



# Energy

# **Green-e Renewable Energy Standard for Canada and the United States**

**(formerly Green-e Energy National Standard)**

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## I. INTRODUCTION

This is the *Green-e Renewable Energy Standard for Canada and the United States* (“Standard”) for renewable electricity products in all regions of the United States (defined as the fifty States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, and associated territorial waters and airspace) and Canada. This Standard defines standards for renewable electricity and renewable energy certificates (RECs) sold in Green-e Energy certified sales, in order to help promote high quality renewable electricity development and generation, and the environmental benefits of such generation in place of traditional fuels used for electricity.

The following criteria apply to all Green-e Energy certified products (Renewable Energy Certificates, utility green pricing programs, and competitive market electricity products). Additional details about the Green-e Energy certification criteria, the application process, verification summary, marketing compliance review, etc. can be found in the *Green-e Energy Code of Conduct*, available on our website, [www.green-e.org/energy](http://www.green-e.org/energy), along with a glossary that includes many of the terms that appear in the Standard.

## II. ELIGIBLE SOURCES OF SUPPLY

### A. Definition of Eligible Renewables

The following types of renewable energy are eligible to supply Green-e Energy certified products. Renewable electricity generation facilities supplying renewable energy used in Green-e Energy certified products must meet all applicable eligibility rules in the Standard at the time of generation of such MWh, unless the facilities have received an exemption or grandfathering under a previous version of this Standard.

- 1) Solar Electric
- 2) Wind
- 3) Geothermal
- 4) Hydropower from new generation capacity on a non-impoundment or new generation capacity on an existing impoundment that meets one or more of the following conditions:
  - a) the hydropower facility is certified by the Low Impact Hydropower Institute (LIHI);
  - b) for Canadian hydropower facilities only, the facility is EcoLogo certified; or
  - c) the hydropower facility consists of a turbine in a pipeline or a turbine in an irrigation canal.

For facilities falling under a) or b) above, only output generated during the period of LIHI certification or EcoLogo certification is eligible for Green-e Energy certified sale.

Renewables from new impoundments of water are not eligible.

Electrical energy increases due to efficiency improvements made on or after the applicable New Date (see Section II.E) may be eligible if:

- they are not due to routine maintenance (i.e. output would be increased compared to original design); and

- they do not increase water storage capacity or the head of an existing water reservoir; and
- independent third-party reporting demonstrates that increased annual generation of electrical energy will result from these efficiency improvements.

Also note that only the increased annual generation of electrical energy due to efficiency improvements is eligible for use in Green-e Energy certified products. Eligible efficiency improvements may include, but are not limited to, the following measures:

- Rewinding or replacing the existing turbine generator
- Replacing turbines
- Computerizing control

5) Solid, liquid, and gaseous forms of Biomass from the following fuels:<sup>1,2,3,4,5</sup>

- a) Woody waste, including but not limited to residues such as tops and limbs and urban wood waste, is eligible if the following requirements are met:<sup>6</sup>
  - i. The fuel does not contain paints, plastics, Formica, halogens, chlorine, or halide compounds like chromated copper arsenate–treated materials, arsenic, or contaminating treatments. Qualified wood fuels may contain *de minimis* quantities<sup>7</sup> of wood containing the above excluded contaminants. Railroad ties and utility poles are excluded from eligibility;
  - ii. Forestry-derived fuels originate from forests that were managed in accordance with State or Provincial best management practices and regulations;
  - iii. Forestry-derived fuels were removed in accordance with State or Provincial best management practices and regulations; and
  - iv. The fuel is not derived from whole trees unless at least one of the following is met:
    1. The whole trees are urban wood waste such as used Christmas trees;
    2. The whole trees are part of a thinning required for maintenance of existing roads. Such roads are not on protected lands or wilderness. Woody fuel from road-building activity is not eligible;
    3. The whole trees are on private or state land already downed naturally or killed naturally by wind, storms, fire, pests, or pathogens; or
4. An independent third party, qualified in sustainable forestry management and chain of custody issues, certifies that that the whole trees are part of a thinning that meets a. or b. below:<sup>8</sup>

<sup>1</sup> Includes “black liquor” from pulp and paper processing, mill residues, industrial waste wood, and waste wood from woodworking or wood processing, so long as the wood is not chemically treated or coated.

<sup>2</sup> At a future time when the EPA, or other similarly reputable authority, releases findings on biogenic carbon dioxide emissions, and the carbon intensity of certain types of biomass may be determined with reasonable accuracy, then Green-e Energy may reevaluate the eligibility of biomass resources used to generate renewable electricity. Emerging technologies generating electricity from byproducts and waste streams may be eligible for Green-e Energy, however such technologies should be able to demonstrate that procurement and use of their fuel has a favorable carbon balance.

<sup>3</sup> Including liquid biofuels made entirely of eligible resource noted in Section 2.A.5. Food crops or animal feed are explicitly excluded

<sup>4</sup> Biogas from a shared pipeline is eligible only if it can be demonstrated that all environmental attributes are appropriately transferred along the chain of custody.

<sup>5</sup> Biogas used to supply electricity generators may be produced at any time prior to electricity generation, but any renewable MWh generated from such fuels must meet the requirements in Section III.B Vintage of Eligible Renewables.

<sup>6</sup> CRS reserves the right to require additional documentation to verify eligibility of any resource. In some instances, third-party certification may be used to demonstrate eligibility.

<sup>7</sup> De minimis quantities is defined as: less than 1% of the total annual BTU value is derived from treated wood

<sup>8</sup> Thinnings or harvests of whole trees from Federal lands are not eligible at this time because of the difficulty of ensuring that the thinning was done as part of a plan for sustainability. However, the Green-e Governance Board may reevaluate this at a later time if an appropriately rigorous and enforceable third-party chain of custody certification is developed to address Federal lands.

- a. If on a plantation,<sup>9</sup> the plantation was not established on land converted from any other forest after 2012<sup>10</sup>, and the thinning improves the ecology, biodiversity, and ecosystem function of the forest and surrounding area.
- b. If not on a plantation, the thinning is part of a plan to improve the ecology in terms of natural forest structure, protection of biodiversity, and ecosystem function of the forest and surrounding area.
- b) Agricultural crop residue that is unmerchantable as food (or as animal feed). For example, crops intended for human or animal consumption but damaged by drought or storms would qualify, as would crops with a non-energy primary purpose, such as waste from animal feed production. For the purposes of this Standard, a tree is not an agricultural crop.
- c) All animal and other organic waste.<sup>11,12</sup>
- d) Energy crops, excluding food crops or animal feed, that have a rotation less than 10 years (e.g. poplar, willow, or eucalyptus), and meet at least one of the below criteria to avoid land conversion from forest land or displace food production:
  - i. Grown on agricultural land not in use for food production in the last two years; or
  - ii. Grown on agricultural land in a way that does not displace food production.
- e) Landfill gas and wastewater methane.<sup>13</sup>
- f) Green-e Energy will consider allowing waste-to-energy (WTE) technologies using biogenic resources and will review these technologies as they mature and as practical application reaches near term in North America. Municipal solid waste is specifically excluded from eligibility and from WTE technologies that will be considered.

6) Biodiesel (B100) that is used to generate electricity is eligible for Green-e Energy. Biodiesel blended with petroleum diesel is permitted if all of the following conditions are met:

- a) The biodiesel is separately measured (and verified) from the petroleum diesel;
- b) Contracts are in place to allow CRS to verify that the biodiesel was converted to electricity;
- c) Only the amount of electricity generated from the biodiesel may be counted as part of a Green-e Energy certified product; and
- d) Feedstock used to make biodiesel must either be a waste, that is no longer suitable or merchantable for its primary purpose, such as waste vegetable oil, or some other feedstock whose energy and carbon balance is demonstrably favorable.

7) Fuel cells are eligible only if powered by hydrogen derived from any of the above eligible renewable resources. (See section II.E.7)

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<sup>9</sup> Plantation is defined as: A stand maintained by planting or artificial seeding, grown for the purpose of harvest.

<sup>10</sup> If land was a plantation prior to 2012 but is no longer being managed as a plantation (e.g. the majority of existing trees have been regenerated naturally), it does not qualify under this provision and must be evaluated under 4.b.

<sup>11</sup> Organic waste can include waste and residues of biological origin from agriculture (including vegetal and animal substances), and forestry and related industries where not otherwise expressly prohibited in this Standard.

<sup>12</sup> In the case that a biogenic methane capture and destruction project (such as a dairy burning biogas produced by an animal waste digester) is receiving carbon offsets for the destruction of methane, renewable electricity and RECs generated using the heat of combustion of such methane are eligible under this Standard so long as the calculation of carbon offsets does not include the environmental benefits arising from generation of renewable electricity or of backing down generation elsewhere on the grid. Green-e Energy staff reserve the right to request offset calculation methodologies of such projects.

<sup>13</sup> Biomethane that is used to generate electricity is eligible for Green-e Energy provided that the facility generating the electricity complies with all applicable laws, regulations, and ordinances and meets all of the air pollution, groundwater, and effluent requirements of the state in which the project is sited.

8) Ocean-based energy resources captured through tidal and wave technologies, if located in a state with permitting processes specific to the resource type at the time of construction and if the generator is fully licensed at the state and federal level (as applicable), or if the generator is reviewed and approved by the Green-e Governance Board prior to the generator's output being used in a Green-e Energy certified product.<sup>14</sup>

### ***B. Co-firing of Biomass with Non-Renewables***

Co-firing of eligible forms of biomass with non-renewables is permitted if at least one of the following conditions is met:

- 1) The facility is located in an electric system control area that makes use of a generation tracking system (e.g. PJM-GATS, WREGIS) that is fully capable of accurately measuring and reporting the differentiated (biomass-fired and non-biomass-fired) electrical output from the facility; or
- 2) The biomass is in a gaseous or liquid state, is separately metered, and there are contracts in place to verify that the biomass portion was converted to electricity; or
- 3) Facilities that do not meet either of the criteria above may be eligible subject to a case-by-case review by the Green-e Governance Board. The methodology presented to Green-e Energy must demonstrate that the heat input (BTU value) used to generate electrical output from the facility is attributed to the eligible biomass fuel. Some of the criteria that the Board will consider in making a decision are:
  - a) Whether the facility was modified to accept biomass fuel;
  - b) Whether there is an independent entity involved in verifying or determining the appropriate measurement; and
  - c) Whether there is a way to determine and ensure the net electricity increment being sold as "renewable" can be attributed to eligible biomass fuel.

The Board would prefer a verification methodology that is brought forth by the Green-e Energy Power Marketers Advisory Committee (PMAC) or Utility Green Pricing Advisory Committee (UGPAC) that could be applied universally.

Only the amount of electricity generated from the eligible biomass may count towards the Green-e Energy criteria. Facilities generating electricity using 5% or less of non-eligible fuels as a percent of total heat input (on a BTU basis, for example) do not need to meet one of the three conditions above, however those MWh generated from non-eligible fuels are not eligible for sale in Green-e Energy certified products and must not be included in eligible MWh generated at such a facility. The assessment of whether the 5% threshold is exceeded must be made on a periodic basis, at least quarterly. Periods for which the 5% threshold is exceeded must either meet one of the three above conditions or be excluded from Green-e Energy certified sales.

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<sup>14</sup> Green-e Energy Participants or generators of electricity using tidal- and wave-based resources should contact Green-e Energy staff with questions or materials related to eligibility. Green-e Energy reserves the right to reject facilities with serious environmental impacts.

### **C. Emissions Limits on Biomass**

This Standard strives to promote biomass resources that, on a total fuel cycle basis, do not increase atmospheric greenhouse gas concentrations in time frames that are meaningful in addressing global climate change.

All facilities must be in compliance with all state and/or federal laws/rules regarding emissions. For facilities subject to New Source Review (NSR), the facility must be compliant with all applicable regional and state standards pertaining to NSR.

*(Please note: For other facilities, the Green-e Governance Board intends to adopt a comparable standard for biomass generators that are not subject to NSR. Stakeholders and generators are invited to provide CRS with emissions and sustainability criteria they feel are appropriate, which will be shared with the Green-e Governance Board.)*

### **D. Emissions Criteria for the Non-Renewable Portion of a Green-e Energy Product**

Some renewable electricity products do not meet 100% of a customer's electricity load and/or will contain non-renewable energy. The emission rates per kWh for SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> from the non-renewable portion of the eligible product may not exceed customer's average utility, state or regional power emissions rates. Rates are calculated from the latest available EPA EGRID data, unless the regional system administrator, PUC or other authority makes more up-to-date information available. The product may not include any specific purchases of nuclear power in the non-renewable portion of the product other than what is contained in any system power purchase (i.e. the product may not include differentiated nuclear power). A utility's or power pool's system mix may be used to satisfy the non-renewable portion of a Green-e Energy certified product.

### **E. New Renewables**

Only new renewables are eligible to meet Green-e Energy standards. The term "New Date" is defined to include any eligible renewable facility beginning operation or repowered after the dates indicated on the following table:

| Year of Sale | New Date |
|--------------|----------|
| 2016         | 2002     |
| 2017         | 2003     |
| 2018         | 2004     |
| 2019         | 2005     |
| 2020         | 2006     |
| 2021         | 2007     |

The New Date will continue to advance by one year each year after 2021.

In order for the output of a renewable generation facility to be eligible for use in a Green-e Energy certified sale, the facility must meet at least one of the following conditions:

- 1) Placed in operation (generating electricity, including test energy put onto the electricity grid) on or after the applicable New Date;
- 2) Repowered on or after the applicable New Date such that at 80% of the fair market value of the project derives from new generation equipment installed as part of the repowering. Hydroelectric facilities must be less than or equal to 10MW in nameplate capacity at the facility level<sup>15</sup> to qualify for repowering. In order to be recognized as repowered for the purposes of Green-e Energy, the owner of the facility seeking “repowered” status must complete and submit a copy of the Green-e Energy Repowering Worksheet (please contact Green-e Energy staff to receive a copy of this worksheet) for Green-e Energy staff review and approval;
- 3) A separable improvement to or enhancement of an existing operating facility that was first placed in operation prior to the applicable New Date, such that the proposed incremental generation is contractually available for sale and metered separate from the existing generation at the facility;
- 4) A biomass co-firing facility that meets all requirements for biomass co-firing outlined in section II.B. above and began co-firing non-eligible fuels with eligible biomass as defined in II.A. above on or after the applicable New Date;
- 5) A 100 percent switch from a non-eligible fuel to an eligible fuel on or after the applicable New Date;
- 6) A separately metered landfill gas resource that was not being used to generate electricity prior to the applicable New Date;
- 7) A fuel cell that began generating electricity on or after the applicable New Date. The hydrogen powering the fuel cell must be derived from a facility that meets the resource eligibility requirements described in section II.A. above. The renewable resource facility that produces the fuel from which the hydrogen is derived does not need to meet the new date criteria but does need to meet Green-e Energy resource definitions (section II.A); and/or
- 8) The facility is supplying renewable electricity or RECs to a Green-e Energy Participant under an eligible contract that meets all requirements of “Long-Term Contracts for Supply” as described in II.H, below; only the specific output approved by Green-e Energy under such a contract may be used beyond the New Date facility age limit above.

Any enhancement of fuel source that increases generation at a facility built prior to New Date, without the construction of a new or repowered, separately metered generating unit, is not eligible to participate, with the exception of new landfill gas resources identified in (6) above. An eligible “new renewable” must qualify as an “eligible renewable resource” as described herein.

## ***F. Energy Storage***

Energy storage systems or plants, including pumped hydroelectric storage, battery storage, compressed air energy storage, superconducting magnetic energy storage, flywheels, and super capacitors, are not energy resources. While each of these storage technologies may play an important future role in managing the delivery of non-dispatchable renewable energy, they are not in themselves a renewable energy resource. Therefore, these storage technologies themselves are not qualifying sources of renewable generation.

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<sup>15</sup> In this case, “facility” refers to the aggregate capacity on single impoundment or single water diversion structure.



## **G. Parasitic Load**

Renewable energy consumed as parasitic load of an eligible facility is not eligible for use in a Green-e Energy certified product. Parasitic load is a load that contributes to the process of electricity generation.

## **H. Long-Term Contracts for Supply and Sale**

Green-e Energy certifies certain sales of renewable electricity and RECs from renewable electricity generation units for more than the 15-year “New Date” window described in Section II.E, above, and up to 30 years. In this section, “long-term” contracts are those extending beyond this “New Date” window. All criteria below must be met.<sup>16</sup> Each approved long-term contract, and corresponding non-residential end-use purchaser(s), is a unique Green-e Energy certified product requiring a contract with CRS, fee assessment and annual verification.

- 1) The REC or renewable electricity is purchased by the Green-e Energy Program Participant directly from the owner or authorized representative of a generation unit, or is generated by a generation unit owned by the Participant.

Contracts between Participant and generation unit(s) will no longer be eligible if they are sold or transferred, except in the case that: the generation unit ownership changes or the non-residential end-use purchaser is acquired by another company; both the generation unit(s) and the non-residential end-use purchaser(s) remain the same; and all required terms and conditions are maintained;

- 2) Only the specific number of RECs or percentage of generation output under the approved long-term contract with the Participant is eligible for long-term use, through the life of the contract or 30 years, whichever is shorter, so long as the Participant maintains certification of the product through this period.

Only the output provided to the Participant under an approved long-term contract will remain eligible under the Standard in effect at the time of contract execution for the approved life of the contract, except in the event of policy or market changes in renewable energy markets that are not consistent with the intent of the Standard as interpreted by the Green-e Governance Board, including changes that would violate Green-e Energy’s policies on double counting;

- 3) No later than 12 months from the date of Green-e Energy eligibility per Section II.E.1-7, the Participant must:
  - a) Execute a contract for supply with the owner or authorized representative of the generation unit(s); and
  - b) Execute contracts with all non-residential end-use purchasers on the Long-term Purchasers List. New purchasers may not be added once the Long-term Purchasers List is approved by Green-e Energy staff. If a purchaser is removed from the Long-term Purchasers List for any reason, then the output they would have received is no longer eligible under this Long-Term Contracts for Supply and Sale section.

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<sup>16</sup> Other exceptions for long-term supply exist for single mix products under Section IV.C.

- 4) Identify and report to Green-e Energy a list of non-residential end-use purchasers of the contracted supply in a Green-e Energy certified transaction (“Long-term Purchasers List”), who will be the only entities eligible to purchase the output of the generation unit from the Green-e Energy Participant in accordance with the deadline posted on the Green-e Website.

### ***I. Extended Use Criteria for On-Site and Direct-Line Generation***

Under the following scenarios, the facility may remain eligible beyond the new date window:

- a. The facility and user are on one site together; or
- b. The facility and user are connected with a direct-line connection,

and in both cases, the facility’s RECs are retired by or on behalf of the user.

Only facilities brought online or repowered on or after January 1, 2003 are eligible for this type of extended use. The maximum length of time any facility may be eligible for this type of extended use is 30 years.

## **III. PRODUCT SPECIFICATIONS**

### ***A. Minimum Purchase Quantity***

Green-e Energy certified products sold to residential customers must contain at least the minimum amounts of Green-e Energy eligible renewable energy described below.

- 1) Percentage-of-Use Products: Retail electricity offerings must match at least 25% of a residential customer’s electricity usage with new renewables above and beyond any state mandated Renewable Portfolio Standard (RPS) renewable amount. If a marketer or utility offers the option to match less than 50% of a residential customer’s electricity use, they must also offer a 100% option to residential customers.
- 2) Block Products: Electricity and REC products sold as block products must be 100% Green-e Energy eligible renewables in a minimum size of 100 kWh/month.<sup>17</sup>
- 3) Capacity-Based Products: Electricity or REC products sold as kW of capacity or shares of a facility must deliver a minimum of 100 kWh a month averaged over a calendar year, or they may instead deliver a minimum of 10% of the customer’s monthly electricity use averaged over a calendar year.

Green-e Energy certified products sold to non-residential customers have no minimum purchase quantity requirement. However, commercial purchasers interested in using the Green-e logo to promote their purchase must meet the requirements of the Green-e Marketplace Program: <http://www.green-e.org/marketplace>.

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<sup>17</sup> When RECs are sold on a one-time basis to a residential customer, the minimum purchase quantity shall be 100 kWh.

## ***B. Vintage of Eligible Renewables***

A Green-e Energy certified product may include only renewables that are generated in the calendar year in which the product is sold, the first three months of the following calendar year, or the last six months of the prior calendar year.

## ***C. Fully Aggregated Renewables***

Green-e Energy only certifies renewable energy products that are fully aggregated to the extent possible under law.

Green-e Energy certified MWh (electricity or REC) must contain all the greenhouse gas (GHG) emissions reduction benefits, including carbon dioxide (CO<sub>2</sub>) reduction benefits, associated with the MWh of renewable electricity when it was generated.

Emissions of other capped pollutants where allowances are not routinely assigned to renewable electricity generators<sup>18</sup> are not required to be included in Green-e Energy certified renewable electricity or RECs.<sup>19</sup>

## ***D. Renewable Portfolio Standard (RPS) Renewables, Other Mandated Renewables, and Financial Incentives***

Green-e Energy certified products must be comprised of eligible renewable generation over and above anything required by state or federal RPS requirements, legislation, or settlement agreements. Green-e Energy does not certify renewable electricity or REC sales that result in double counting, including double counting between compliance and voluntary markets. If a utility or electricity marketer is subject to an RPS or other mandate or agreement, they must comply with it regardless of the existence of a voluntary market for renewable energy. If a Participant in Green-e Energy is determined to be out of compliance with these obligations, or is selling renewables from a mandated facility, that may be grounds for decertification from Green-e Energy.

Renewable energy or RECs may not be used in a Green-e Energy certified product under the following circumstances:

- 1) The REC or the electricity from which the RECs are derived is being used simultaneously to meet a local, state, or federal energy mandate or other legal requirement; or
- 2) The RECs or renewable electricity are derived from a renewable facility that has been mandated by a local, state, or federal government agency or was required under any legal requirement; or
- 3) Capacity (MW) and/or generation facilities associated with the renewable electricity or RECs are used for compliance, even when RECs are not required to determine compliance with an RPS or similar policy.

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<sup>18</sup>For example, under the national sulfur dioxide cap, allowances are assigned to entities with compliance obligations, i.e. polluting entities.

<sup>19</sup>As of 7/15/2010, such capped pollutants include sulfur dioxide nationally and the oxides of nitrogen regionally. For more details on marketing claims under the Green-e Energy program please see the Green-e Energy Code of Conduct.

There may be other types of implementation processes and compliance assessments for RPS and similar policies that would render RECs or renewable electricity ineligible for use in Green-e Energy certified sales.

When a facility generates renewable energy in excess of the government mandate or other legal contract this may be an exception to (1) – (3) above, in which case that excess (either renewable electricity or the RECs associated with the renewable electricity) may be used in a Green-e Energy certified product.

Only for a certified renewable electricity product that meets 100% of a customer's load, Green-e Energy allows a percentage of the product content to be satisfied with renewables reported toward a renewable portfolio standard (RPS) or other similar state policy, up to the amount that is attributable to the customer of the voluntary product.<sup>20</sup> All such resources must also go through the Green-e Energy verification process, and meet all other applicable Green-e Energy eligibility and disclosure requirements. Distribution of renewables reported toward a RPS or similar policy must be consistent across the load on which the policy's obligation calculations are based, and allocating all such renewables to one customer type or group of customers is not allowed. However, variability of geographic location of generation (not renewable resource type) is allowed to the extent required by a Participant's RPS obligations under the laws of said state(s).

RECs or renewable energy from renewable generating facilities that obtain tax or financial incentive payments are eligible under Green-e Energy (to the extent allowed by law, regulation, and contract language governing the tax or financial incentives program), so long as these incentives do not also require that the RECs or renewable electricity be used or counted towards an RPS or other policy, as described above.

### ***E. Double Counting and Use of Utility Resources***

Eligible RECs or renewable energy can be used once and only once; making a claim (e.g. stating “we buy wind power”) is one example of a “use” that results in retirement. Renewable energy or RECs (or the renewable or environmental attributes incorporated in that REC) that can be legitimately claimed by another party may not be used in Green-e Energy certified REC products.<sup>21</sup> Examples of prohibited double uses include, but are not limited to:

- 1) When the same REC is sold by one party to more than one party, or any case where another party has a conflicting contract for the RECs or the renewable electricity;
- 2) When the same REC is claimed by more than one party, including any expressed or implied environmental claims made pursuant to electricity coming from a renewable energy resource, environmental labeling or disclosure requirements. This includes representing the energy from which RECs are derived as renewable in calculating another entity's product or portfolio resource mix for the purposes of marketing or disclosure;

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<sup>20</sup> As a general principal, Green-e Energy Program Participants offering a certified electricity product that meets 100% of a voluntary customer's load with renewable electricity are not required to provide the customer with Green-e Energy eligible renewables for more than 100% of the customer's electricity load.

<sup>21</sup> If the owner of a renewable generation facility is reporting direct greenhouse gas emissions in a legally binding (through voluntary agreement, law or regulation) cap-and-trade program and the renewable energy facility is included within the organizational boundary in the reporting structure, the following applies: Renewable energy facilities that are owned by entities participating in a legally binding greenhouse gas cap-and-trade program are ineligible under Green-e Energy. Green-e Energy may grant exceptions on a case-by-case basis if the cap-and-trade program has an accounting mechanism that assures that the GHG emissions benefits of renewable electricity and/or RECs are not double counted or double claimed, such as exists in nine out of 10 states participating in the Regional Greenhouse Gas Initiative (RGGI). Future cap-and-trade systems will be considered as they are developed.

- 3) When the same REC is used by an electricity provider or utility to meet an environmental mandate, such as an RPS, and is also used to satisfy customer sales under Green-e Energy; or
- 4) Use of one or more attributes of the renewable energy or REC by another party (See Section III.C. “Fully Aggregated Renewables” for details). This includes when a REC is simultaneously sold to represent “renewable electricity” to one party, and one or more Attributes associated with the same MWh of generation (such as CO<sub>2</sub> reduction) are also sold, to another party.

When a utility is involved in a REC transaction, either as a generator, a purchaser of RECs, or a purchaser of the commodity electricity from which the RECs have been derived, the local utility commissions in the states where the electricity was generated and where the electricity is sold must be notified of the transactions and, in some cases, of the money received by the utility.

### ***F. Customer-Sited Facilities***

On-grid customer sited (behind the meter) facilities that meet the eligible renewables definition are eligible sources for Green-e Energy. Customer sited off-grid renewables are not eligible. Any generation unit less than or equal to 10 kW may use a conservative engineering estimate of output. CRS must pre-approve the estimation methodology. Systems over 10 kW must be metered.

Customer-sited generators (such as net-metered solar) cannot claim to be selling/supplying renewable electricity if they sell the RECs (in part or in whole) separately.

### ***G. Location of Eligible Generation Facilities***

Renewable electricity generation facilities supplying renewable MWh to Green-e Energy certified renewable energy products may only be located in: the 50 US states; the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, and associated territorial waters and airspace; Canada; or portions of North American Electricity Reliability Corporation regions located in Mexico. Eligibility of other locations outside of these areas will be considered and decided upon by the Green-e Governance Board on a case-by-case basis. Additional geographic restrictions apply to utility green pricing and competitive electricity products; see section IV.A and IV.B.

### ***H. Tracking System Use***

In all but a few specific cases listed in this section, Green-e Energy certified products must be supplied and substantiated by renewable MWh tracked in a renewable energy tracking system that is approved by Green-e Energy. Green-e Energy provides a list of approved tracking systems and the criteria under which they are evaluated at [www.green-e.org](http://www.green-e.org).

This requirement will apply to all generation occurring on or after July 1, 2018.

Only in the following cases is the use of tracking systems not required for Green-e Energy certified products and participants:

- a. The entire facility has an aggregated nameplate capacity less than or equal to 10 MW, or
- b. The facility is located on property owned by the retail electricity user claiming the RECs/renewable energy or has a “direct-line connection,” that user is claiming all RECs generated by the facility during the period of certification, and that all generation is validated by attestations and 3rd party verification records, or
- c. The Participant’s total certified sales volume is less than or equal to 10,000 MWh for that reporting year. In this case, another tracking system account holder must retire supply on behalf of the Participant’s certified sales (in addition to all other required verification procedures), or
- d. The facility (or Participants) using output from the facility in Green-e Energy certified transactions provides to Green-e Energy an independent 3rd party verification of the facility, including, but not limited to, its total output and sales agreements, to verify no double selling has occurred, in accordance with Green-e Energy verification procedures.

For all eligible supply, each Green-e Energy participant, if not exempted by an exception above, must use an account in an approved tracking system to substantiate the participant’s certified sales in a given calendar year following procedures in the Green-e verification protocols.

## **IV. ADDITIONAL CRITERIA FOR COMPETITIVE ELECTRICITY AND UTILITY GREEN PRICING PRODUCTS**

### ***A. Geographic Eligibility for Electricity Products***

For electricity products (i.e. products used to meet a customer’s electricity needs), provider can source from one of the following geographic boundaries:

- a) The single state where all of the product’s customers are located; and/or an adjacent state where the electricity, bundled with a REC, is wheeled into the respective state of the customer being served; or
- b) One or more of the following: The North American Electric Reliability Corporation (NERC) region, Independent System Operator (ISO), Regional Transmission Organization (RTO) or Balancing Authority Area of the customer being served; customer’s regulated electric service territory; and/or an adjacent NERC, ISO, RTO or Balancing Authority Area where the electricity, bundled with a REC, is wheeled into the respective region of the customer being served.

### ***B. Use of Renewable Energy Certificates in an Electricity Product***

Renewable Energy Certificates (RECs) can be combined with nonrenewable power to serve green electricity customers under the following conditions:

- a) The Renewable Energy Certificates must come from the defined geographic boundary of the customer being served as noted above if they are to be marketed as an “electricity” product;
- b) The emission rates per kWh for SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> for the underlying electricity must be at or below the customer’s average utility, state or regional power emissions rates,<sup>22</sup> and

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<sup>22</sup> This only applies to specific purchases of electricity from a specific generation source(s) rather than purchases of system mix or local power pool electricity.

- c) The underlying electricity cannot include any specific purchases of nuclear power in the non-renewable portion of the product other than what is contained in any system power purchase (e.g. the product may not include differentiated nuclear power).

If the RECs are sourced from outside the defined geographic boundary defined in Section IV.A. (Geographic Eligibility for Electricity Products), the product will need to be marketed as a REC product and contain the appropriate disclosure language (see Green-e Energy Code of Conduct).

### ***C. Programs Contracting Supply from Portions of Specific Facilities to Individual Customers***

Some participants offer products where customers (residential and non-residential) can enroll to purchase renewable electricity from a portion of a specific generating unit. In these cases, the Participant selling a Green-e Energy certified product might have multiple generating units for which different customers have enrolled to purchase portions of output. For instance, half of the customers are enrolled to purchase portions of the output from Solar Farm A and the other half are enrolled to purchase portions of the output from Solar Farm B. In these cases, Green-e Energy waives the requirement to provide all customers of Single Mix products renewable energy from the same facilities. In such cases, the Participant may alter the specific facility providing electricity to the customers, but not the resource type. A program of this type is a unique certified product requiring a contract with CRS, fee assessment and annual verification.

- 1) In order to qualify for Green-e Energy certification under this program model, all of the below criteria must be met:
  - a) The product must be structured such that each customer signs up to purchase renewable energy entirely from one specific generating unit;
  - b) Any one customer cannot enroll for 100% of a facility's output;
  - c) The product purchased by each customer must contain the same resource type. Each customer's purchase may vary as to the source facility within a resource type, but all customers must receive the same overall resource type.
- 2) In certain cases, Green-e Energy will consider certifying the sale of renewable electricity from facilities used in these products for more than the 15-year "New Date" window described in Section II.E, above, and up to 30 years. In order to be considered for such an exception, a Green-e Energy participant must submit a formal Community Renewables program exception request to the Green-e Governance Board.

## **V. ADDITIONAL CRITERIA FOR UTILITY GREEN PRICING PRODUCTS**

### ***A. Product Pricing***

In no case should the above market costs of the energy used directly for a certified utility green pricing program be allocated to customers who are non-participants in the program. If such costs are related to public policy initiatives deemed acceptable by their regulators, a utility may appeal to the Green-e Governance Board for approval.

## ***B. Marketing and Performance Targets***

If local stakeholders believe a certified program is not receiving sufficient marketing support, the stakeholders can petition CRS to require that the utility offering the program provide additional information, such as overall marketing expenditures for the certified program. All information provided by participating utilities to fulfill this criterion will be treated as confidential by the Center for Resource Solutions. The Board reserves the right to make case-by-case determinations on the adequacy of individual marketing efforts made by participating utilities.

## ***C. Waitlists***

In the event that a utility green pricing program becomes fully subscribed, consumers may have to be placed on a waiting list before they can officially subscribe to a green pricing program. If green pricing program providers have a waiting list, the waiting period must not last more than one year from when the customer seeks to join the green pricing program. Should the green pricing program provider accrue a waiting list of interested Participants, the provider shall send a stand-alone letter to the waiting list on a semi-annual basis explaining why the list is not being served and what steps the provider plans to take to rectify the supply/demand imbalance. In the event that the program provider holds a waiting list, it shall notify CRS immediately stating the reasons for the insufficient supply and actions planned to remedy the situation. In the event of a semi-annual wait-list notification, the provider shall notify CRS of the event and provide the number of customers on the waiting list. Enrolling but not serving customers for more than one year may be grounds for removing certification.

## ***D. Regulatory Approval***

Certification is only available to programs that have been approved by the appropriate regulatory or oversight body with jurisdiction over the program prior to the program's nomination for certification.

## ***E. Programs Serving Multiple Utilities (Hub and Spoke)***

Some utilities are offering green pricing to customers in conjunction with other local utilities. In one such model, there is a central body (hub) that develops a renewable energy product that is marketed by more than one utility (spokes). For example, the output of a wind turbine, a landfill gas facility, and a solar array could be bundled into one product and sold by all of the members of a transmission and distribution cooperative. Since there is a single product and a single point of contact (the hub), Green-e Energy is willing to treat this as one certification regardless of the number of vendors selling the product so long as they meet all of the conditions below.

- 1) In order to qualify for Green-e Energy certification using the hub and spoke model, the product must:
  - a) Contain the same proportional mix of resources for each participating spoke. Each participating spoke may vary the generation location within a resource type but all participating spokes must offer the same overall mix of resource types.
  - b) Be sold within the same regional area. To receive hub-and-spoke treatment from Green-e Energy the product resources must be sited in the same area of the country as the



customer. The resources do not have to be located all in the same state, but must be in the same region (see section above; Geographic Boundaries for Sourcing Eligible Electricity) as the customers.

- c) Utilize the same marketing materials for each participating vendor. All participating vendors must use the same marketing materials. Individual utility vendors may brand the marketing materials. However, marketing materials must be consistent across the product service territory so Green-e Energy can do a single marketing compliance review. Limited exceptions to this rule will be tolerated so long as Green-e Energy is notified.
- d) Undergo a single verification process audit. Green-e Energy program staff must have a single auditor as point of contact. The auditor must have access to customer records of all participating vendors.

## 2) Obligations of the Hub and Spoke Facilitator (the Hub):

- a) Offer the same product to all participating retail distribution utilities (the Spokes).
- b) Provide a single point of contact for Green-e Energy.
- c) Undergo a single annual verification process audit.
- d) Undergo single marketing compliance reviews.
- e) Ensure that all requirements of Green-e Energy certification are met.
- f) Keep Green-e Energy informed at all times regarding which distributors are marketing the product.

## 3) Obligations of the Hub and Spoke Distributors (the Spokes):

- a) Offer the auditor access to billing records.
- b) Abide by the Green-e Energy Code of Conduct.

## VI. REVISIONS TO THIS STANDARD

This Standard is considered a dynamic document and may change over time to accommodate changes in the renewable energy marketplace, policy changes that affect renewable energy, and/or innovations in renewable energy technology. This standard is revised every five years or more frequently as needed. All revisions and calls for comments will be posted on the Green-e website ([www.green-e.org](http://www.green-e.org)). For any substantial changes to this Standard, the Green-e Energy Program commits that:

- 1) Stakeholders will be solicited in advance of Green-e Governance Board meetings for input on substantive policy change issues; and
- 2) At least one year of notice (following the date of announcement of Board approval) will be granted to utilities, green power marketers and other stakeholders before the substantive changes go into effect, unless a more timely change is necessary to respond to a significant and imminent problem threatening the integrity of green power markets.

Marketers of Green-e Energy certified products may petition Green-e Energy for an exemption from specific changes in the criteria if they can document current contracts or other conditions that prevent them from meeting the change. Products that are granted criteria exemptions will be noted on the Green-e web site, and the exemption must be noted to customers in the Terms

and Conditions in a clear manner (e.g. “25% of the renewable energy content of this product is supplied by facilities put online prior to 1997”).

Changes that are not limiting to marketers of Green-e Energy certified products (i.e. will impose no burden on currently certified products) or need to be implemented in the short term to accommodate external policy changes may take effect immediately upon Board approval.

Any Green-e Energy Participant that includes renewable electricity or RECs from a facility with which it has a contract approved by Green-e Energy for continued use must disclose such use on the Price, Terms, and Conditions and Product Content Label disclosure provided to customers considering the purchase of a Green-e Energy certified product containing such output. Renewable energy from such facilities may be traded to other Green-e Energy Participants for use in their own Green-e Energy certified sales so long as the original contract or facility ownership that was granted continued use remains intact through the original period for which it was granted an extension.

Companies with contracts or facilities that have been granted continued use may transfer such contracts or ownership of such facilities to other Green-e Energy Participants and the original exemption will remain intact for the original period. If a company loses Green-e Energy certification of all products for any reason, the exemptions granted to facilities based on that company’s contracts or ownership will be withdrawn as of the date that Green-e Energy certification is terminated.

## **APPENDIX A: STATE-SPECIFIC REQUIREMENTS AND RESTRICTIONS**

### **A.1 Texas**

*Market Advisory and Green-e Energy Policy Update; March 24, 2008*

On January 1, 2008, the Texas PUC implemented docket 33492 of Substantive Rule number 25.173. Under this docket, non-wind renewable electricity facilities first operational on or after September 1, 2005, are granted both a REC and a “Compliance Premium” (CP) for each MWh generated. CPs can be bought by a Load Serving Entity to satisfy its RPS obligations, leaving the REC to be bought by another party, who may be buying the REC to make a voluntary claim outside of any RPS obligation. However, since both the LSE and the buyer of the REC are claiming the benefits of the renewable MWh, a double claim occurs.

The applicable section of the docket reads:

“(l) Target for renewable technologies other than wind power. In order to meet the target of at least 500 MW of the total installed renewable capacity after September 1, 2005, coming from a renewable energy technology other than a source using wind energy as set forth in subsection (a)(1) of this section, the program administrator shall award compliance premiums to certified REC generators other than those powered by wind that were installed and certified by the commission pursuant to subsection (n) of this section after September 1, 2005. A compliance premium is created in conjunction with a REC.

- (1) For eligible non-wind renewable technologies, one compliance premium shall be awarded for each REC awarded for energy generated after December 31, 2007.

- (2) Except as provided in this subsection, the award, retirement, trade, and registration of compliance premiums shall follow the requirements of subsections (d), (k) and (m) of this section.
- (3) A compliance premium may be used by any entity toward its RPS requirement pursuant to subsection (h) of this section.
- (4) The program administrator shall increase the statewide RPS requirement calculated for each compliance period pursuant to subsection (h)(1) of this section by the number of compliance premiums retired during the previous compliance period.”

This docket is available from the Texas PUC web site, at:

<https://www.puc.texas.gov/agency/ruleslaws/subrules/electric/25.173/25.173.pdf>

### **Resulting Green-e Energy Policy**

In order to prevent double counting of renewable generation sold in Green-e Energy certified products, Green-e Energy requires that for facilities meeting all four of the criteria listed below, RECs and an equal amount of CPs from the same facility are both retired. Any party, not just an LSE, may buy and retire a CP.

Criteria for policy to apply (all must be met):

- Generating facility was first operational on or after September 1, 2005
- Generating facility uses a renewable resource (as defined in this document) other than wind energy
- Generating facility is located in Texas
- Generation occurred on or after January 1, 2008

This requirement applies to RECs and renewable electricity used as supply for either 2007 or 2008 Green-e Energy certified sales. *This policy is effective immediately and will remain in effect until further notice.*

This requirement allows the buyer of both the REC and the CP to make a full renewable energy claim about the particular MWh of generation. The REC and the CP must both meet the Green-e Energy vintage requirements for the year of sale, though you are not required to procure and retire a REC and a CP that were actually generated simultaneously.

RECs and CPs will be minted and tracked in ERCOT, once the first quarter of generation is reported in generators' ERCOT accounts. Retirement or transfer of RECs and CPs must be substantiated through ERCOT reports and Tracking Attestations by following the methodology laid out in Requirements for Using Tracking Systems in Green-e Energy Annual Verification. This Green-e Energy document is available through the Green-e Energy Verification page of the Green-e web site and was sent to contacts at each company participating in Green-e Energy as part of a verification email sent in February.

Green-e Energy has made this decision based on discussions with a number of involved parties, all of whom agreed that this policy addresses the issue appropriately and reasonably. The EPA Green Power Partnership shares the same stance on how to address non-wind Texas RECs in the voluntary market.

## **A.2 RGGI State Set-Aside (CT, DE, ME, MD, MA, NH, NY, RI, VT)**

*Provisions for Voluntary Renewable Energy Sales and Green-e Energy Eligibility; December 5, 2008*

### **Regional Greenhouse Gas Initiative Summary**

Nine states in the Northeast and Mid-Atlantic (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont) have agreed to take part in the Regional Greenhouse Gas Initiative (RGGI), a regional cap-and-trade program for greenhouse gas emissions arising from the electricity sector in those states, commencing January 1, 2009. Green-e Energy would like to notify all program Participants that RGGI policies will affect sales of renewable energy made within RGGI states, as well the eligibility for Green-e Energy Certification of the sale of renewable energy generated in RGGI states but sold outside of RGGI states.

This Standard currently requires that bundled renewable electricity and unbundled renewable energy certificates (RECs) (collectively “renewable MWh”) contain their full CO<sub>2</sub> emissions reduction benefits. In a region where the emissions from the electric power sector are capped, certain policy provisions must be made to ensure that this core tenet of Green-e Energy policy is preserved; otherwise, Green-e Energy will no longer be able to certify renewable energy transactions in the capped region. In RGGI, eight of the nine states (all of the above except Delaware) have adopted a provision that allows retail voluntary market sales of renewable MWh that are generated in a RGGI state and sold into a RGGI state other than Delaware to have CO<sub>2</sub> emissions allowances retired on behalf of the sales. The rules and mechanisms for retiring emissions allowances on behalf of retail voluntary renewable energy sales are referred to as set-aside provisions.

Under these eight states’ rules, renewable MWh can maintain their CO<sub>2</sub> emissions avoidance value through the retirement of RGGI emissions allowances on their behalf. This will allow these renewable MWh to retain their Green-e Energy eligibility, as they will prevent a certain amount of CO<sub>2</sub> from being emitted under the cap. Accordingly, in states that do not retire allowances on behalf of the voluntary renewable energy market, sales of renewable MWh will not be credited with any CO<sub>2</sub> emissions reduction benefits under the emissions cap, and thus will not be considered eligible for Green-e Energy certification.

Each of the eight states has developed its own requirements for the process of retiring allowances on behalf of retail voluntary renewable MWh sales, and these requirements must be followed in order to ensure that such transactions remain eligible for Green-e Energy certification, and that retirement of such renewable MWh allows for the ability to make the valid environmental claim that purchasers expect. In response to the creation of these state-specific policies, Green-e Energy must change a number of rules to maintain the requirements of this Standard.

These Green-e Energy rule changes are listed below, and go into effect for Green-e Energy certified sales starting January 1, 2009. Because RGGI policies are enforceable by law, Green-e Energy cannot offer grandfathering of any affected Green-e Energy rules.

Green-e Energy fully supports set-aside provisions for renewable energy sales in these nine RGGI states as a leading example of how cap-and-trade can preserve the emissions reduction benefits of the voluntary renewable energy market. Sellers of RGGI renewable MWh into the

nine RGGI states with voluntary renewable energy set-aside provisions must follow states' rules in order to ensure that voluntary renewable energy sales retain their full value.

**Due to the RGGI rules addressing the treatment of voluntary renewable energy purchases, effective January 1, 2009 renewable energy from eligible generators located in RGGI states (including Delaware) can *only* be Green-e Energy certified if sold to end use customers located in the nine RGGI states that have voluntary renewable energy set-aside provisions.** Such customers may still purchase Green-e Energy certified renewable MWh generated outside of RGGI states. Please read all of the text below for important rules regarding the treatment of renewable MWh generated and sold in RGGI states.

### Green-e Energy Policy Changes Arising from RGGI Rules

Each state participating in RGGI has developed its own definition of the types of renewable energy that may apply to have RGGI emissions allowances retired on their behalf. Renewable MWh sold in Green-e Energy certified transactions must meet the eligibility definitions determined by *both* the state of the sale *and* this Standard. In the case where one set of rules is more stringent than the other, the more stringent rules must be followed.

A summary table of the following rules is provided at the end of this document.

#### *Wholesale versus Retail Sales of RGGI Renewable MWh*

Because there is no mechanism in RGGI for wholesale transactions of renewable MWh generated in RGGI states to have CO<sub>2</sub> emissions allowances retired on their behalf, Green-e Energy can no longer certify wholesale transactions of renewable MWh generated in RGGI states.

#### *Geographic Eligibility within and outside of RGGI*

Because a renewable MWh generated in a RGGI state must have CO<sub>2</sub> emissions allowances retired on its behalf to meet Green-e Energy requirements, RGGI renewable MWh that are sold in Delaware or outside of RGGI are not eligible for Green-e Energy certification. See Table 1 for Green-e Energy eligibility of RGGI renewable MWh inside and outside of RGGI.

**Table A1: Green-e Energy Eligibility by Location of Generation and Location of Retail Sale<sup>23</sup>**

|                             |                            | Renewable MWh sold to retail customers in: |  |
|-----------------------------|----------------------------|--|--|
|                             |                            | <i>RGGI minus DE</i>                       | <i>All other states incl. DE</i>         |
| Renewable MWh generated in: | <i>RGGI state incl. DE</i> | Must get allowance to be eligible          | Ineligible, since no allowance available |
|                             | <i>All other states</i>    | Eligible; no RGGI allowance necessary      | Eligible; no RGGI allowance necessary    |

#### *Generator Operational Date ("New Date") Definitions*

The Green-e Energy eligibility New Date described in section II.E of this Standard remains in effect, with the following exceptions. If the New Date is later than any of the online date requirements below, the Green-e Energy New Date is applicable over the particular state's date.

<sup>23</sup> Other sections of this document may contain state- or region-specific rules that should also be considered when determining eligibility based on generator or customer location.

Maine: Eligible renewable MWh purchased in Maine must come from facilities that first came online on September 1, 2005 or later. Therefore, renewable energy facilities in any RGGI state that were built prior to that date may not sell their renewable MWh into Maine in Green-e Energy certified transactions.

Maryland: Tier II resources must have come online prior to January 1, 2004. Otherwise, the Green-e Energy New Date applies.

Massachusetts: Eligible renewable MWh must come from facilities that first came online on December 31, 1999, or later. Massachusetts vintage waivers will *not* be recognized by Green-e Energy.

New York: Eligible renewable MWh must come from facilities that first came online on January 1, 2003, or later. Therefore, renewable energy facilities in any RGGI state that were built prior to that date may not sell their renewable MWh into New York in Green-e Energy certified transactions.

Vermont: Eligible renewable MWh must come from facilities that first came online on December 21, 2004, or later, or must qualify as Massachusetts or Connecticut new renewables.

#### *Additional State Restrictions and Considerations*

Delaware: Green-e Energy will not certify sales of renewable MWh generated in RGGI states and sold into Delaware because Delaware does not have a set-aside provision for voluntary renewable energy sales. Renewable MWh generated in Delaware and sold into one of the other nine RGGI states may be eligible for Green-e Energy certification, provided that those MWh meet the eligibility requirements of that RGGI state.

#### *State Renewable Resource Type*

Each RGGI state has its own definitions of which types of renewable resources will be eligible to have allowances retired on their behalf.

In order for a sale of RGGI state renewable MWh into a RGGI state other than Delaware to be Green-e Energy certified, the renewable MWh sold must come from facilities that meet the resource eligibility definitions of *both* Green-e Energy and the RGGI state into which the renewable MWh was sold.

Connecticut and Rhode Island: The RGGI Model Rule definition of eligible renewables, used by these three states, matches Green-e Energy's definition with one exception: Green-e Energy does not yet have a specific provision for wave and tidal energy resources. Therefore, sales of wave and tidal electricity generated in a RGGI state is not eligible for Green-e Energy certification unless and until Green-e Energy adopts wave and tidal resources as eligible.

Maine: Renewables sold in the state must meet the definition of Maine Class I renewables in the Maine Portfolio Requirement 65-407 CMR Chapter 311. For Green-e Energy purposes, this means that renewable MWh generated by facilities with nameplate capacities of over 100MW may not be sold as Green-e Energy certified in Maine. This also means that renewable MWh from tidal power and hydropower in a RGGI state may not be sold in Maine as Green-e Energy certified (unless the hydro facility is either certified by the Low Impact Hydropower Institute, or is a turbine in a pipeline). Fuel cells, biomass and municipal solid waste may be eligible if they meet this Standard, but may not be eligible in all cases.

Maryland: All hydroelectric facilities must be both Low Impact Hydropower Institute certified and smaller than 30MW in nameplate capacity. Sawdust is not an eligible resource type.

Massachusetts: Renewables sold in Massachusetts must meet the state's RPS Class I definition of renewable energy generating sources as well as Green-e Energy eligibility rules. Therefore, ocean thermal, wave and tidal resources are not eligible; hydroelectric facilities that are above 25MW in capacity are not eligible; hydroelectric facilities must be Low Impact Hydropower Institute certified; biomass from wood sources are only eligible if the wood sources can be shown to meet Green-e Energy's criteria for being waste wood; marine or hydrokinetic energy is not eligible; a Class I renewable generating source may be located behind the customer meter within the ISO-NE control area if the output is verified by an independent verification system participating in the NEPOOL GIS accounting system and approved by the Massachusetts Department of Energy Resources.

New Hampshire: Rules mirror the standard RGGI resource type rules, except that certain restrictions on biomass apply. Class III and IV renewables are not eligible. No methane or solar water heating is allowed for use in Green-e Energy certified sales, despite being eligible for the state's set-aside in general.

New York: For renewable MWh from hydro sold in New York to be eligible for Green-e Energy certification, the hydro facility must be certified by the Low Impact Hydropower Institute. Ocean thermal, wave and tidal are not eligible.

Vermont: Hydroelectric facilities over 200MW in capacity are ineligible. Solid waste must be agricultural or silvicultural waste in order to be eligible. CT Class I and MA qualifying unit resource definitions are acceptable in Vermont as well; see those state's requirements for their specific eligibilities.

#### *Generator Location Eligibility*

Similar to above, the geographic eligibility requirements of both Green-e Energy and the RGGI state into which the renewable MWh was sold must be met in order for the renewable MWh sale to be Green-e Energy certified. While Green-e Energy does not have geographic requirements for RECs, if Green-e Energy certified renewable MWh are used to supply a Green-e Energy certified renewable electricity program in a RGGI state, buyers and sellers should be aware of Green-e Energy geographic requirements for electricity products. These requirements are available in this Standard.

Massachusetts: In order for renewable MWh from RGGI states to be eligible in Massachusetts, the electricity generated with the renewable MWh must be delivered into ISO-NE.

Maryland: Generators must be located in the PJM region or in a neighboring state, or may be located in a NERC region adjacent to PJM so long as electricity imported into PJM along with the RECs.

Vermont: The electricity generated with RECs sold into Vermont must be imported into ISO-NE.

#### *Tracking System Use for RGGI Compliance*

Maine: In order to have allowances retired for voluntary renewable energy sales, documentation provided to the state's environmental agency must be derived from data from a tracking system if possible; there are some eligible generators in Maine that are outside the footprint of the

NEPOOL-GIS tracking system that may provide data from the entity that oversees the electricity transmission system in a generator's area.

New York: Sellers of RGGI RECs into New York must create a RGGI CO2 Allowance Tracking System (COATS) account.

Other RGGI states may begin requiring use to tracking systems at some point, in which case Green-e Energy will require tracking system use for sales into those RGGI states as well.

### **Additional Issues Pertaining to RGGI and Green-e Energy Policies**

#### *Verification and Reporting Timing*

Each RGGI state has developed its own timelines for compliance with its voluntary renewable energy set-aside provision. These timelines include the date a renewable MWh seller must report to the state's environmental agency, the date the agency will retire the allowances, and the date the retirements are actually made. In many states, the deadline for reporting retail voluntary sales to the environmental agency falls after Green-e Energy's deadline for delivery of the annual Green-e Energy Verification Submission. Green-e Energy is monitoring these state deadlines as they are announced and will periodically revise verification protocols and deadlines for Green-e Energy certified sales reporting with them in mind.

#### *Full Carbon Value and Renewable MWh Sales Exceeding Available Allowances*

Each RGGI state will put aside a finite number of allowances that can be retired on behalf of voluntary renewable MWh sales in the state. There is the possibility that the volume of renewable MWh sold in a state could exceed the allowances that have been put aside to ensure that each renewable MWh can claim its full carbon value. Based on the manner in which states' rules are currently written, there are two possible results in terms of the carbon value assigned to a particular renewable MWh. Either all renewable MWh sold in the state in that year receive the same carbon value, which would be less than a renewable MWh would have received if the allowances had not been exhausted, or allowances are retired on a first-come-first-served basis such that later sales receive little or no carbon value.

Based on analysis of renewable MWh sales in RGGI states in recent years performed by Green-e Energy and others, this scenario of allowances falling short of renewable MWh sales is unlikely within the first year or two of RGGI implementation, but it is a very real risk over the course of RGGI implementation. Green-e Energy will continue to work on this issue internally and externally, and will release a policy statement on this issue as soon as possible. Renewable MWh must be granted their full possible carbon value as prescribed in the state voluntary renewable energy set-aside provision in order for their sale to be eligible for Green-e Energy certification.



## Summary of Resulting Green-e Energy Rules

| State         | New Date   | Renewable Resources Eligibility   | Generator Location Eligibility  | Where In-State Generation Can Be Sold | Other Rules and Restrictions  |
|---------------|--|---|---|---------------------------------------|---|
| Connecticut   | Green-e Renewable Energy Standard for Canada and the United States                     | No ocean resources  | Green-e Renewable Energy Standard for Canada and the United States                | RGGI states other than DE             |   |
| Delaware      |  |   |   |                                       | Ineligible  |
| Maine         | Sept. 1, 2005  | 100 MW and under only; no ocean resources   | Green-e Renewable Energy Standard for Canada and the United States                | RGGI states other than DE             | NEGIS must be used where available in ME  |
| Maryland      | Green-e Renewable Energy Standard for Canada and the United States                     | All hydroelectric must be LIHI and smaller than 30MW. No sawdust. No ocean resources                    | a) in PJM region or adjacent state<br>b) region adjacent to PJM with elec. import | RGGI states other than DE             | Tier II resources must be online BEFORE 1/1/2004; some rules may not be finalized             |
| Massachusetts | Green-e Renewable Energy Standard for Canada and the United States; no vintage waivers | Hydro over 25 MW ineligible; wood must be waste wood; behind-the-meter restrictions; no ocean resources | The electricity generated with RECs must be imported into ISO-NE with the RECs    | RGGI states other than DE             | MA Class I renewables only.   |
| New Hampshire | Green-e Renewable Energy Standard for Canada and the United States                     | No solar water heating. No methane. No ocean resources; some biomass restrictions                       | Green-e Renewable Energy Standard for Canada and the United States                | RGGI states other than DE             | No Class III or IV renewables.  |
| New York      | Jan. 1, 2003   | Hydro must be LIHI certified; no ocean resources  | Green-e Renewable Energy Standard for Canada and the United States                | RGGI states other than DE             | Seller of RGGI RECs into NY must create a RGGI CO2 Allowance Tracking System (COATS) account. |
| Rhode Island  | Green-e Renewable Energy Standard for Canada and the United States                     | No ocean resources  | Green-e Renewable Energy Standard for Canada and the United States                | RGGI states other than DE             |   |
| Vermont       | Must qualify as MA or CT new renewables, or commenced operation after Dec. 31, 2004    | No Hydro over 200MW; no solid waste other than ag or forestry waste                                     | The electricity generated with RECs must be imported into ISO-NE with the RECs.   | RGGI states other than DE             | VT also accepts CT Class I and MA qualifying units; see those state's rules                   |

Additional information about RGGI state statutes and regulations is available at <https://www.rggi.org/design/regulations>.

### **A.3 Hawaii**

*Market Advisory and Green-e Energy Policy Update; 7/15/2010*

Hawaii's RPS eligibility rules defined in June 2006 by SB 3185, and revised in the June 2009 signing of HB 1464, contain language counting all customer-sited, grid connected renewable electricity towards the RPS by default. This language results in a double claim of the renewable attributes of the MWh for any renewable energy certificates (RECs) from Hawaii generated since June 2006 sold into the voluntary market.

The applicable section of the current RPS reads:

“Renewable electrical energy” means:

- (1) Electrical energy generated using renewable energy as the source; and
- (2) Electrical energy savings brought about by:
  - (A) The use of renewable displacement or off-set technologies, including solar water heating, sea-water air-conditioning district cooling systems, solar air-conditioning, and customer-sited, grid-connected renewable energy systems; provided that, beginning January 1, 2015, electrical energy savings shall not include customer-sited, grid-connected renewable-energy systems;

According to discussions with the Hawaii PUC, the PUC is interpreting the above language as counting all grid-connected renewable electricity facilities, including all customer-sited, grid-connected renewable energy systems, toward the state's RPS goal. The current RPS language indicates that after January 1, 2015, such renewable energy systems' output will no longer be counted toward the RPS, though there is a chance that the RPS eligibility rules may change again before 2015, making the eligibility of renewables in HI uncertain beyond that date.

The full RPS language is available for download here:  
[http://www.capitol.hawaii.gov/session2015/bills/HB623\\_CD1\\_.HTM](http://www.capitol.hawaii.gov/session2015/bills/HB623_CD1_.HTM)

The Hawaii PUC does not currently have a mechanism to account for sales of voluntary RECs.

### **Resulting Green-e Energy Policy**

In order to prevent double counting of renewable generation sold in Green-e Energy certified products, RECs and renewable electricity generated in Hawaii on or after January 1, 2006, are not currently eligible for Green-e Energy certified sales. *This policy is effective immediately and will remain in effect until further notice.*

This decision has been made based on discussions with a number of involved parties, including the Hawaii PUC, all of whom agreed that this policy addresses the issue appropriately and reasonably.

### **A.4 Michigan**

*Market Advisory and Green-e Energy Policy Update; July 15, 2010*

In October 2008, Public Act 295 (2008 PA 295) was enacted, establishing Michigan's renewable energy standard. Under this act, different types of credits are given to renewable electricity generators, in addition to a REC, for the use of different technologies and in-state labor and equipment. "Incentive Renewable Energy Credits" (IRECs) can be used by an electric provider to satisfy its renewable portfolio standard (RPS) obligations, leaving the REC to be bought by another party, who may be buying the REC to make a voluntary claim outside of any RPS obligation. Any party, not just an electric provider, may buy and retire an IREC. However, since both the electric provider and the buyer of the REC are claiming the benefits of an individual renewable MWh, a double claim occurs.

The applicable section of the Act reads:

"(2) Subject to subsection (3), the following additional renewable energy credits, to be known as Michigan incentive renewable energy credits, shall be granted under the following circumstances:

- (a) 2 renewable energy credits for each megawatt hour of electricity from solar power.
- (b) 1/5 renewable energy credit for each megawatt hour of electricity generated from a renewable energy system, other than wind, at peak demand time as determined by the commission.
- (c) 1/5 renewable energy credit for each megawatt hour of electricity generated from a renewable energy system during off-peak hours, stored using advanced electric storage technology or a hydroelectric pumped storage facility, and used during peak hours. However, the number of renewable energy credits shall be calculated based on the number of megawatt hours of renewable energy used to charge the advanced electric storage technology or fill the pumped storage facility, not the number of megawatt hours actually discharged or generated by discharge from the advanced energy storage facility or pumped storage facility.
- (d) 1/10 renewable energy credit for each megawatt hour of electricity generated from a renewable energy system constructed using equipment made in this state as determined by the commission. The additional credit under this subdivision is available for the first 3 years after the renewable energy system first produces electricity on a commercial basis.
- (e) 1/10 renewable energy credit for each megawatt hour of electricity from a renewable energy system constructed using a workforce composed of residents of this state as determined by the commission. The additional credit under this subdivision is available for the first 3 years after the renewable energy system first produces electricity on a commercial basis."

The Act is available from the Michigan PSC web site, at:  
[http://www.michigan.gov/documents/mpsc/2007-SNB-0213\\_254495\\_7.pdf](http://www.michigan.gov/documents/mpsc/2007-SNB-0213_254495_7.pdf)

### **Resulting Green-e Energy Policy**

In order to prevent double counting of renewable generation sold in Green-e Energy certified products, Green-e Energy requires that for any MWh of generation from Michigan renewable energy facilities, both RECs and a quantity of IRECs equivalent to those IRECs generated with the RECs are retired.

This requirement applies to RECs and renewable electricity used as supply for Green-e Energy certified sales made in 2009 and beyond. *This policy is effective immediately and will remain in effect until further notice.*

This requirement allows the entity buying and claiming the REC through a Green-e Energy certified sale to make a full renewable energy claim about the particular MWh of generation. The REC and the IREC(s) must both meet the Green-e Energy vintage requirements for the year of sale, though renewable energy sellers participating in Green-e Energy are not required to procure and retire a REC and an IREC that were actually generated simultaneously.

RECs and IRECs may be minted and tracked in MIRECS, once the first quarter of generation is reported in generators' MIRECS accounts. Retirement or transfer of RECs and IRECs must be substantiated through MIRECS reports and Tracking Attestations by following the methodology laid out in Requirements for Using Tracking Systems in Green-e Energy Annual Verification, an appendix to the Green-e Energy Verification Instructions available at [Green-e Energy Attestation Forms](#).

This decision has been made based on discussions with a number of involved parties, all of whom agreed that this policy is appropriate to address the threat of double counting.

## **A.5 California Greenhouse Gas Cap-and-Trade**

*Program Market Advisory and Green-e Energy Policy Update; December 11, 2012*

### **California Greenhouse Gas Cap-and-Trade Program Summary**

As one of the strategies to meet California's Global Warming Solutions Act (AB32), California has implemented a cap-and-trade program for greenhouse gas emissions arising from the electricity sector and other sources. This program commences January 1, 2012, with the first enforceable compliance obligations beginning with 2013 electricity generation and emissions. The California cap-and-trade policies are implemented by the California Air Resources Board (ARB), and will affect renewable electricity generation that either takes place in the state or that is "directly delivered"<sup>24</sup> into the state.

This Standard requires that bundled renewable electricity and unbundled renewable energy certificates (RECs) (collectively "renewable MWh") contain their full CO<sub>2</sub> emissions reduction benefits. In a region where the emissions from the electric power sector are capped, Green-e Energy certification requires that all of the CO<sub>2</sub> benefits of renewable electricity generation are demonstrably preserved to the benefit of the renewable energy buyer. California has adopted a provision that allows retail voluntary market sales of renewable MWh that are sourced from in-state renewable generators, or from facilities that directly deliver electricity to the California grid, to have California Greenhouse Gas Emission Allowances retired on behalf of the retail purchaser. This allowance retirement will enable these renewable MWh to retain their Green-e

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<sup>24</sup> As defined in Section 95102(a) of the ARB's "Regulation for the Mandatory Reporting of Greenhouse Gas Emissions" (Mandatory Reporting Regulation or MRR), available at <http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep.htm>. As of 9/18/2012, the definition is as follows: "Direct delivery of electricity" or "directly delivered" means electricity that meets any of the following criteria: (A) The facility has a first point of interconnection with a California balancing authority; (B) The facility has a first point of interconnection with distribution facilities used to serve end users within a California balancing authority area; (C) The electricity is scheduled for delivery from the specified source into a California balancing authority via a continuous transmission path from interconnection of the facility in the balancing authority in which the facility is located to a final point of delivery located in the state of California; or (D) There is an agreement to dynamically transfer electricity from the facility to a California balancing authority."

Energy eligibility. The rules and mechanisms for retiring allowances on behalf of retail voluntary renewable energy sales are generally referred to as “set-aside” provisions, and under California’s Cap-and-Trade program rules are called the Voluntary Renewable Energy Program (VREP).

In response to the creation of VREP, Green-e Energy must change a number of rules to maintain the intent and function of this Standard. These Green-e Energy rule changes are listed below, and went into effect for Green-e Energy certified sales that were supplied by generation occurring on or after January 1, 2013, including sales made in 2012 that were supplied by first quarter 2013 generation.

### Resulting Green-e Energy Policy

Facilities that are eligible for the VREP must follow the rules set forth in Section 1, below. Facilities that are in or directly delivering to California that are *not* VREP-eligible, but otherwise meet all other relevant Green-e Energy rules, must follow Section 2. All facilities must also meet all applicable Green-e Energy eligibility rules regardless of VREP-eligibility. If the seller of a Green-e Energy certified product is also an obligated entity under the California cap-and-trade program, allowances used for compliance with Green-e Energy rules may not also be used toward the seller’s cap-and-trade compliance obligation. Proof that allowances were retired properly will be required for Green-e Energy verification.

RECs generated by facilities that are outside of California and not directly delivering to California do not require use of the VREP or allowance retirement in order to be eligible for use in Green-e Energy certified sales.

**Table A2: Requirements to Retire a California-Eligible Allowance Based on Generator Location**

| <b>Renewable Electricity or RECs from Facility Located:</b> | <b>Allowance Necessary for Eligibility?</b>   |
|---|---|
| In CA or Directly Delivering to CA                          | <i>Yes. Must retire allowance through VREP, or retire CA-eligible allowances separately</i>     |
| Outside of CA and not Directly Delivering to CA             | <i>No. VREP or CA-eligible allowance retirement not necessary for eligibility.<sup>25</sup></i> |

Because California cap-and-trade policies are required by law, Green-e Energy cannot offer grandfathering related to any affected Green-e Energy rules.

#### *Determining VREP Eligibility*

VREP eligibility is determined by Section 95841.1 of the ARB’s Final Regulation Order, Subchapter 10 Climate Change, Article 5, title 17, California Code of Regulations (“Final Regulation Order”), which states that in order to produce VREP-eligible MWh, generators in or directly delivering to California must be certified as RPS eligible by the CEC and have a commercial online date of July 1, 2005 or later, or must meet design and installation standards pursuant to the California Energy Commission’s (CEC) Guidelines for California’s Solar Electric

<sup>25</sup> If facility is in a RGGI state (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont), see Section A.2 of Appendix A of this document.

Incentive Programs, third edition, June 2010. The Final Regulation Order is available at: <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>

### 1) VREP-Eligible Facilities

Renewable MWh generated by Green-e Energy eligible generators located in or directly delivering to California on or after January 1, 2013 can *only* be Green-e Energy certified if allowances set aside for the VREP are retired on their behalf. For renewable MWh that meet VREP eligibility requirements (VREP-eligible MWh), allowance retirement can occur through VREP reporting. Section 95841.1 of the Final Regulation Order provides details on the attestations and other documentation that must be included with a VREP application submitted to the ARB.

#### A) *Generator Online Dates Must be July 1, 2005 or Later (“New Date” Definition)*

Eligible renewable MWh generated in or directly delivered to California must come from facilities that first came online on July 1, 2005 or later in order to be eligible for VREP. When the New Date described in Section II.E of this Standard is later than 2005, the Green-e Energy New Date will be applicable in place of California’s July 1, 2005 date.

#### B) *Renewable Resources must be Eligible under Green-e Energy AND VREP Rules*

The renewable MWh sold must come from facilities that meet the resource eligibility definitions of *both* Green-e Energy and the VREP, which refers back to the resource definitions of the California Renewables Portfolio Standard (RPS). Where one set of rules is more restrictive than the other, the more restrictive rules must be followed. Eligibility of any individual generator will be determined by considering all the requirements of this Standard, the CEC’s <http://www.energy.ca.gov/2012publications/CEC-300-2012-002/CEC-300-2012-002-CMF.pdf><sup>26</sup> and the ARB’s Final Regulation Order. For example, hydroelectric facilities over 30 MW in capacity are ineligible if they are located in or directly delivering to California.<sup>27</sup> Additional restrictions apply to the incremental increase in generation resulting from efficiency improvements to a hydroelectric facility. Certain additional restrictions on biomass, biodiesel, fuel cells and municipal solid waste also apply.

#### C) *VREP is not Available for Wholesale Sales, Wholesale Sales Must Include Independent Retirement of Allowances*

Because only retail renewable energy transactions are eligible for the VREP, ALL Green-e Energy certified wholesale sales of MWh from facilities generating in or directly delivering to California MUST follow the instructions in Section 2 below to retire California-eligible allowances.

### 2) Facilities Not Eligible for VREP

Independent retirement of California-eligible allowances must be demonstrated for Green-e Energy certification of renewable MWh generated in or directly delivering to California. The first seller of such MWh in a Green-e Energy certified retail or wholesale transaction must demonstrate retirement of California-eligible emissions allowances<sup>28</sup> in amounts in accordance

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<sup>26</sup> See: <http://www.energy.ca.gov/renewables/documents/>

<sup>27</sup> Under limited circumstances the following types of hydropower may be eligible: generation attributable to incremental capacity at a hydropower facility over 30MW; and 40MW hydro facilities that are “Operated as Part of a Water Supply or Conveyance System” according to the California RPS rules. Hydropower facilities must also comply with Section II.A.4 of this Standard.

<sup>28</sup> At the time of publication, only California Greenhouse Gas Emission Allowances are included, but if California links with Quebec or other jurisdictions then allowances from a jurisdiction that is accepted for compliance by California will also be accepted by Green-e Energy. California-eligible offsets are NOT included.

with the ARB's allowance calculation methodology for VREP.<sup>29</sup> An account in the "Compliance Instrument Tracking System Service" (CITSS) emissions allowance tracking system is necessary in order for a Green-e Energy Participant to retire California-eligible allowances. Alternatively, the seller of a California-eligible allowance to a Green-e Energy Participant may retire a California-eligible allowance on behalf of the Participant's Green-e Energy certified sale.

## **Additional Considerations Pertaining to California and Green-e Energy Policies**

### *Verification and Reporting Timing*

According to ARB rules, a renewable MWh end user or seller must report sales of MWh generated in a particular year to the ARB no later than July 1 of the year following the year of generation. The ARB will accept reporting prior to July 1; early reporting is preferred in order to secure VREP allowances and streamline Green-e Energy verification. Coupled with Green-e Energy vintage requirements (see Section III.B of this Standard), sellers of Green-e Energy certified products that use generation from the second half of the year prior to the sales year must therefore report the generation from the prior year in accordance with the ARB's deadline for that prior year of sale. For example, if a seller uses November 2015 generation in a 2016 Green-e Energy certified sale, the November 2015 generation must be reported to the ARB by July 1 of 2016 in order to have allowances retired on its behalf through the VREP. Proof of allowance retirement, either through VREP or through separate allowance purchase and retirement, must be provided to Green-e Energy by the annual Green-e Energy verification submission deadline or within 10 business days of the date the ARB notifies the Green-e Energy Participant of VREP retirement, whichever is later.

### *Full Carbon Value and Renewable MWh Sales Exceeding VREP Allowance Availability*

Each year, California will set aside a finite number of allowances through VREP that can be retired on behalf of sales of eligible voluntary renewable MWh from that year. The ARB will allocate VREP allowances on a first-come first-served basis, and there is the possibility that the volume of eligible renewable MWh sold and reported to VREP could exceed the equivalent amount of VREP allowances necessary to ensure that each renewable MWh can claim its full carbon value. If the VREP has been fully subscribed, and there are no allowances remaining for VREP-eligible renewable MWh, it is up to the seller to procure and retire allowances in an amount equal to what the CA ARB would have retired had there been sufficient allowances in the VREP; see footnote 16 for calculation details.

### *Attestations and Reporting Requirements*

California requires certain attestations are made by those applying for allowance retirement under VREP, and also has various program requirements pertaining to the data and reports that must be submitted to qualify for VREP. It is recommended that renewable energy sellers seeking allowance retirement in California read through the full set of requirements, in Section 95841.1 of the Final Regulation Order or call the ARB hotline at (916) 322-2037.

### *Updates to California Regulations*

The California Air Resources Board and California Energy Commission might at any time undertake processes to update or change rules that may affect the VREP rules. Green-e Energy

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<sup>29</sup>See Section 95841.1(c) of the Final Regulation Order for calculation details available at <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>. The annual Emissions Factor referenced in this section is available in Section 95111(b)(1); as of 9/15/2012 this factor is 0.428 MT of CO<sub>2</sub>e/MWh.



rules will have to adapt to these changes, in most cases without providing sellers of affected renewable MWh the flexibility of grandfathering or generous notice. To stay informed of pending comment periods and updates, the ARB and CEC provide the following resources:

- ARB Cap-and-Trade provides a listserv: [http://www.arb.ca.gov/listserv/listserv\\_ind.php?listname=capandtrade](http://www.arb.ca.gov/listserv/listserv_ind.php?listname=capandtrade)
- CEC listserv sign-up: <http://www.energy.ca.gov/listservers/>

## **A.6 Arizona**

*Market Advisory and Green-e Energy Policy Update; July 14, 2015*

### **Generation in the Footprints of Electricity Providers Subject to the Arizona Renewable Energy Standard and Tariff (REST)**

On December 31, 2014, the Arizona Corporation Commission (ACC) released Decision no. 74882, which provides a resolution to the reporting challenge that public service corporations serving retail electric load in Arizona (“Affected Utilities,” excluding any Utility Distribution Company with more than half of its customers located outside of Arizona) faced in meeting the distributed generation (DG) portion of the state’s Renewable Energy Standard and Tariff (REST). With this decision, the ACC adopted language that specifically allows Commissioners to consider null power when determining REST compliance.

Selected language from Decision No. 74882 that affects Green-e Participants follows:

“Amend [section] § 1812(B)(l) to expand the specific information to be reported annually by a utility to include kWhs of energy produced within its service territory for which the affected utility does not own the associated RECs, which must be differentiated from the kWhs of energy for which the affected utility does own the RECs; and”

“Amend [section] § 1812(C) to allow the Commission to ‘consider all available information’ to determine whether an affected utility’s compliance report satisfies the REST rules.”

This ACC decision applies to compliance reports filed in 2015 and thereafter, and includes generation that occurred in 2014. The rule requires an Affected Utility to report all kWh of energy produced within the Affected Utility’s service territory. This decision gives the ACC discretion over whether to consider null power generated in the geographic footprint of Affected Utilities when evaluating the compliance status of the utility—which could effectively count RECs generated within the Affected Utility footprint, but not owned by the utility.

### **Resulting Green-e Energy Policy**

Starting with Arizona renewable energy reported by the Affected Utilities in their 2014 REST report (submitted to the ACC in 2015), Green-e Energy Participants using RECs generated in the footprint of Affected Utilities subject to the REST (including, but not limited to, Arizona Public Service [APS] and Tucson Electric Power [TEP]) must follow the steps below in order to maintain REC eligibility for a Green-e Energy certification.

If a category of the REST is not being met with utility owned and retired RECs, but the utility is considered to be in compliance with the REST, Green-e Energy may regard at least that category of the RECs to be ineligible.



If these steps are not followed, RECs generated in Arizona Affected Utilities' footprints are not eligible for use in Green-e Energy certified products.

#### *1) Participant Must Obtain a Copy of the Relevant Affected Utility REST Report*

The REST report must be submitted during Green-e Energy verification and must:

- A) Subtract out the MWh associated with RECs proposed for Green-e Energy certification before total generation is reported
- B) Contain (e.g. in a table) a listing for each source of generation that clearly shows whether the RECs were used towards REST compliance
- C) Include a statement identifying the MWh that are subtracted out (identified in 1.A above) and that those MWh were not counted towards REST compliance. (As an example: "Green Product sales are subtracted from total Renewable Generation, and do not count toward compliance with REST targets.")

Participants must demonstrate through the REST report or ACC statement that only utility-owned RECs were used for REST compliance and that the subtracted-out MWh (identified in 1.A above) were not included in the compliance evaluation.

During the Green-e Energy annual verification process, the Participant's auditor will review and report on information contained in the utility REST report, and may seek additional information when necessary to ensure the RECs put forward for verification have not been considered as part of RPS compliance.

#### *2) Verification and Reporting Timing*

The utility REST report must be delivered to CRS as soon as possible after ACC staff evaluates REST compliance and no later than the deadline for annual verification materials (typically June 1).

### **A.7 Canadian Greenhouse Gas Cap-and-Trade**

*Market Advisory and Green-e Energy Policy Update; March 31, 2016*

Québec introduced a cap-and-trade program in 2012 with compliance obligation beginning on January 1, 2013. Québec formally linked its greenhouse gas emissions trading system with the state of California on January 1, 2014. The Québec cap-and-trade policy is implemented by the Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques and affects renewable electricity generation that either takes place in the province or that is "directly delivered" into the province.

As of March 2016, Ontario has released Draft Regulation under Bill 172 (Climate Change Mitigation and Low-carbon Economy Act, 2016), which proposes a plan to implement a cap-and-trade program with compliance beginning January 1, 2017. Ontario's plan would be administered by the Ministry of the Environment and Climate Change and would affect renewable electricity generation that either takes place in the province or that is "directly delivered" into the province. It is not yet known if or when the remaining Canadian provinces will implement cap-and-trade programs.

This Standard requires that bundled renewable electricity and unbundled renewable energy certificates (RECs; collectively “renewable MWh”) contain their full CO<sub>2</sub> emissions reduction benefits. In a region where the emissions from the electric power sector are capped, Green-e Energy certification requires that all of the CO<sub>2</sub> benefits of renewable electricity generation are demonstrably preserved to the benefit of the renewable energy buyer. To date, Canadian provinces with cap-and-trade programs covering the electricity sector have not adopted, or do not have plans to adopt, a provision known as a “voluntary renewable energy set-aside,” which would permit retirements of emissions allowances on behalf of retail voluntary market sales of renewable MWh that are generated in the province.

In response to the implementation of the cap-and-trade programs, Green-e Energy must change a number of rules to maintain the intent and function of this Standard. These Green-e Energy rule changes are listed below and go into effect for Green-e Energy certified sales that are supplied by generation occurring in Québec on or after April 1, 2016, and generation occurring on or after the start of the compliance period in other provinces that implement a cap-and-trade program covering the electricity sector.

### **Resulting Green-e Energy Policy**

Facilities that are in or directly delivering to a Canadian province with a cap-and-trade program covering the electricity sector, that otherwise meet all other relevant Green-e Energy rules, must follow the rules below. All facilities must also meet all applicable Green-e Energy eligibility rules. If the seller of a Green-e Energy certified product is also an obligated entity under the relevant province’s cap-and-trade program, allowances used for compliance with Green-e Energy rules may not also be used toward the seller’s cap-and-trade compliance obligation. Proof that allowances were retired properly will be required for Green-e Energy verification.

Independent retirement of province-specific and eligible allowances<sup>30</sup> must be demonstrated for Green-e Energy certification of renewable MWh generated in or directly delivering into the relevant province. Each seller of such MWh in a Green-e Energy certified retail or wholesale transaction must demonstrate that eligible emissions allowances were retired in amounts in accordance with the methodology provided annually during Green-e Energy verification.<sup>31</sup>

An account in the relevant emissions allowance tracking system is necessary in order for a Green-e Energy Participant to retire eligible allowances. For Québec generation, the relevant tracking system is the “Compliance Instrument Tracking System Service” (CITSS). Alternatively, the seller of an eligible allowance to a Green-e Energy Participant may retire an eligible allowance on behalf of the Participant’s Green-e Energy certified sale.

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<sup>30</sup> At the time of publication, California and Québec’s carbon markets are linked, meaning that California and Québec Greenhouse Gas Emission Allowances may be used for Québec generation. Should other jurisdictions link to this market, then allowances from the jurisdictions that are accepted for compliance by the relevant Province will also be accepted by Green-e Energy. California- or Province-specific eligible offsets are NOT included.

<sup>31</sup> Information pertaining to emissions allowances in association with Canadian Greenhouse Gas Cap-and-Trade programs can be found on the Green-e Participant Portal at [www.green-e.org](http://www.green-e.org).

## **A.8 Washington State**

*Market Advisory and Green-e Energy Policy Update; June 9, 2017*

### **Washington Clean Air Rule Summary**

In September 2016, the state of Washington's Department of Ecology ("Ecology") finalized a rule that regulates greenhouse gas emissions from certain sectors in the state, including the electricity sector. This Clean Air Rule (CAR) took effect January 1, 2017.

The Washington CAR regulates emissions from the power sector but is not an allowance-based or traditional "cap-and-trade" system. Instead, it directly regulates emitting sources and creates a new accounting unit called an Emissions Reduction Unit (ERU), which represents one metric ton of carbon dioxide-equivalent reduced. Ecology creates ERUs from emissions reductions in excess of requirements and from projects and programs that reduce emissions. ERUs can be purchased and used by covered entities to comply with emissions in excess of their annual cap.

This Standard requires that bundled renewable electricity and unbundled renewable energy certificates (RECs; collectively "renewable MWh") contain their full CO<sub>2</sub> emissions reduction benefits. In a region where the GHG emissions from the electric power sector are regulated, Green-e Energy certification requires that the CO<sub>2</sub> benefits of renewable electricity generation that is generated in the region be demonstrably preserved to the benefit of the renewable energy buyer. In states and provinces with cap-and-trade programs, Green-e requires the retirement of allowances in association with renewable energy generation. The CAR does include a mechanism called the ERU Reserve, which *inter alia* is intended to promote the viability of voluntary renewable energy programs in Washington by retiring ERUs in the Reserve on behalf of voluntary renewable energy generation. However, despite this intent, a Green-e review of the Reserve identified many concerns regarding the effectiveness of this mechanism for preserving the avoided grid emissions benefits of renewable energy purchased in the voluntary market.

Avoided grid emissions resulting from facilities with a pre-2017 Commercial Operation Date (COD) ("baseline facilities") were included in the emissions baseline that was used to develop the emission reduction pathways implemented by the CAR.

In response to the implementation of the CAR, Green-e Energy must introduce rules to maintain the intent and function of this Standard. These Green-e Energy rule changes are listed below and go into effect for Green-e Energy certified sales that are supplied by generation from facilities with a COD on or after January 1, 2017. The Green-e Governance Board will re-assess applicability of this section of the Standard if relevant changes in CAR implementation develop.

### **Resulting Green-e Energy Policy**

*Effective January 1, 2017*

For renewable electricity generation in the state of Washington from facilities with a COD of January 1, 2017 or later that meet all other applicable Green-e Energy eligibility rules, the requirements set forth in either 1 or 2 below must be followed.<sup>32</sup>

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<sup>32</sup> Where it can be demonstrated that power from a renewable energy facility located in Washington with a post-2016 COD was exported to another state or region, Green-e Staff may determine that this generation is not subject to the requirements in this section.

## 1) Procure Allowances

Independent retirement of eligible allowances<sup>33</sup> must be demonstrated for Green-e Energy certification of renewable MWh generated in Washington. Each Green-e Participant sourcing or using such MWh must demonstrate that eligible emissions allowances were retired in amounts in accordance with Washington's average rate of GHG emissions for marginal resources.<sup>34</sup>

An account in the relevant emissions allowance tracking system is necessary in order for a Green-e Energy Participant to retire eligible allowances. For California, Ontario, or Québec Greenhouse Gas Emission Allowances, the relevant tracking system is the "Compliance Instrument Tracking System Service" (CITSS). Alternatively, the seller of an eligible allowance to a Green-e Energy Participant may retire an eligible allowance on behalf of the Participant's Green-e Energy certified sale.

If the seller of a Green-e Energy certified product is also a covered party under the CAR, allowances used for compliance with Green-e Energy rules may not also be used toward the seller's emissions reduction pathway. Demonstration that allowances were retired properly will be required for Green-e Energy verification.

## 2) Procure Green-e Compliant Emissions Reduction Units (ERUs)

Renewable generation may be matched with retired Green-e compliant ERUs. Green-e compliant ERUs are ERUs generated as a result of emissions reductions beyond the emissions reduction pathway at a covered party. Each seller of renewable MWh in a Green-e Energy certified retail or wholesale transaction must demonstrate that: (a) Green-e compliant ERUs were retired in amounts in accordance with the methodology provided annually during Green-e Energy verification; (b) the ERUs represent emissions reductions beyond the emissions reduction pathway at a covered party according to the requirements provided annually during Green-e Energy verification; and (c) the ERUs were not used by a covered party for compliance with the CAR.

ERUs retired through the Washington ERU Reserve are not expected to be Green-e compliant as they do not necessarily represent emissions reductions beyond compliance. Reserve ERUs may be deemed Green-e compliant if it can be demonstrated that they meet criteria (a)–(c) above.

### *Verification and Reporting Timeline for Green-e Compliant ERUs:*

Green-e Energy verification submissions will remain open until proof of Green-e Compliant ERU retirement is available, which could be as late as the end of the given CAR compliance cycle (for instance, 2020 for sales made between 2017 and 2020). If the Participant is unable to demonstrate retirement of Green-e Compliant ERUs, or Green-e determines that it is not possible for the Participant to procure Green-e Compliant ERUs (at the end of the CAR compliance period, or earlier should Green-e deem appropriate), the Participant will be required to procure and retire allowances in accordance with 1) above for the Green-e certified supply previously delivered.

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<sup>33</sup> A full list of eligible allowances will be posted on the Green-e website.

<sup>34</sup> The emissions factor referenced in this section is available in WAC 173-442-160(5)(c)(i)(B); as of 4/10/2017 this factor is 970 lbs of CO<sub>2</sub>e/MWh (0.44 MT of CO<sub>2</sub>e/MWh).

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