Renewable Energy Certificate Tracking Systems

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What is a REC?

https://www.youtube.com/watch?v=opJMrzNauFQ&feature=youtu.be
What is a REC Tracking System?

- Accounting system for renewable energy
  - Certificates are the currency (unique serial numbers, carry information about the generator)
  - Participants in tracking systems have accounts
  - Certificates can be transferred (traded) between accounts
  - Certificates are used when they are retired (permanent).
  - Policy Neutral
Why Tracking Systems?

• RECs first created in late 1990s during electricity sector restructuring
  – Tool to facilitate trading and verification of renewable energy for state renewable portfolio standards and the voluntary green power market
  – Traded through contracts
  – Verified through auditing generation production and contracts
• Tracking systems provide verification of production and certainty of ownership.
Renewable Energy Certificate Tracking Systems in North America

**KEY**

- **ERCOT**: Electric Reliability Council of Texas
- **MIRECS**: Michigan Renewable Energy Certification System
- **M-RETS**: Midwest Renewable Energy Tracking System
- **NAR**: North American Renewables Registry
- **NC-RETS**: North Carolina Renewable Energy Tracking System
- **NEPOOL-GIS**: New England Power Pool Generation Information System
- **NVTREC**: Nevada Tracks Renewable Energy Credits
- **NYGATS**: New York Generation Attribute Tracking System (in development)
- **PJM-GATS**: PJM EIS’s Generation Attribute Tracking System
- **WREGIS**: Western Renewable Energy Generation Information System
- **No tracking system formally adopted**: NAR allows registration from generators located anywhere in the U.S. and Canada. Other tracking systems may allow registrations from outside their geographic territory.
Two Types of Tracking Systems

All-generation tracking systems
- PJM GATS
- NEPOOL GIS
- NYGATS (in development)

Renewable-only tracking systems
- ERCOT
- MIRECS
- M-RETS
- NAR
- NC-RETS
- NVTREC
- WREGIS
Key Roles of REC Tracking Systems

• Document generator production using metered data
  1 MWh = 1 certificate with unique serial number

• Establish ownership
  Track who owns renewable electricity attributes once they are generated

• Assure no double counting
  Only 1 certificate per MWh, REC exists in only one account at a time

• Facilitate trading of renewable energy
  Certificates can be transferred between accounts

• Verify certificate retirements (use)
Primary Users

• Generating Facilities
• Load Serving Entities (utilities, electricity suppliers)
• REC Traders/Sellers
• Program Administrators
  – State RPS program verification
  – Power source and emission disclosures
  – Green-e Energy verification
State RPS Programs

Green-e Energy Generation Locations 2013

The map shows the distribution of energy generation locations across the United States and Canada in 2013. The states are color-coded to indicate the number of MWh (megawatt-hours) generated, with a legend ranging from less than 10 to 3,000+ MWh.

- States with the highest number of MWh are depicted in dark colors.
- States with lower generation amounts are shown in lighter shades.

The map also includes major cities and geographic regions, providing a comprehensive view of the energy generation landscape.
Certificate Transfers Between Registries

<table>
<thead>
<tr>
<th>RPS States, DC and Puerto Rico</th>
<th>Allow RPS Imports From</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 States Allow No Imports</td>
<td></td>
</tr>
<tr>
<td>2 States Allow Imports From</td>
<td>1 State</td>
</tr>
<tr>
<td>1 State Allows Imports From</td>
<td>2 States</td>
</tr>
<tr>
<td>2 States Allow Imports From</td>
<td>3 States</td>
</tr>
<tr>
<td>3 States Allow Imports From</td>
<td>4 States</td>
</tr>
<tr>
<td>1 State Allows Imports From</td>
<td>6 States</td>
</tr>
<tr>
<td>2 States Allow Imports From</td>
<td>7 States</td>
</tr>
<tr>
<td>1 State Allows Imports From</td>
<td>8 States</td>
</tr>
<tr>
<td>15 States Allow Imports From</td>
<td>9+ States</td>
</tr>
</tbody>
</table>

Tracking System Data Reflects Program and Market Needs

<table>
<thead>
<tr>
<th>Typical Certificate Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issuing Tracking System/Certificate Type</td>
</tr>
<tr>
<td>Generator's Tracking System ID</td>
</tr>
<tr>
<td>Project Type</td>
</tr>
<tr>
<td>Project Name</td>
</tr>
<tr>
<td>Certificate Date of Generation (e.g., month/year)</td>
</tr>
<tr>
<td>Certificate Serial Number</td>
</tr>
<tr>
<td>Certificate Creation Date</td>
</tr>
<tr>
<td>Utility to Which Project is Connected</td>
</tr>
<tr>
<td>Utility to Which Facility is Interconnected</td>
</tr>
<tr>
<td>Program Eligibility (e.g., state RPS, Green-e Energy)</td>
</tr>
<tr>
<td>Commenced Operation Date</td>
</tr>
</tbody>
</table>
Example Public Report: WREGIS Generators

![WREGIS Generators](https://portal2.wregis.org/myModule/rpt/myrpt.aspx?r=111)

**Disclaimer:** Neither the WREGIS Administrator nor the System Operator knows or endorses the creditworthiness or reputation of any WREGIS account holder listed in this directory.
# State Verification and Reporting

## Example Certificate Retirement Report

<table>
<thead>
<tr>
<th>Account Holder</th>
<th>Sub-Account Types</th>
<th>Retirement Types</th>
<th>Facility ID</th>
<th>Generating Facility</th>
<th>Fuel Type</th>
<th>Vintage Year/Month</th>
<th>Certificate Serial Numbers</th>
<th>Quantity</th>
<th>State X Eligible</th>
<th>State Y Eligible</th>
<th>State Z Eligible</th>
<th>Green-e Energy Eligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACME</td>
<td>State X Renewable Energy Compliance</td>
<td>RPS</td>
<td>E9823</td>
<td>Slainte Wind Project - Dartmouth Ridge</td>
<td>Wind</td>
<td>11/2013</td>
<td>108-FR-12-3654-65987-1 to 98654</td>
<td>98,654</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ACME</td>
<td>State X Renewable Energy Compliance</td>
<td>RPS</td>
<td>E9823</td>
<td>Slainte Wind Project - Dartmouth Ridge</td>
<td>Wind</td>
<td>11/2013</td>
<td>365-EW-36-4527-45871-1 to 87457</td>
<td>87,457</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ACME</td>
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<td>RPS</td>
<td>R2165</td>
<td>Kiba Solar - Blackrock Solar Energy Project</td>
<td>Solar</td>
<td>10/2013</td>
<td>656-GF-36-4712-56471-1 to 200</td>
<td>200</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
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<td>H9032</td>
<td>Fork Union County - Damascus Renewable Energy Center</td>
<td>Biomass</td>
<td>11/2013</td>
<td>659-LA-85-2198-34985-1 to 69832</td>
<td>69,832</td>
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<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
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<td>RPS</td>
<td>J8723</td>
<td>Sol Solutions - Ridgefield Solar Farm</td>
<td>Solar</td>
<td>9/2013</td>
<td>879-AQ-14-3654-45698-1 to 20</td>
<td>20</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Table: Example Certificate Retirement Report for various facilities and energy types with details about state verification and reporting.*
CONTACT

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Tracking Systems

• Robust accounting systems to document generation and track ownership of renewable (and in some cases all sources) electricity attributes

• Available to generators throughout the U.S. and Canada

• Used by states and voluntary programs to for verification with program requirements

• Policy neutral

• Flexible functionality
Questions & Answers

- Submit questions and comments in writing via the online control panel.