

Center for



RESOURCE SOLUTIONS

RECs: The Good, the Bad, and the Ugly

Solar Power International 2008, Oct. 14, 2008

Arthur O'Donnell
Executive Director
Center for Resource Solutions
arthur@resource-solutions.org
415-561-2101

Center for Resource Solutions

A nonprofit organization working nationally and internationally to fight climate change by building policies and consumer-protection mechanisms in renewable energy, greenhouse gas reductions, and energy efficiency.

Developed and manage three **certification programs** for environmental markets:



Green-e Energy: Launched in 1997 to provide consumer protection for the green power markets in North America.

Green-e Marketplace: Launched in 2005 to verify green power claims made by companies purchasing renewable energy for their operations.

Green-e Climate: Launched in 2008 to provide consumer protection for the carbon offset market.

Join the RECs Revolution

How RECs Changed the Renewable Energy Marketplace

RECs break down traditional barriers in electricity service by defining a set of environmental attributes that can be traded separately from the generated electrons.

Physical: RECs are not tied to delivery on transmission grid.

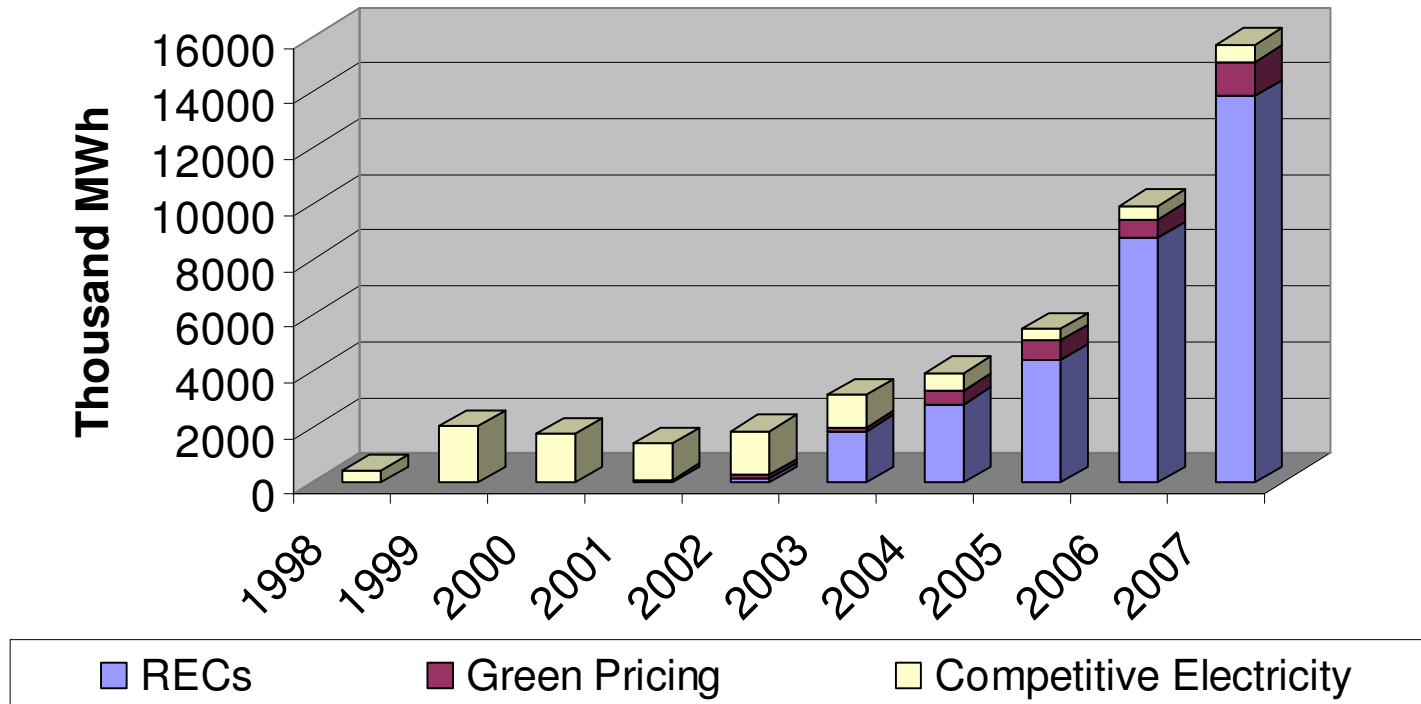
Temporal: RECs can be banked for future or sold to meet past obligations.

Market: RECs transactions can bypass traditional utility-customer relationship, even in monopoly territories.

Value: RECs sales add value to enhance project financeability above and beyond value of electricity.

Growth in Green-e Markets - Verification Report 2007

FIGURE 1: **Green-e Energy Certified Sales by Product Type, 1998-2007**

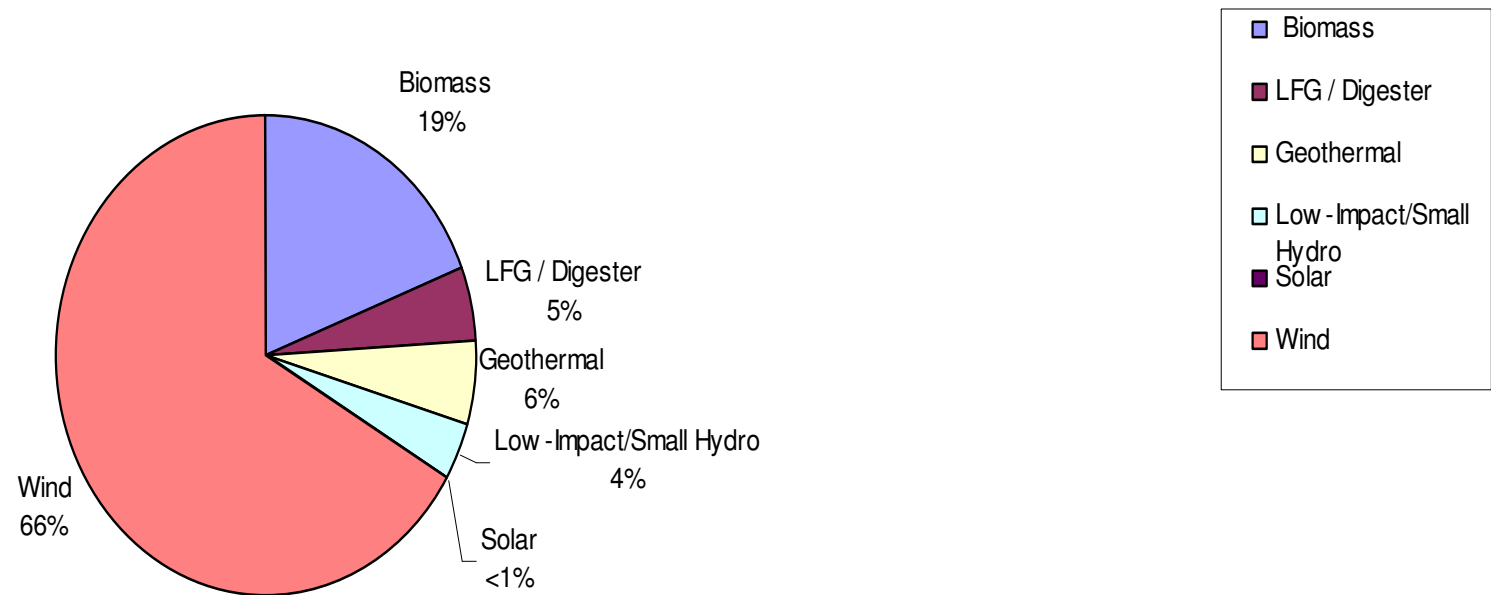


Sales of Green-e Energy Certified RECs by Customer Type 2007

	MWh Sales Volume	Increase from 2006	Percent of Total REC Sales	N	Average MWh
Res.	81500	108%	1%	17800	5
Comm.	7305000	109%	53%	2100	3500
WS	6468000	24%	47%	160	41500
Total	<u>13854500</u>	<u>58%</u>	<u>53%</u>	<u>20060</u>	<u>691</u>

Green-e Energy Market Verification Report 2007

Figure 6: **Contribution of Renewable Resource Types to Green-e Energy Certified RECs**



RECs for RPS Compliance

- Of 26 states with Renewable Portfolio Standards, only 4 do not currently allow use of unbundled RECs to meet mandates.
- California is the most important of these markets, has gone through a long process to define RECs and rules.
- Regulators worry about double counting, so conditioned RECs use on functional WREGIS tracking system (now up and running).
- A proposed decision expected in Nov. 2008.

“RECs as carbon offsets”

Is a REC an offset?

NO

Can a renewable energy project generate an offset?

Sometimes

PAVER for Renewable Energy facilities in the US

What are the characteristics of a high quality offset?

Permanent - must last in perpetuity – not an issue with RE, once the energy is generated it cannot be reversed

Additional – must be spurred by the carbon market, “beyond business as usual” – more to follow

Verifiable - must result from projects whose performance can be readily monitored and verified – tracking systems

Enforceable - must be backed by contracts or legal instruments that define their creation and ensure exclusive ownership – tracking systems and contractual documents

Real - must represent actual emission reductions and are not artifacts of incomplete or technically flawed accounting – tracking systems and EIA reporting

Additionality

How do you prove a renewable energy facility is additional?

Methodology	Timing Test	Regulatory Test	Other Additionality Tests
CCX	1999	Required	Sector Based
Green-e Climate	2005	Required	Sector Based
Gold Standard	2006	Required	Financial Test
VCS	2002	Required	Financial Test or Sector Based

Renewables under a Cap-and-Trade System

Can renewable energy or RECs sold in the voluntary market claim emission reductions under future cap and trade?

Under a cap, when a renewable generator produces emissions-free electricity, a fossil-fuel plant produces less electricity, but the number of allowances in circulation remains the same unless there is an accounting mechanism.

Cap should act as a floor for emission reductions, not a ceiling.

“Off-the-top” Rule – A certain number of allowances are retired and taken out of circulation on behalf of reported voluntary renewable energy sales.

GAO report questioned value of RECs as offsets

Credibility of Offset Projects (31 responses)

Ag Methane	3.41
Fuel Switching	3.39
Landfill Methane	3.25
Coal Mine Methane	2.82
Industrial Gas	2.82
Non-REC renewable energy	2.67
Energy Efficiency	2.57
Afforestation	2.5
Reforestation	2.5
Avoided Deforestation	2.25
Ag Soil Carbon	1.86
Range soil carbon	1.81
RECs	1.26

source GAO-08-1048



Arthur O'Donnell
415-561-2101
arthur@resource-solutions.org
www.green-e.org www.resource-solutions.org