



# **Current Issues With RECs**

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# Overview of Compliance Markets

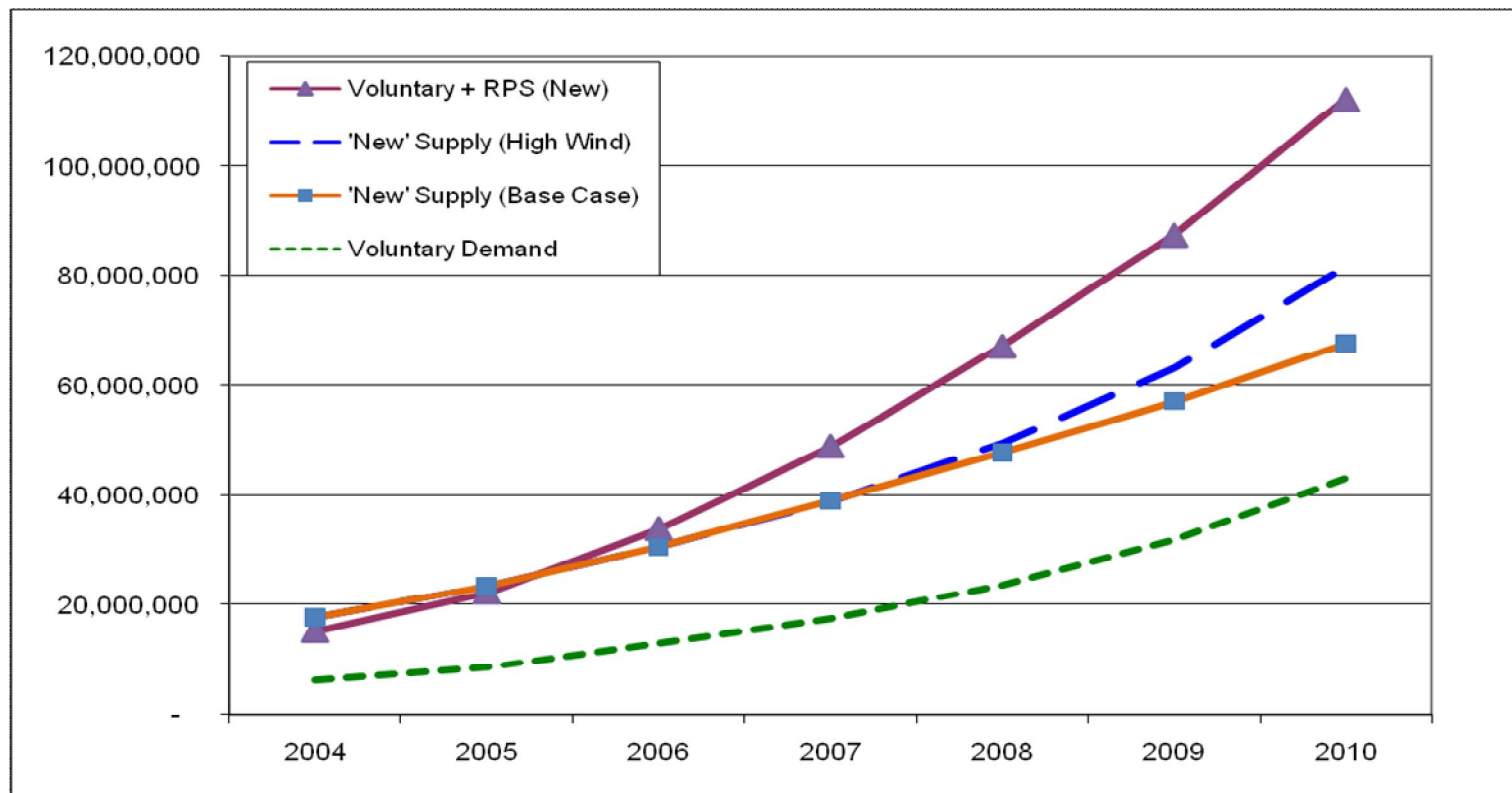
- 26 states and DC have adopted RPS
  - Almost all rely on RECs for compliance
- 2007 RPS compliance supported 69 million MWh (UCS 2008)
- REC compliance prices vary by market (EvoMarkets 7/2008)
  - MA New \$45
  - CT Class I \$25
  - NJ Class I \$17.50
  - DE New \$13.75
  - TX \$4
  - MD Tier I \$1

# Overview of Voluntary Markets

- Over 750 utilities, 55 REC marketers & a dozen brokers
- 2007 purchases were 18 million MWh (NREL 2008)
  - Assuming a 35% growth rate, could see 40 million MWh by 2010, representing ~25% of total demand (NREL 2008)
    - ✓ Currently voluntary market is ~20% of total demand
  - Non-residential demand is driving growth
    - ✓ EPA currently has >1000 Partners annually purchasing nearly 16 million MWh
- Voluntary REC prices are typically lower than compliance prices, but it depends on the market
  - Utility green power prices (small purchase) average \$21/MWh (median \$17.8)
  - REC prices (bulk purchase) are about \$8-\$12



# Estimated and Projected Supply and Demand for Renewable Electricity



Swezey, B. and J. Aabakken. 2007. A Preliminary Examination of the Supply and Demand Balance for Renewable Electricity. National Renewable Energy Laboratory, October.



# REC Fungibility

- Variations in REC market rules have created a complex marketplace
  - Differences on REC definitions, resource eligibility, generator location and energy delivery requirements result in balkanize markets, less competition, and higher prices
- Greater harmonization of state RPS policies could increase fungibility and create larger markets
  - CESA has recently be encouraging harmonization discussion

# REC Definitions

- Definitions of included attributes vary state by state
- Biggest issue is whether RECs include derived attributes – specifically emission reductions or credits
  - AZ, CA, CO, NY and WA require that emission reductions and allowances (if available) be retired with REC for RPS compliance
  - DE, NC and PA explicitly do not require the inclusion of emission reduction attributes
  - Most states are silent
- As state carbon markets develop, states may want to clarify one way or the other
  - A standard approach would make RECs more fungible





# RECs and Carbon Regulation

- Cap and trade could affect voluntary market sales
  - Voluntary purchasers currently claim to reduce GHGs
  - If carbon emissions are capped and renewables don't receive allowances, then:
    - ✓ Renewables may displace fossil generation, but
    - ✓ Emissions won't be reduced unless an allowance is retired
- RGGI example
  - Most RGGI states will set-aside and retire allowances based on demonstrated voluntary RECs purchases
  - This supports reduction claims of marketers and purchasers
- What about RECs used for compliance?
  - Do states expect RPS to result in reduced emissions?

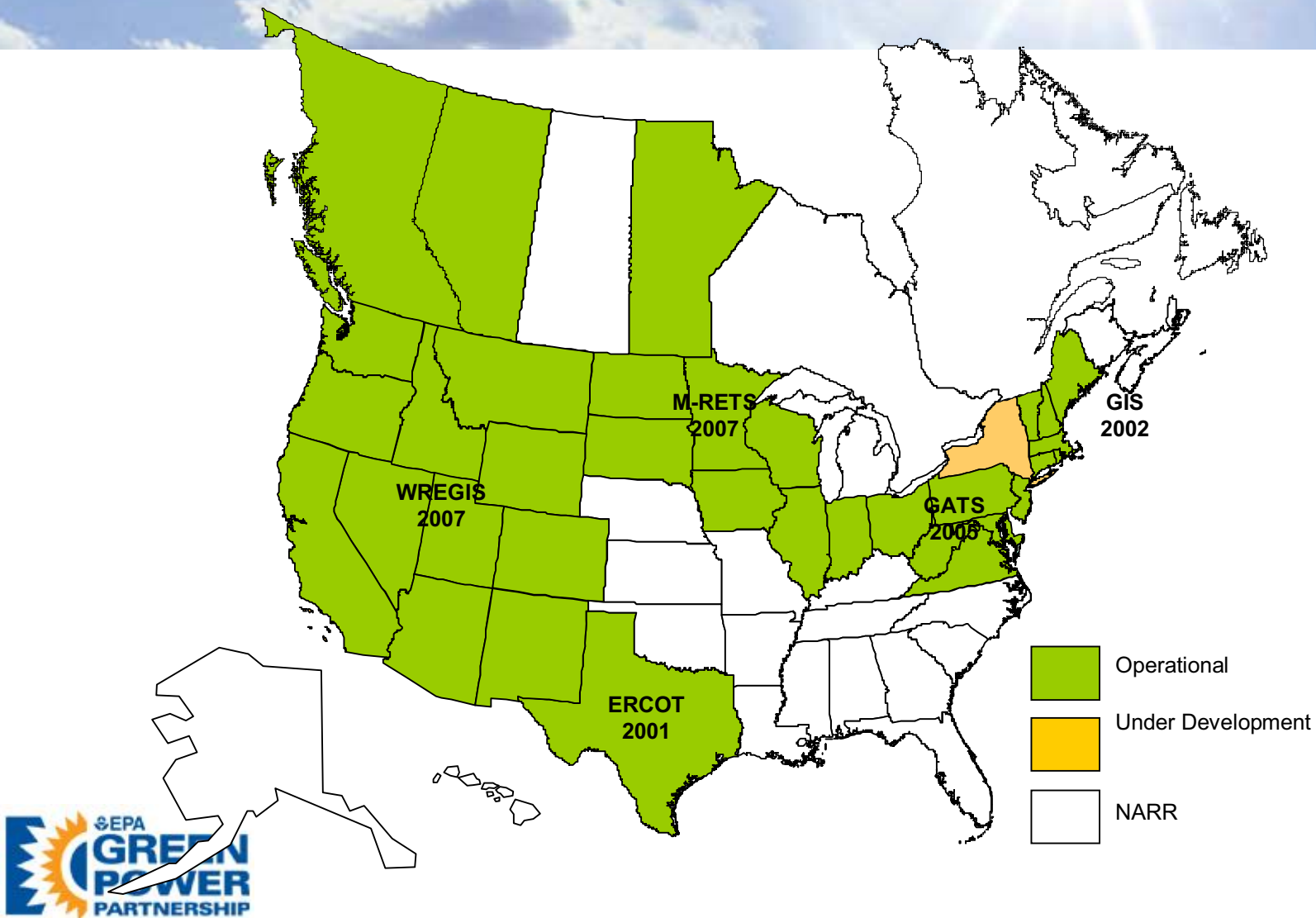
# RECs as Carbon Offsets

- Offsets are voluntary products, unless carbon policy states ...
- RECs are being marketed as carbon offsets by retailers
  - There are private certification programs that do recognize renewable energy as offsets if certain standards are met
- EPA's Climate Leaders offers guidance on the use of RECs in corporate GHG inventories
  - RECs can be used to reduce indirect emissions from electricity use, but not direct emissions – as an offset would
    - ✓ [http://epa.gov/climateleaders/documents/greenpower\\_guidance.pdf](http://epa.gov/climateleaders/documents/greenpower_guidance.pdf)
- Renewables, in general, can offset direct emissions when methane destruction occurs or onsite renewable electricity reduces onsite fossil fuel usage
  - EPA does recognize methane destruction offset products





# REC Tracking Systems



# Tracking Systems Seams Issues

- Will tracking systems support interregional REC trade?
  - Perhaps more important for voluntary market or if national RPS is adopted
- Environmental Tracking Network of North America (ETNNA) is new non-profit platform for tracking systems and stakeholders to discuss issues of common interest
  - Formerly NAAIB
  - Work with ETNNA on REC issues involving tracking

# Contact Information

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