
The Treatment of Renewable Energy Certificates, Emissions Allowances, and Green Power Programs in State Renewables Portfolio Standards

Edward A. Holt

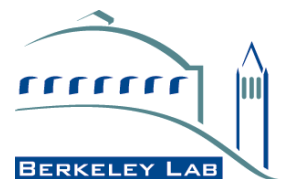
Ed Holt & Associates, Inc.

Ryan H. Wiser

Lawrence Berkeley National Laboratory

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Energy Analysis Department



Purpose and Methodology

Purpose

- Draw attention to certain issues that arise in the use of renewable energy certificates (RECs) and attributes for RPS compliance
 1. state RPS reliance on RECs, and tracking system developments
 2. treatment of emissions allowances and environmental attributes in RPS-required renewable purchases
 3. interaction between voluntary green power market and state RPS'
- Provide an information source for states considering new (or revising existing) RPS policies

Methodology

- Review state RPS legislation and administrative rules
- Summarize the treatment of RECs and renewable attributes in state RPS laws and regulations

Report Outline

- Introduction
- Reliance on RECs and tracking systems in state RPS policies
- Environmental expectations, REC definitions and emissions allowances in state RPS policies
- Treatment of voluntary green power sales in state RPS policies
- Summary and Conclusions

Introduction

- 21 states plus DC have adopted an RPS, and several other states are considering an RPS
- Unbundled renewable energy certificates (RECs) often play a role in RPS compliance; in other cases, renewable energy attributes must remain bundled with electricity
- We reviewed treatment of renewable attributes in three areas:
 1. the degree to which unbundled RECs are allowed under existing state RPS programs, and the status of systems to track RECs and renewable energy attributes
 2. definitions of the renewable energy attributes that must be included in order to meet state RPS obligations, including the treatment of available emissions allowances
 3. state policies on whether renewable energy or RECs sold through voluntary green power transactions may count towards RPS obligations

Importance and Implications

Policies that address these three issues will have implications for...

- The fungibility and liquidity of the RECs market
- The ability of regulators to effectively track RPS compliance
- The location and number of renewable projects developed to serve state RPS policies
- The profitability of renewable energy projects
- The degree to which RPS policies bring incremental environmental gain
- Confidence in the voluntary green market, and ability of that market to support incremental renewable energy

Unbundled RECs

- Most states allow unbundled RECs to verify RPS compliance
 - Some states allow both unbundled RECs and bundled renewable electricity transactions to count towards RPS
 - Some states not only allow RECs for compliance but require them
- Some states do not currently allow unbundled RECs but may do so when a certificate tracking system is available (e.g., CA and MN)

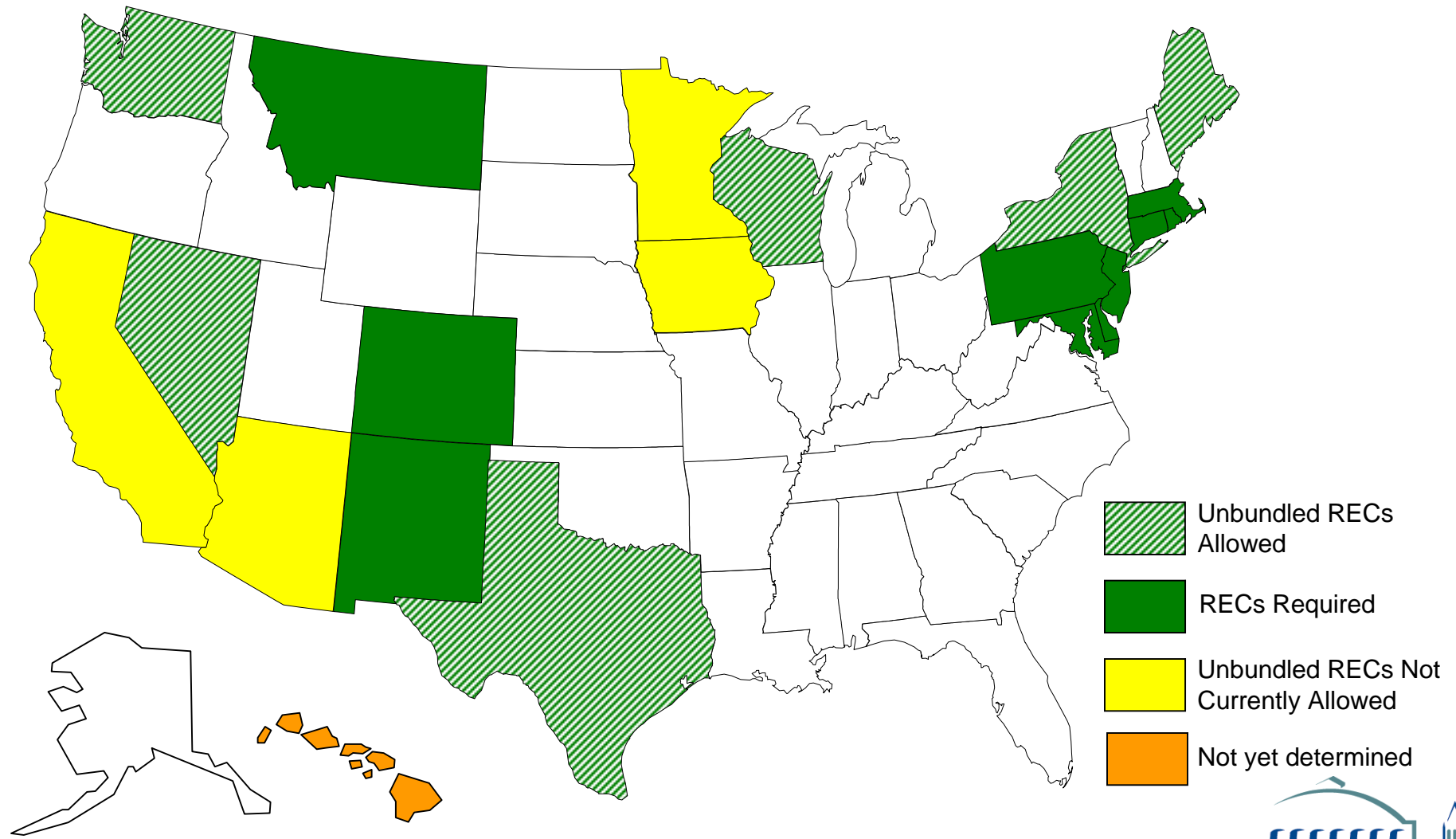
Possible Advantages of Using Unbundled RECs for RPS Compliance

- Trading RECs not as cumbersome/exacting as trading electricity
- RECs may more easily seek the highest value markets, and more easily find buyers, than may bundled renewable electricity
- RECs can usually be banked for a period of months or even years, thereby helping to avoid issues of generation intermittency and load-matching between the seller and buyer
- The use of RECs may reduce some transmission costs to the extent that they allow projects to avoid electricity delivery over constrained paths
- Use of RECs may reduce RPS compliance costs by widening the geographic scope of eligible renewable energy projects
- RECs can be more easily tracked for RPS compliance purposes

Possible Disadvantages of Using Unbundled RECs for RPS Compliance

- Bundled energy and attributes ensures that only generators in the region (or close enough to deliver energy into the region) can be used to meet the RPS, protecting and promoting local generation
- Bundled energy and attributes may provide greater assurance that economic development and environmental benefits will accrue to the state or region
- Bundled energy and attributes may provide greater assurance that the price risk mitigation benefits of renewable energy are achieved
- A separate market for RECs may invite market manipulation, or may encourage reliance on short-term contracting, which may not meet the longer-term financing needs of renewable projects
- Where wholesale electricity markets are not competitive, utilities might not purchase the electricity from the renewable energy facilities if they only need RECs

Treatment of RECs in RPS States: Most Believe the Advantages Outweigh the Disadvantages

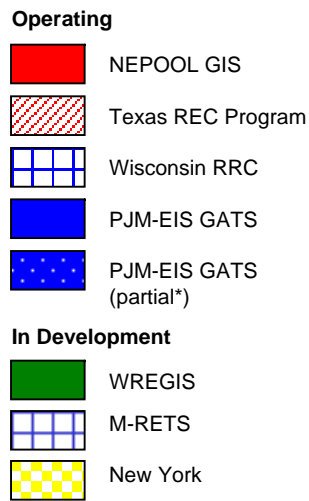


Certificate Tracking

Two basic approaches to track RPS compliance:

- Web-based tracking system supports multiple users and gives market participants the ability to manage their own accounts
 - Flexible and transparent, more cost-effective for multi-state applications or numerous market participants
- Manual system using a database generally accessed only by the tracking system administrator, or examining required documentation submitted by obligated entities
 - Can be satisfactory especially if it serves only one state, if only a few utilities are obligated to comply and they remain regulated, or if there are few market participants

Certificate Tracking Systems



* GATS (partial) indicates that portions of these states, and others not similarly indicated, are within the PJM footprint

** New Jersey also supports a separate Solar RECs tracking system

Environmental Expectations for State RPS Policies

- Most states expect environmental benefits from state RPS policies
- 9 states name only general environmental benefits
 - AZ, CO, HI, IA, MT, NM, PA, TX, WA
- 8 states name specific emissions reduction benefits
 - CA, DE, DC, MD, NV, NJ, NY, RI
- 5 states do not mention environmental benefits
 - CT, ME, MA, MN, WI

Environmental Attribute Distinctions

- **Direct Emissions from Renewable Generators**
 - “*Primary*” environmental attributes
- **Emissions Avoided from Renewable Energy Displacing Conventional Generation**
 - “*Derived*” environmental attributes
 - Some air emissions regulations/legislation provide renewable generators with emissions allowances as a result of these derived attributes under cap-and-trade programs
- **Question: What attributes must be retired for a renewable transaction to be eligible for a state RPS?**
 - Recognizing that RPS legislators/regulators have authority over “primary” attributes, and can direct that “derived” allowances also be retired, but only if those allowances are provided to renewable generators by environmental regulators

If Available to Renewable Generators, Should Emissions Allowances Be Retired Under a State RPS?

Arguments in favor:

- Many states expect RPS policies to provide environmental benefits
- Requiring allowances (if available) to be retired for RPS compliance ensures that the RPS incrementally reduces emissions

Arguments against:

- States may choose to exclude these derived environmental attributes (if available) from RPS compliance if there is no intent that the RPS contribute to lowering emissions below a pre-established cap
- The exclusion of emissions allowances from a REC and from RPS compliance frees them to be traded in cap-and-trade programs, lowering the cost of cap-and-trade regulations
- If allowances are available (but not required for RPS), renewable generators could earn additional revenue from sale of allowances

Renewable Attributes Required under State RPS Rules

Many states are not specific about the environmental attributes that must be retired for RPS compliance

- 7 states provide detailed definitions for the specific primary and derived attributes that must be included for RPS compliance purposes, including the treatment of any available emissions allowances
- 9 states specify “all renewable and environmental attributes,” “all environmental attributes” or “unspecified attributes” without distinguishing between primary and derived attributes
- 3 states do not mention attributes at all (RECs are simply defined as a “unit of production”)
- 3 states have not addressed the issue at all

Treatment of Any Available Emissions Allowances Under State RPS Programs

- 11 states plus DC are ambiguous (to various degrees) on whether emissions reductions credits or allowances (derived environmental attributes) are expected to be part of RPS-eligible transactions
- 5 states (AZ, CA, CO, NY, WA) require that any (or in the case of California, some) emissions reduction credits or allowances, if they are available, be retired for RPS
- 2 states (PA, DE) do not require such derived attributes for compliance – in these states, emissions allowances may clearly be sold separately, if they are available
- 3 web-based tracking systems (in operations, or in development) currently require that all attributes, including emission reduction credits or allowances, if any, be included with each certificate...but it is not tracked and these definitions may change

Voluntary Green Power Sales

- 13 states plus DC explicitly disallow voluntary renewable energy sales from being used for RPS compliance
 - They require that voluntary green power sales be additional to state RPS mandates
 - Three of these states (CO, ME, MD) provide limited exceptions
- Three states allow voluntary transactions to be used for RPS compliance
- Five states have not yet addressed the issue explicitly in RPS rules, though in three of these states (CT, DE, PA) the design of web-based tracking systems likely precludes the use of voluntary green power for RPS compliance

Interactions Between RPS and Voluntary Markets: Weighing the Options

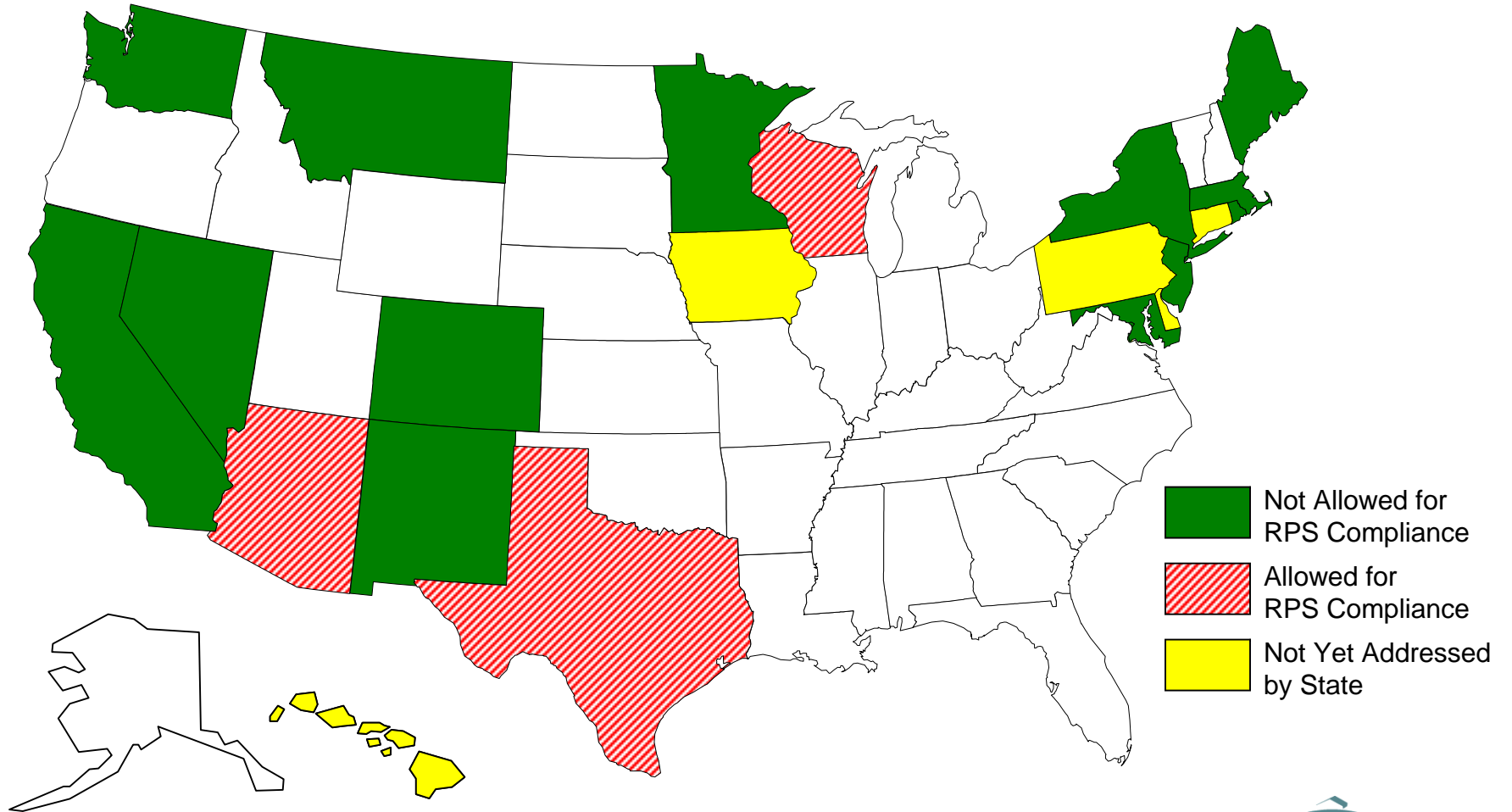
Arguments in favor of counting green power sales towards RPS compliance:

- Promoting voluntary green power sales is merely another way for a utility or marketer to achieve the same portfolio goal
- If some customers are willing to pay more for green power, it will lower the cost of RPS compliance to other ratepayers
- Because RPS compliance is reported to regulators, allowing voluntary green power sales to count will help states more easily track their overall progress towards increasing renewable energy

Arguments against counting green power sales towards RPS compliance:

- Consumers who voluntarily pay more for green power expect to support additional renewables development above what is required by law - use of voluntary sales for RPS compliance should be forbidden as a matter of consumer protection
- Voluntary demand will decline if consumers understand that their purchase of green power does not affect the amount of renewable energy generation
- Counting green power sales towards an RPS would shift the cost of compliance to those willing to pay more; if RPS policies beneficial to society, then all energy users should pay proportionately

Treatment of Voluntary Sales



Conclusions

- States are increasingly relying on RECs for RPS compliance, especially as web-based certificate tracking systems become operational
- Many states have not clearly defined what generation attributes must be included for RPS compliance
 - Most have not adequately distinguished between “primary” attributes and “derived” attributes
 - Many states have not clearly stated whether emissions allowances or credits, if any are available to renewable generators, must be retired for purposes of RPS compliance
- Vague definitions have created uncertainty about whether emissions allowances (if available) must be included for RPS compliance, or whether emissions allowances may be sold separately
- A limited number of states have not clearly enumerated how voluntary green power sales are handled under state RPS policies

Recommendations

- States should seek to clarify the treatment of environmental attributes, and especially emissions allowance and credits, in RPS-eligible renewable energy transactions
- Definitional consistency across states might also be sought to increase the liquidity (and reduce fragmentation) of RECs trade
- States (in some cases) should clarify their intent about the relationship between voluntary green power purchases and mandatory RPS markets

For More Information...

Download the full report from:

<http://eetd.lbl.gov/ea/ems/re-pubs.html>

Contact the authors:

Ryan Wiser, RHWiser@lbl.gov, 510-486-5474

Ed Holt, edholt@igc.org, 207-798-4588

Energy Analysis Department

