Status of the Voluntary Renewable Energy Markets

Renewable Energy Markets Conference 2011

San Francisco, California

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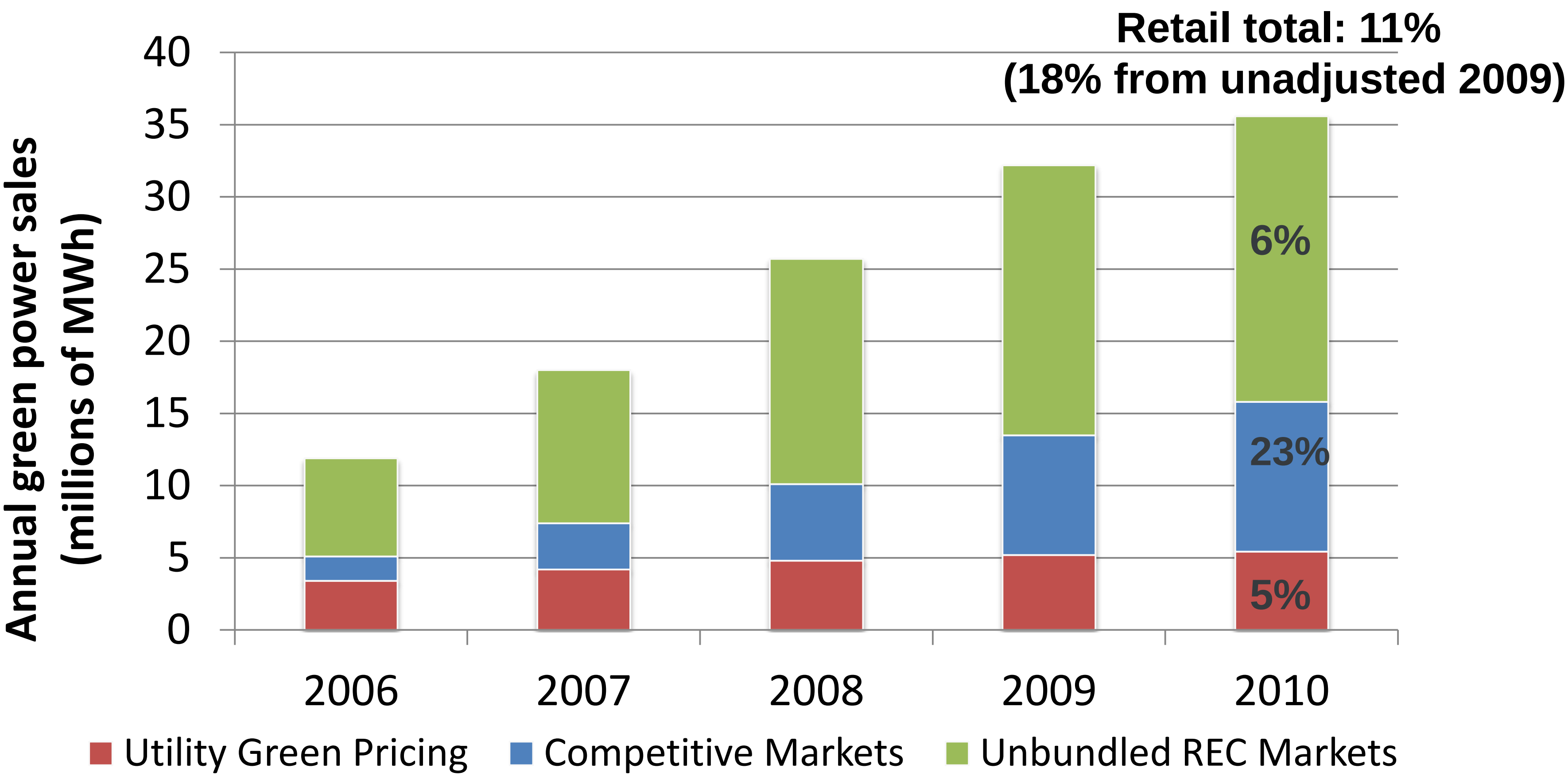
Overview

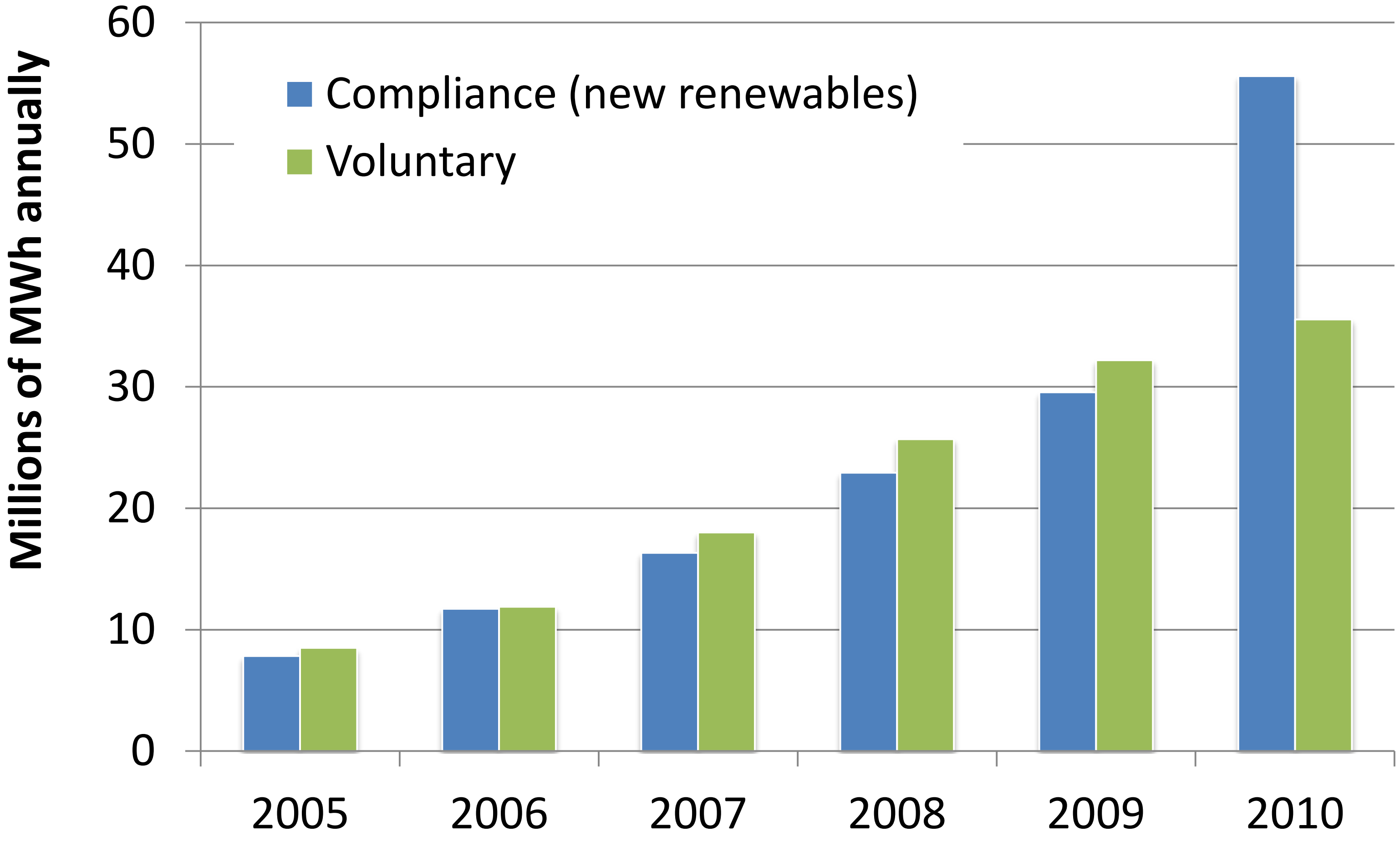
- Voluntary market growth in 2010
- Consumer attitudes
- Sales and customer trends
- Price premiums and REC prices
- Highlights from 2011

Green Power Sales Up in 2010 by 11% (18% unadjusted)



Competitive market sales lead growth; REC market remains largest on MWh basis. Mixed market - some programs/marketers reported losses.

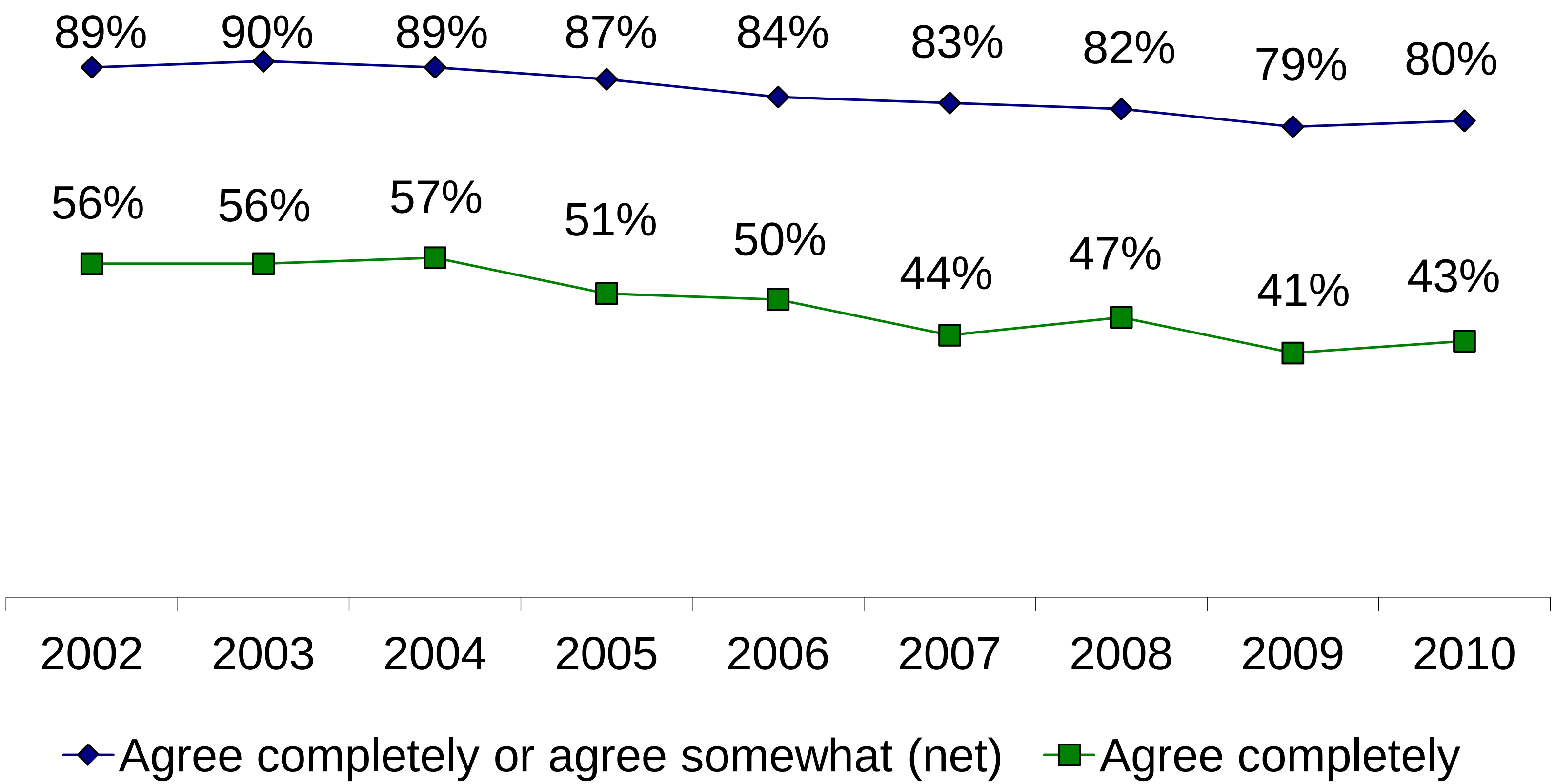
Compliance Markets Overtake Voluntary Markets



Compliance requirements increased dramatically due to many states setting significant targets for 2010.

Data sources: LBNL, NREL 2011

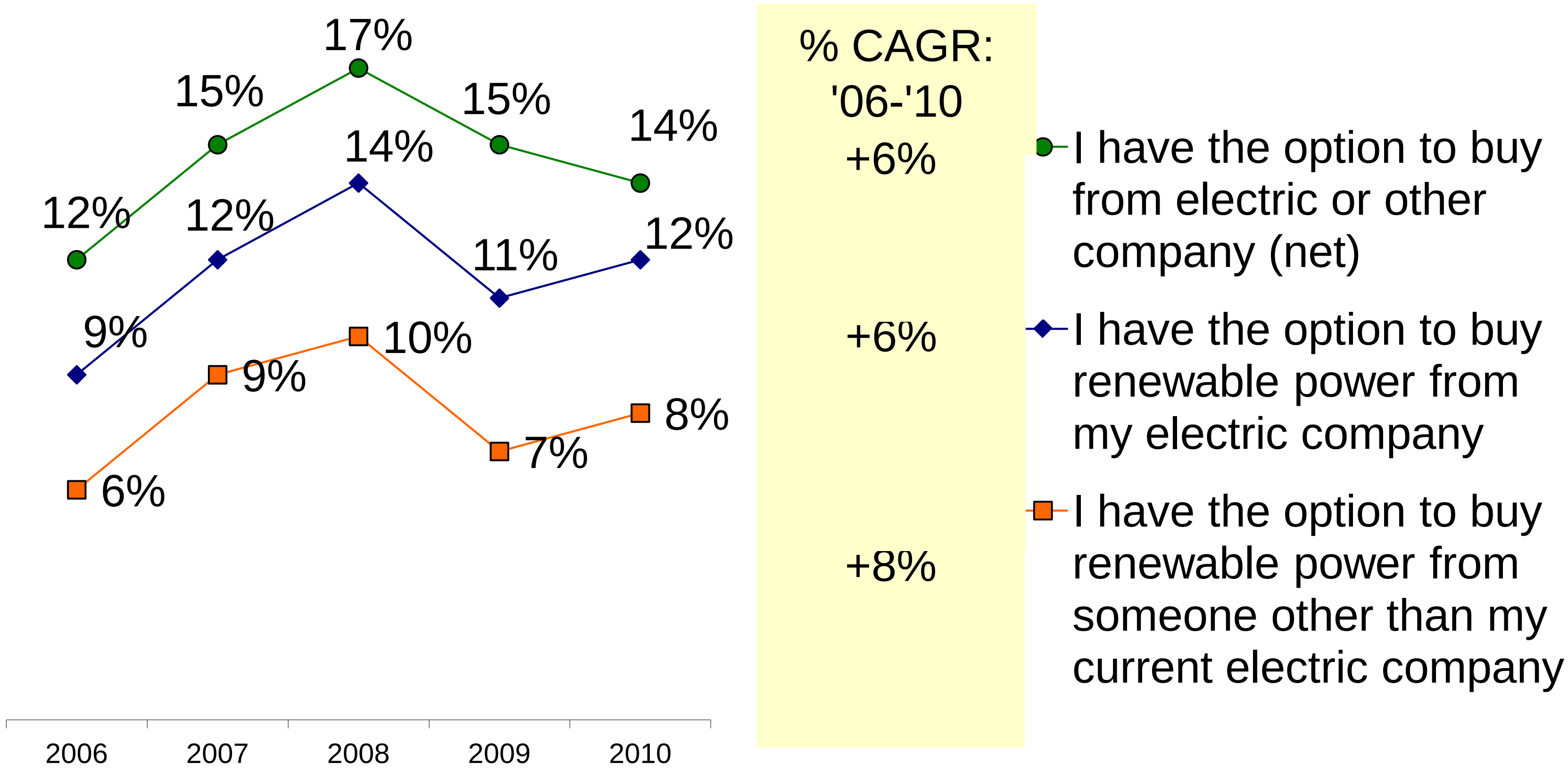
Consumer Caring About Using Renewables



Decline consistent with trends in other environmental attitudes (e.g., environmental protection); no regional differences

Source: Natural Marketing Institute, 2010 LOHAS Consumer Trends Database

Consumer Awareness of RE Purchase Options

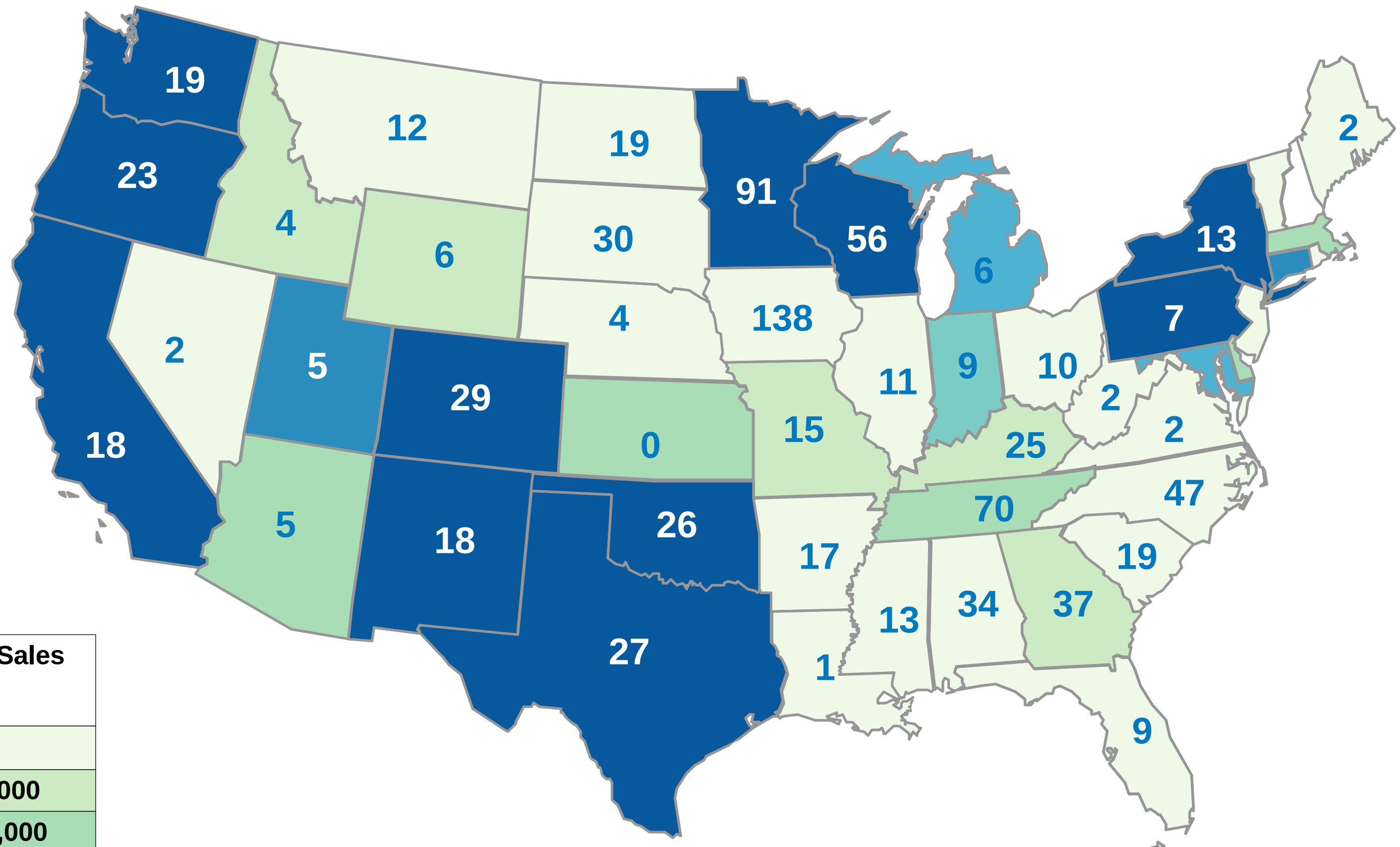


Consumer awareness continues to pose a challenge

Source: Natural Marketing Institute, 2010 LOHAS Consumer Trends Database

Green Power Sales and Number of Programs by State

Sales and program figures include both utility green pricing programs and retail marketers



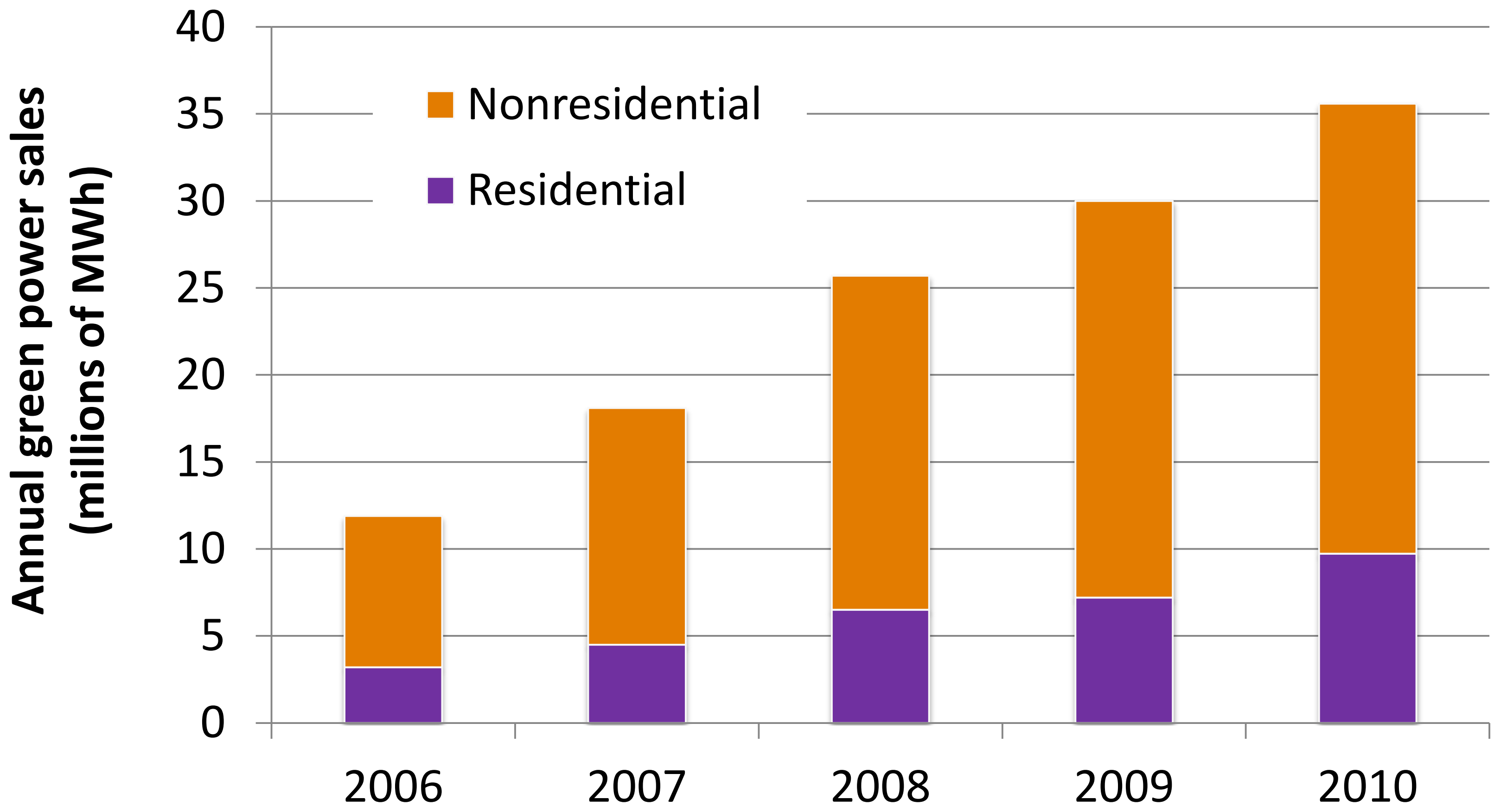
AK – 1
HI – 2

NH – 0
VT – 2
MA – 6
CT – 5
RI – 1
NJ – 2
DC – 2
DE – 2
MD – 5

Green Power Sales (MWh)
< 35,000
35,000 – 70,000
70,000 – 105,000
105,000 – 140,000
140,000 – 175,000
175,000 – 205,000
> 205,000

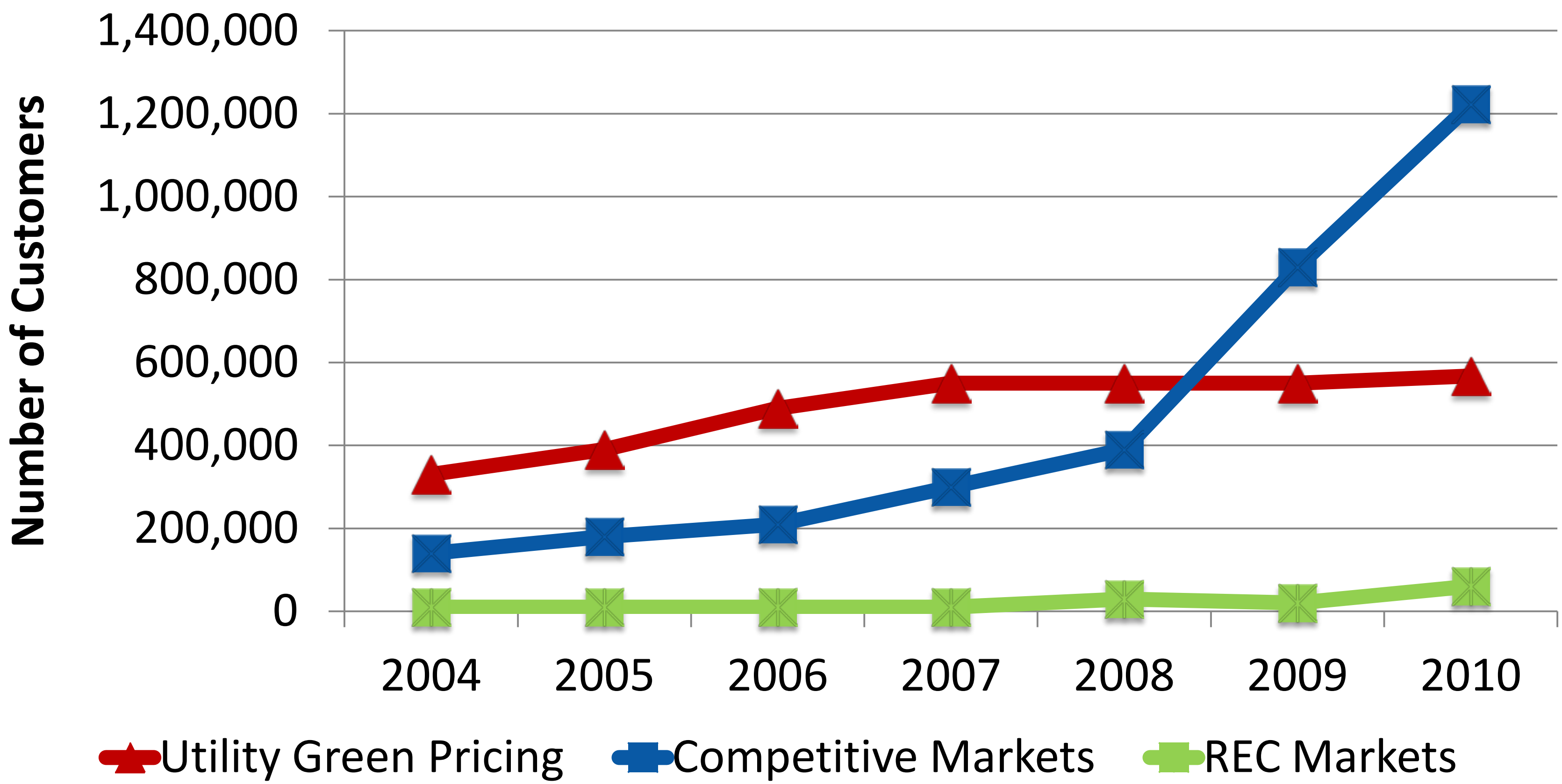
Sources: Sales data (2009 data) EIA Annual Electric Utility Data – EIA-861 http://www.eia.doe.gov/cneaf/electricity/page/eia861.html
Number of Programs – DOE Green Power Network http://greenpower.energy.gov

Nonresidential Purchases Still Dominate Market



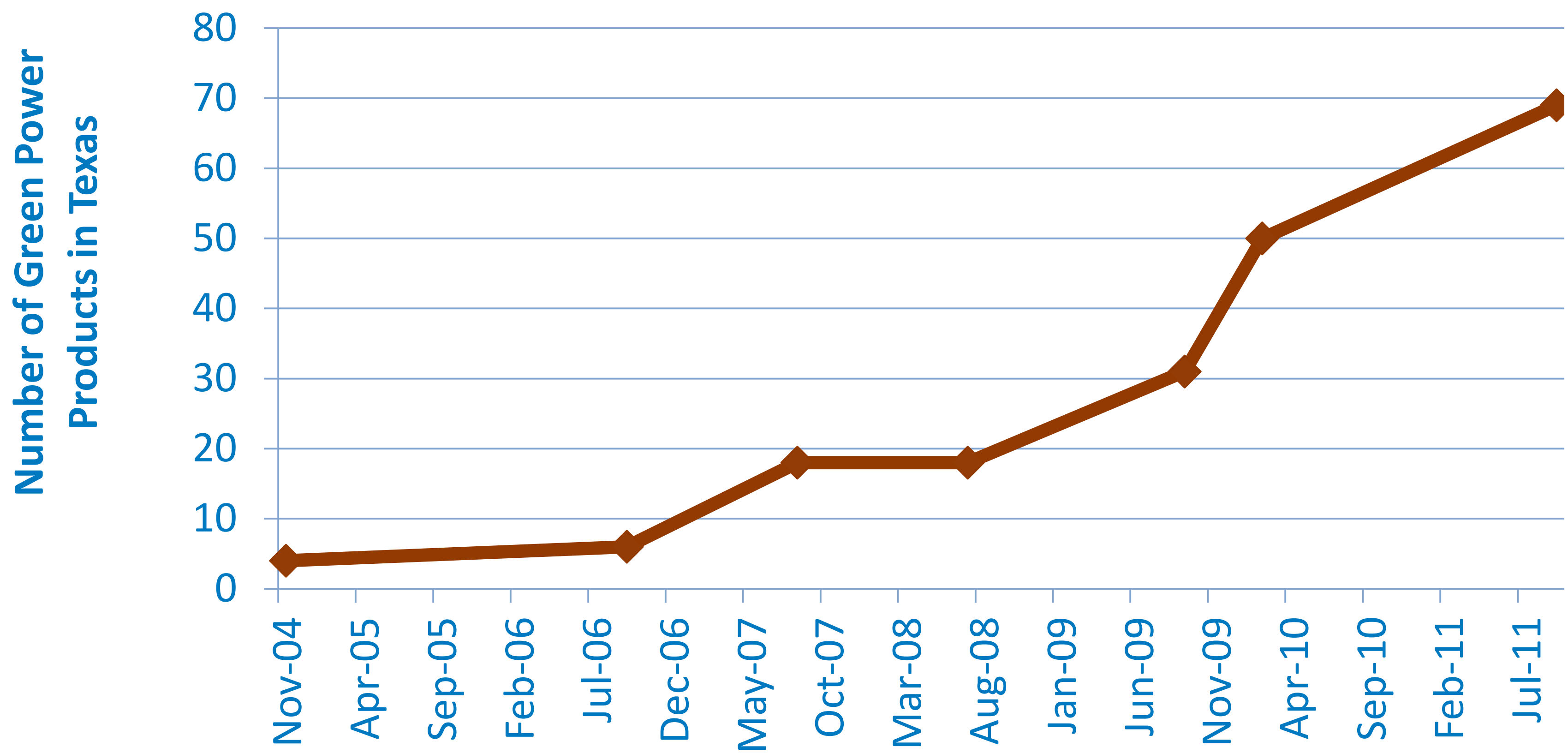
Nonresidential purchases represented nearly 75% of annual green power sales in 2010.

Customer Numbers Continue to Surge, Led by Competitive Market



- ***Competitive market participation increases by 45%. Participation in utility green pricing programs increases slightly. REC market participation triples but remains smallest market in terms of customer participation.***

Surge in RE Offerings in Texas

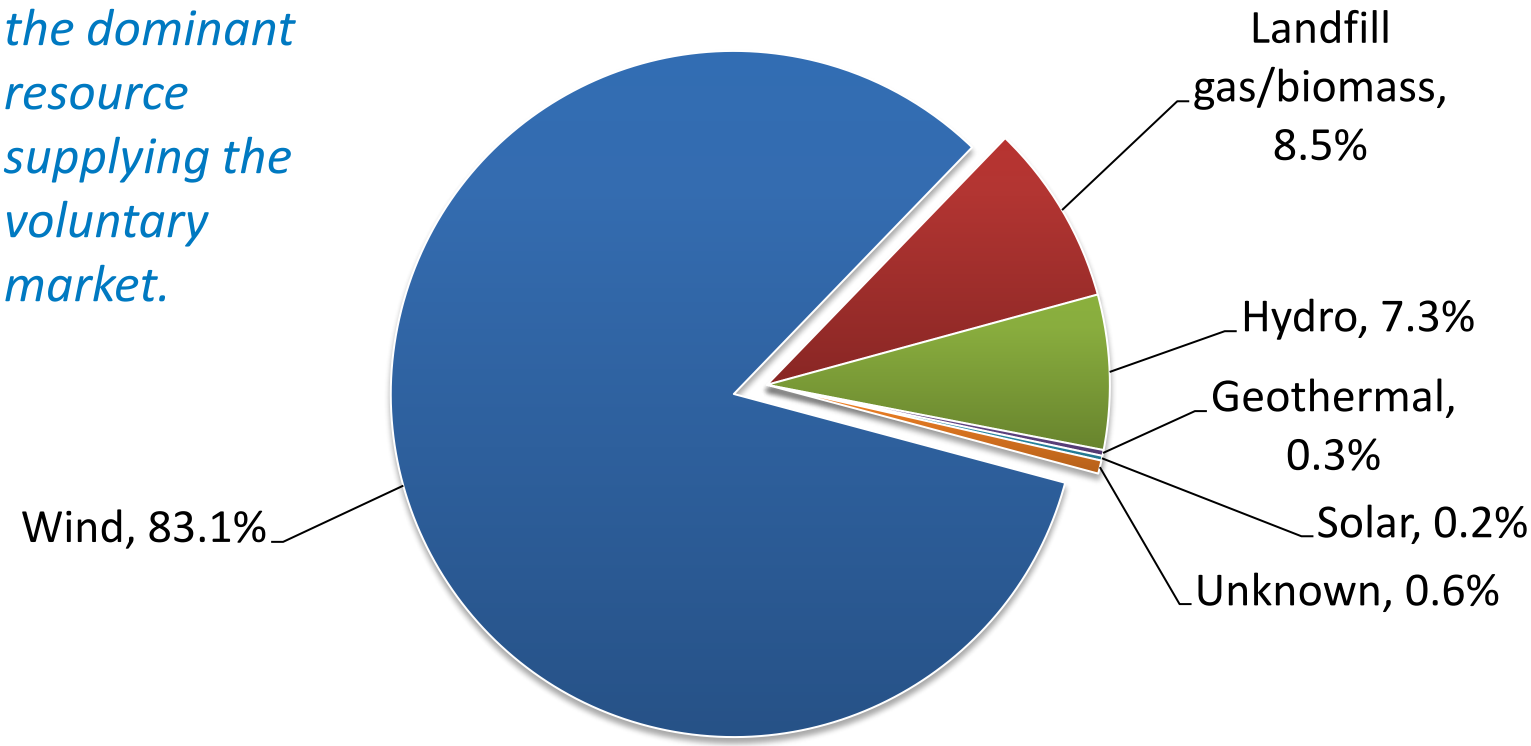


Voluntary REC retirements in Texas, including those by competitive marketers and utility green power programs, increased by 33% between 2009 and 2010, from 8.9 million MWh to 11.8 million MWh.

Wind Continued to Be Dominant Resource

Estimated Green Power Sales by Source

Wind remained the dominant resource supplying the voluntary market.

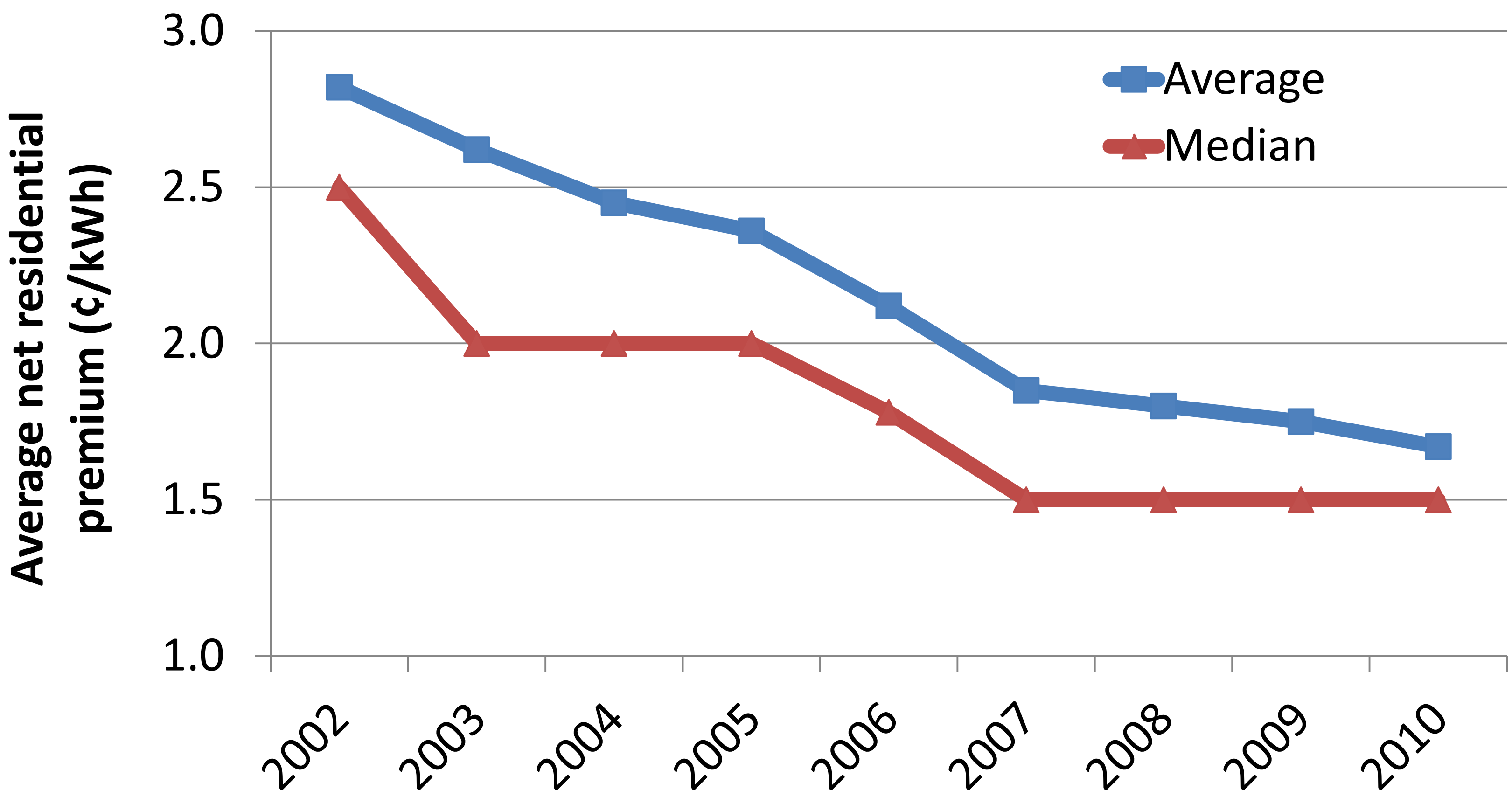


Community Solar Programs on the Rise

Community solar programs allow customers to purchase a share of a solar system and receive the benefits of the energy that is produced by their share. Existing programs range in size from 5 kW to 1 MW.

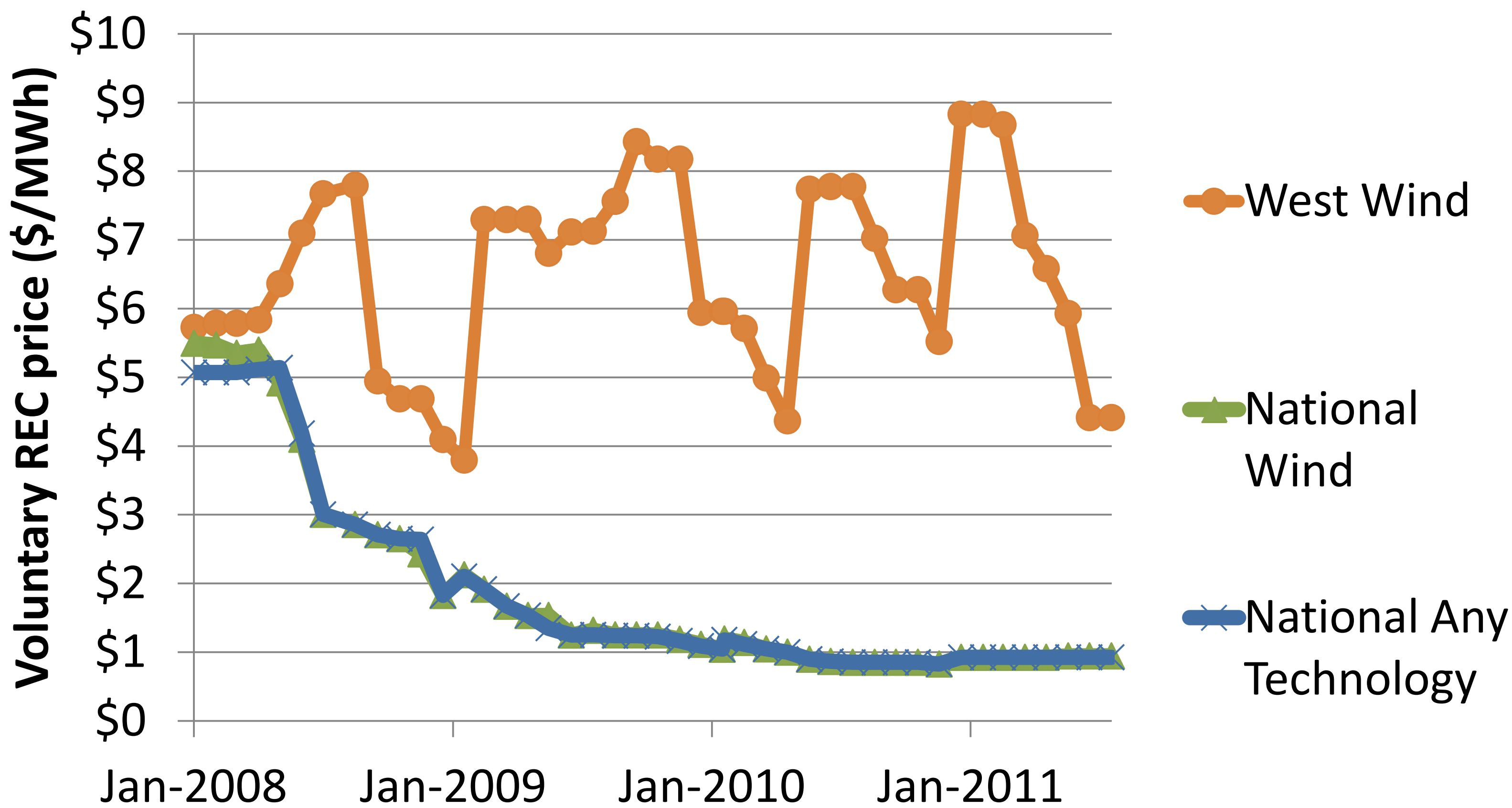
Utility/Provider – Program Name	Program Size (kW)	Program Start
Ellensburg (WA) – Community Solar Project	27	2006
Ashland (OR) – Solar Pioneers II	63	2008
Florida Keys Electric Cooperative (FL) – Simple Solar	117	2008
Sacramento Municipal Utility District (CA) – SolarShares	1,000	2008
Bainbridge Island (WA) – Solar for Sakai	5	2009
St. George (UT) – Sun Smart	250	2009
United Power (CO) – Sol Partners	10	2009
Holy Cross Energy/Clean Energy Collective (CO) – Mid Valley Solar Array	80	2010
Delta-Montrose Electric Association (CO) – Community Solar Array	20	2011
Holy Cross Energy/Clean Energy Collective (CO) – Garfield County Array	858	2011
Poulsbo Project (WA) – Poulsbo Middle School	75	2011
Trico Electric (AZ) – Trico Sun Farm	193	2011
Seattle City Light (WA) – Community Solar	24	2011

Premiums Continued Downward Trend



Green power premiums continued to decrease in 2010 as a result of increasing competitiveness of renewables.

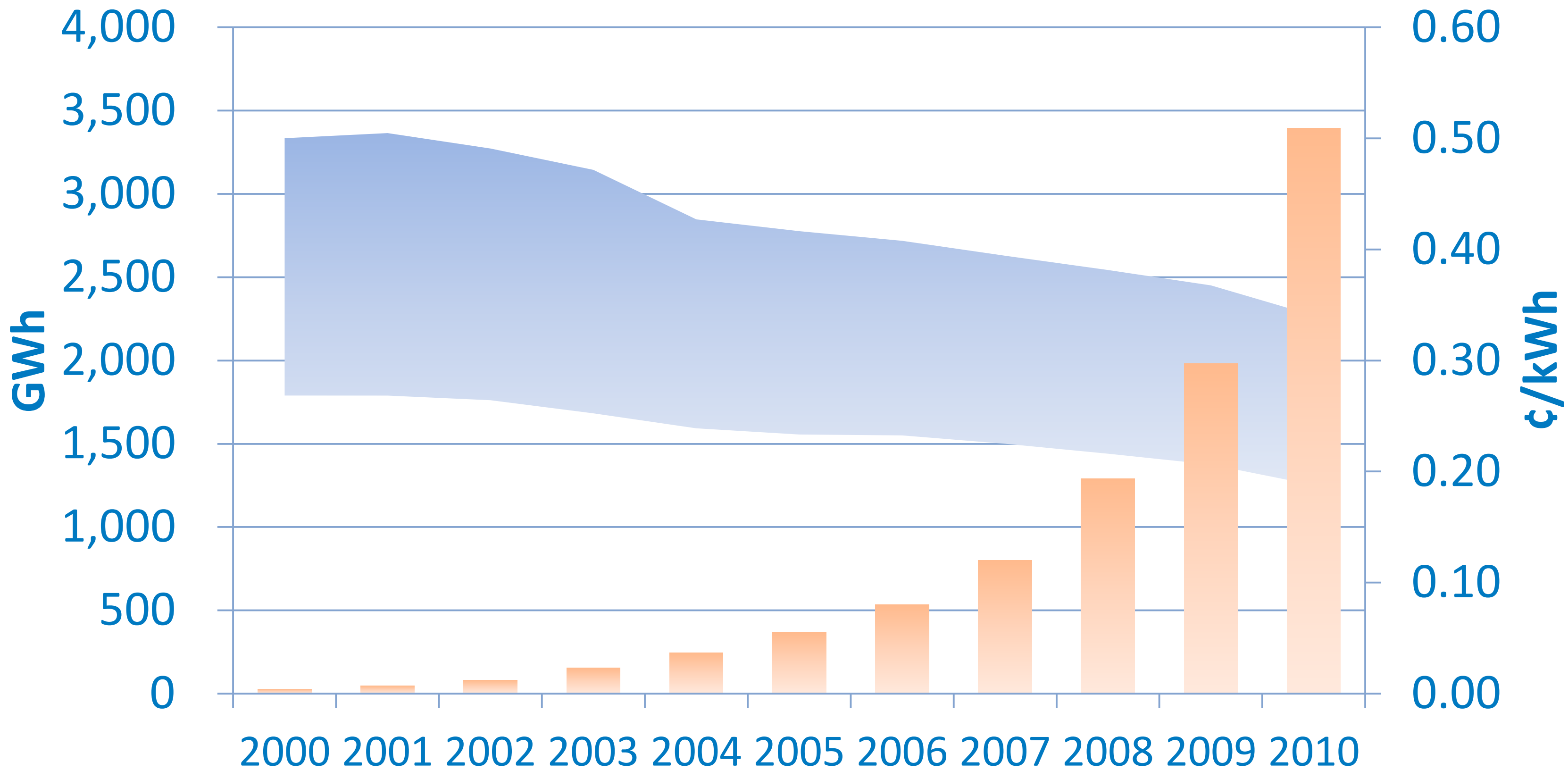
Voluntary REC Prices, Higher in West



Sources: Evolution Markets, Spectron Group

In 2010, prices paid for nationally sourced voluntary RECs were ~$1/MWh. West Wind garnered higher, more volatile prices.

Rapid Growth in Solar PV, Price Declines



314 MW installed in first half of 2011, 887 MW installed in 2010; $6.42/watt average residential; $5.20/watt commercial systems (before incentives) (Q2 2011); total installed capacity 2,676 MWdc end of 1H2011

Highlights of 2011

- FTC issues proposed updates to Green Guides
- Frank Dodd Act regulation of RECs as swaps still open question
- WindMade launches new label
- Growth and diversity in new products (community-solar programs, EE, fuel cells)
- Strong interest in on-site solar, leasing options grow
- Continued interest in community choice aggregation (IL and CA) and bulk purchases
- CA 33% RPS law clarifies roles of RECs

What About 2011 Voluntary Market Growth?

- **Limited data on 2011, but some indicative data available**
- **Texas growth may not be fully captured in 2010 data**
- **2011 EPA Green Power Partnership data**
  - Partner purchases up about 9% from year-end 2010 of 19.2 million MWh to about 21 million MWh
  - New purchases tempered by suspended purchases

Additional Information

http://greenpower.energy.gov

New Content:
- *REC Prices*
- *Community Renewables*
- *REC Tracking Systems*

Recent Reports:
- *Voluntary and Compliance Market Status Report*
- *SREC Market: Status and Trends*
- *Role of Renewable Energy Certificates in Developing New Renewable Energy Projects*
- *Consumer Attitudes About Renewable Energy*
- *Using Renewable Energy Purchases to Achieve Carbon Goals*