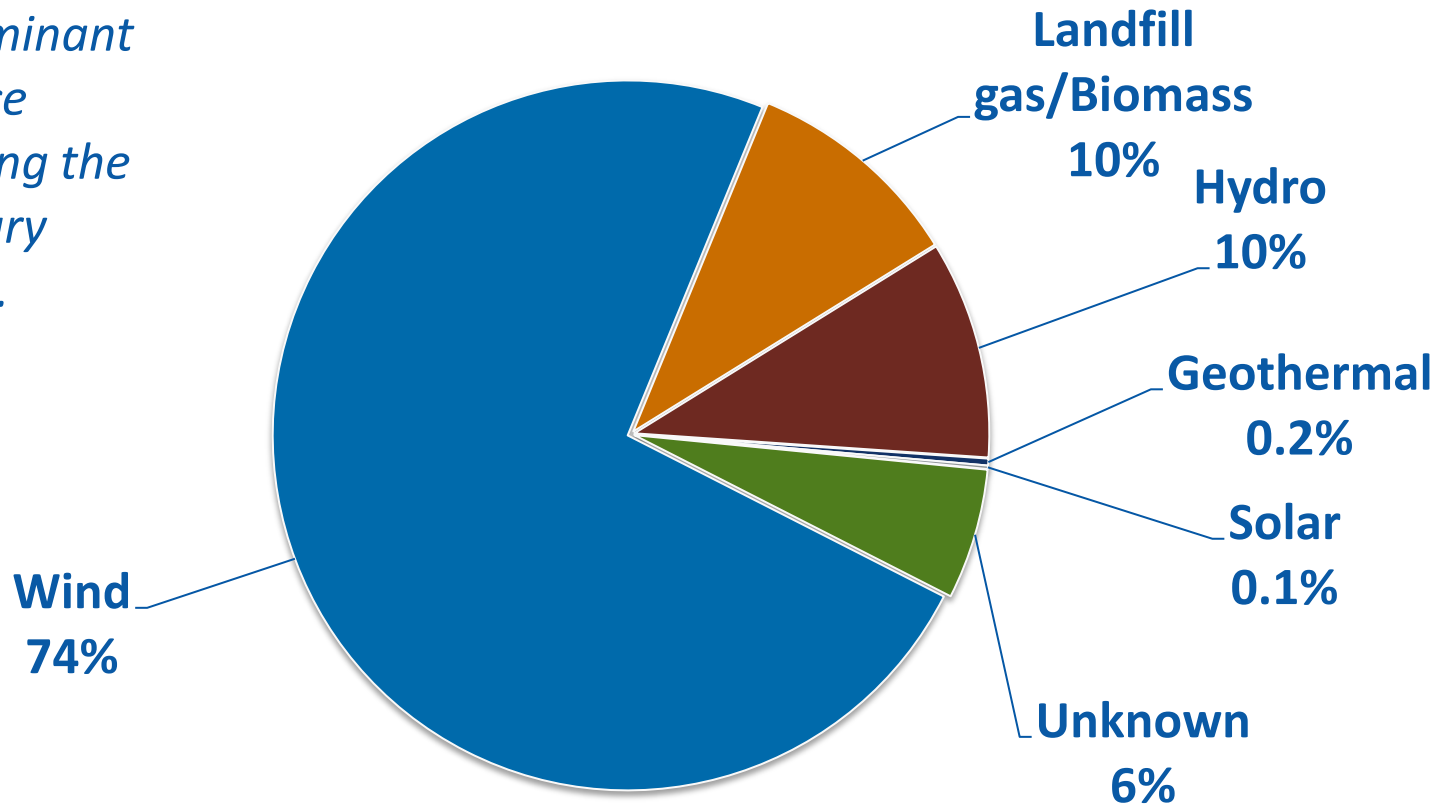


Voluntary REC retirements in Texas, including those by competitive marketers and utility green power programs, increased by 22.7% between 2008 and 2009, from 7.3 million MWh to 8.9 million MWh.

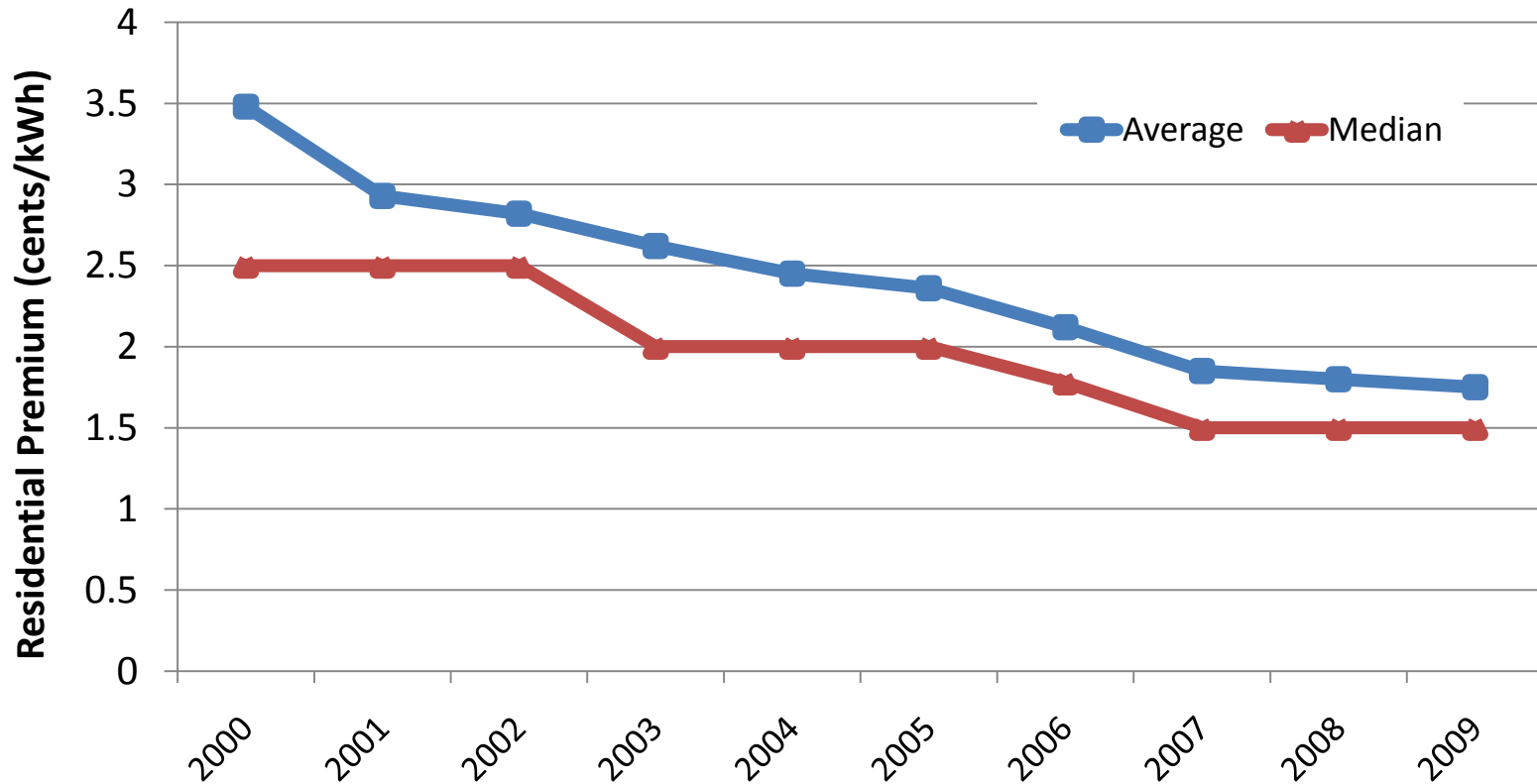
Wind Continued to Be Dominant Resource

Estimated Green Power Sales by Source

Wind remained the dominant resource supplying the voluntary market.

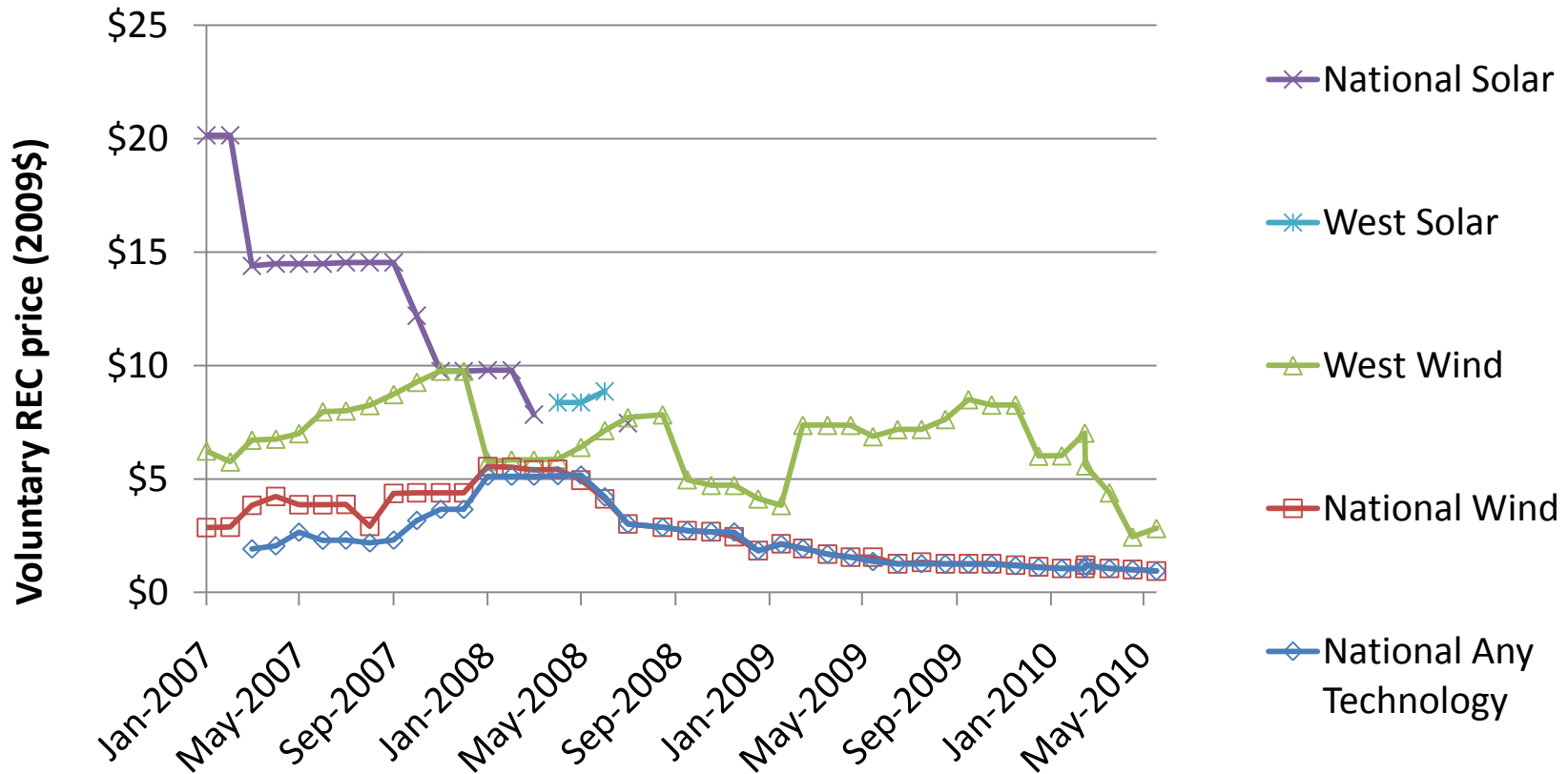


Premiums Continued Downward Trend



Green power premiums continued to decrease in 2009 as a result of increasing competitiveness of renewables.

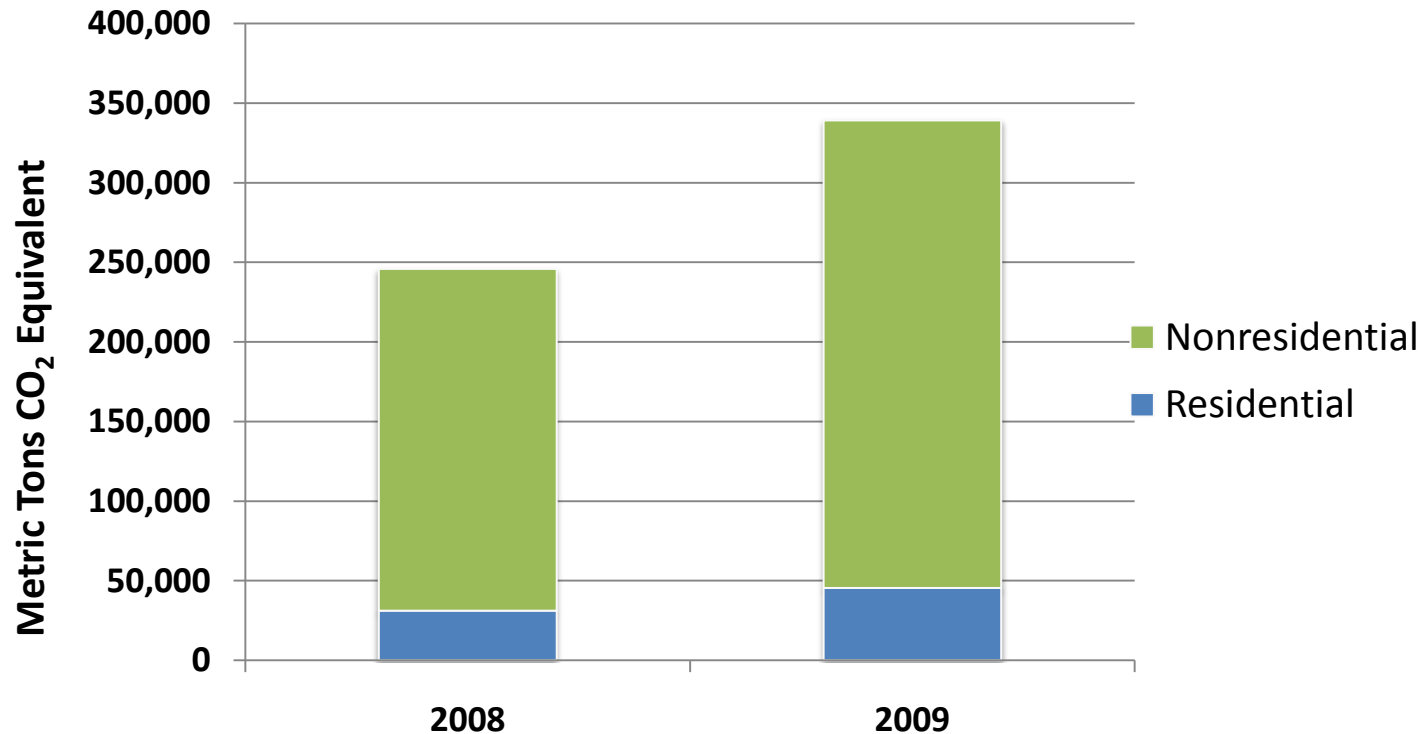
Voluntary REC Prices, Higher in West



Sources: Evolution Markets, Spectron Group

In 2009, prices paid for nationally sourced voluntary RECs from any technology ranged from about \$0.88/MWh to \$3.00/MWh.

RE-Derived Carbon Offset Sales Increase



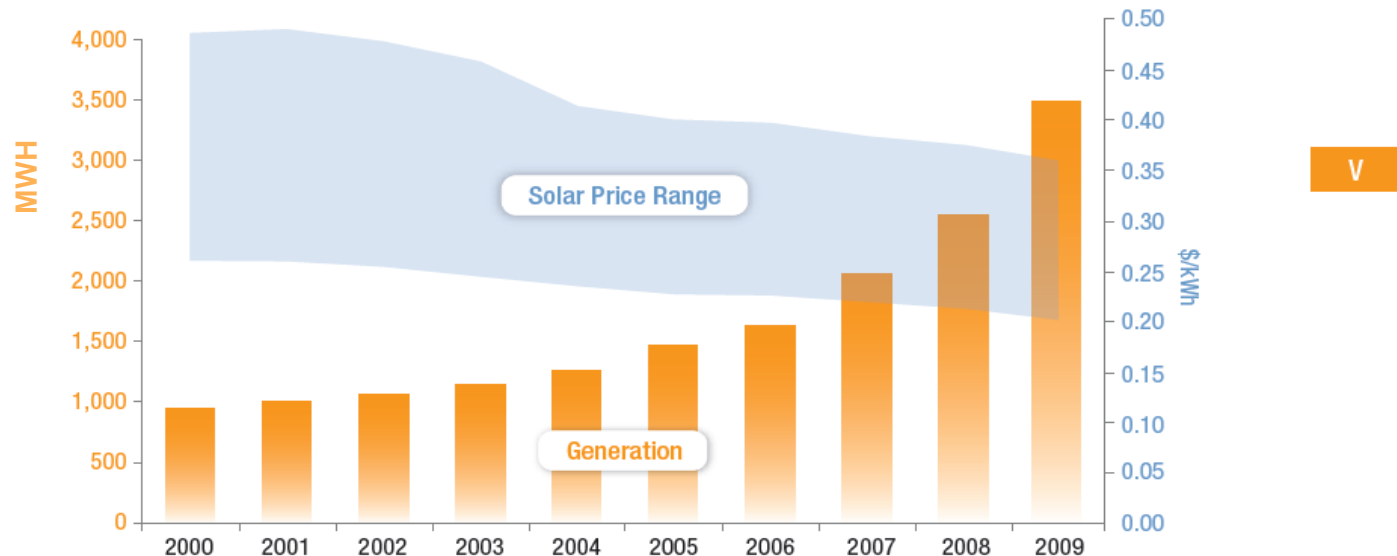
GHG offsets sourced from U.S.-based RE sources increased approximately 39% from 2008 to 2009. In 2009, 485,700 MWh of U.S.-based RE was sold as a GHG offset.

Highlights of 2010

- FTC issues proposed updates to Green Guides
- CEQ issues Federal GHG Guidance allowing RECs to meet federal GHG reduction goals
- Utilities roll-out community-solar programs
- Voluntary Renewable Energy Coalition Launched (May)
- Marin Energy Authority purchases green power; increased interest in community choice aggregation ahead?
- CA proposed decision on RECs for RPS compliance, influence on Western market
- Substantial growth in on-site solar market, leasing options take off

Rapid Growth in On-site Solar, Price Declines

U.S. PV Power Sales Price



Source: Solarbuzz LLC, Federal Reserve Bank of St. Louis.
Note: Data from Solarbuzz is corrected for inflation.

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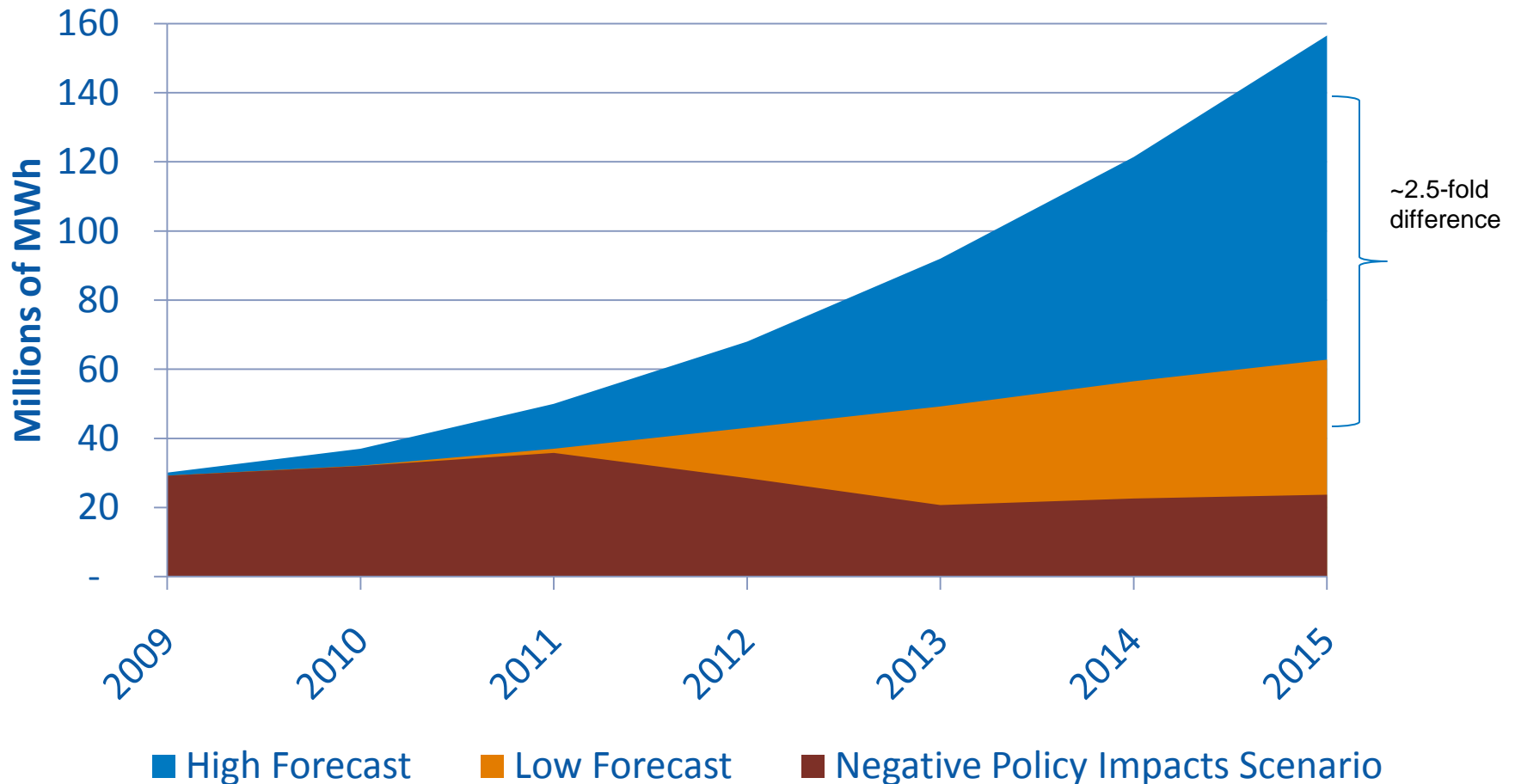
Solar | August 2010

2010 on track to be record year, 339 MW installed in first half of 2010; 435 MW installed in 2009; \$6.90/watt average residential; \$5.00/watt commercial systems (before incentives); total installed capacity 1,200 MWdc end of 2009

What About 2010 Voluntary Market Growth?

- Limited data on 2010, but some indicative data available
- Texas growth may not be fully captured in 2009 data
- 2010 EPA Green Power Partnership data
 - Partner purchases up 5% from year-end 2009 to 18 million MWh from 17.1 million
 - Number of partners also up 5% to nearly 1,300
 - New purchases tempered by suspended purchases

Green Power Market Forecast through 2015



Projects the total voluntary demand for renewable energy in 2015 to range from 63 to 157 million MWh annually. The negative policy impacts scenario reflects a market size of 24 million MWh in 2015.

Additional Information

U.S. Department of Energy
Energy Efficiency and Renewable Energy *Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable*

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Utility Green Pricing

Green pricing is an optional service or tariff offered by utilities to customers in regulated electricity markets.

Green Power Marketing

Green power marketing refers to selling green power in competitive retail and wholesale electricity markets.

Renewable Energy Certificates

Renewable energy certificates represent the environmental attributes of electricity produced from renewable energy sources sold separately from commodity electricity.

Greenhouse Gas Offsets

Greenhouse gas (GHG) offsets are tradable certificates representing units of GHG emission reductions.

State Policies

Lead Story

NextEra Launches Trust for New Renewables Investments

NextEra Energy Resources has announced the launch of EarthEra Renewable Energy Trust, a program that will directly invest all proceeds from voluntary renewable energy credit (REC) purchases by businesses and consumers into the construction of new wind and solar ... [See full story](#)

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News

- ConEdison Solutions Launches Green Power Program for Connecticut Customers | June 2009
- APX Launches Web-Based Renewable Energy Certificate Management Platform | June 2009
- Johnson Controls Installs 1.1-MW Rooftop PV at Orange County Convention Center | June 2009

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September 13-16, 2009 | Atlanta, GA

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