



# **Green-e<sup>®</sup> Energy International Framework Criteria for Renewable Energy Certification**

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## Introduction and Structure

The Green-e Energy certification program promotes the use of high quality renewable electricity generation by providing environmental standards and consumer protection to support voluntary purchasing and use of renewable electricity. High-quality renewable energy standards and certification accelerate the development of renewable generation and renewable electricity markets, and provide consumers a meaningful mechanism through which they can express demand for renewable electricity. Green-e Energy has supported the growth of the voluntary use of renewable electricity in this way since 1997, when the program was developed by the non-profit organization Center for Resource Solutions (“CRS”).

This Green-e Energy International Framework Criteria for Renewable Energy Certification (“Framework”) document provides Green-e Energy’s common core technical requirements for renewable electricity sales and consumption. This Framework document is not a certification standard on its own. Through interaction and consultation with stakeholders, the requirements in the Framework are used to develop Green-e Energy certification standards that are specific to different countries or regions of the world. In this way, electricity users can purchase and support renewables wherever a certification standard has been developed.

CRS will develop regional certification standards through this Framework document where there is regional stakeholder interest and demand, and based on a feasibility assessment by CRS. Regional standards will address country- / region-specific concerns and respond to local purchasing interest, while meeting the common set of criteria in this Framework. Each standard will set certification criteria in a country, region or electricity market for providers of renewable electricity or renewable energy attributes, and for consumers of electricity who generate or directly purchase renewable electricity. A regional standard may contain criteria that are stricter than the minimum requirements contained in this Framework.

Green-e Energy certified transactions must go through a thorough verification process to ensure that the renewable generation supplied meets program requirements, including that it:

- Is from new renewable electricity generation facilities.
- Meets resource type eligibility screens to promote sustainable energy types.
- Contains all of the environmental attributes of the generation that can be owned.
- Meets and exceeds eligibility criteria for Scope 2 greenhouse gas accounting principles set by the World Resources Institute
- Fulfills the advertising claims made by the seller.
- Is not sold more than once.
- Is not claimed by multiple electricity end-users.
- Is not counted against relevant electricity mandates.

## **A. Definitions**

Green-e Energy publishes a glossary that defines many of the terms used throughout this Framework and other Green-e Energy documents. The glossary is available at: [http://green-e.org/learn\\_glossary.shtml](http://green-e.org/learn_glossary.shtml). In addition, certain specific definitions are provided below:

Participant: Entities providing Green-e Energy certified renewable energy products (either to other entities or to themselves) are referred to as “Participants” in this Framework. Participants may be electricity service providers, sellers of renewable energy attribute certificates, the providers or purchasers under a renewable electricity power purchase agreements or an entity undertaking other means of procuring and consuming renewable electricity. Each Participant must have one or more contract with CRS that allows the Participant to market their activities as Green-e Energy certified.

Renewable Energy Products: The renewable energy options certified by Participants under Regional Standards are collectively referred to as “Renewable Energy Products” in this Framework. See Sections I.A and I.B for details of which product types are eligible.

Region: The specific country, contiguous geographic area, or electricity market where Green-e Energy certified Renewable Energy Products are or will be offered under a Regional Standard. The boundaries of a Region may be defined as the boundaries of common electricity regulation, areas of interconnected electricity transmission and / or trading, governmental boundaries or other justifiable boundaries.

Regional Standard: A set of criteria for Green-e Energy certification that is developed under this International Framework Criteria for a specific country, geographic area or electricity market.

## **B. Usage of the Framework**

The International Framework Criteria contains rules that are used to develop standards in a particular Region. These rules are applicable to all eligible Renewable Energy Product types, customer types and areas of the world. The criteria in the Framework are the baseline against which Regional Standards will be developed. Stakeholder feedback during the development of each Regional Standard will address the application of the Framework criteria to the regional context and may add other criteria important for meeting the intent of the Green-e Energy program. The Framework cannot be used for certification; certification can only be granted by CRS under an approved Regional Standard. In the event of any conflict between the English version of any Green-e document and a translated version, the English version shall prevail.

## **C. Geographic Range of the Framework**

Any Region--country, geographic area or electricity market--is eligible for consideration under this International Framework Criteria so long as all applicable rules can be met. CRS, which

administers Green-e Energy, reserves the sole right to determine whether to pursue the development and approval of a Regional Standard in a particular Region.

## **D. Structure of the Framework**

Criteria for Renewable Energy Product eligibility are contained in Sections I – IV, which provide broad rules that each Regional Standard must use as a basis for the development of specific criteria that are applicable to the Region.

Governance and the treatment of updates to the International Framework Criteria are described in Section V.

As Regional Standards are developed, they are listed in Section VI.

Guidance for how new Regional Standards will be developed is provided in Section VII.

## **I. Eligible Product, Customer and Market Types**

### **A. Renewable Energy Product Types**

The following Renewable Energy Product types may be Green-e Energy certified, where legally available and upon approval by Green-e Energy for use in a Regional Standard. In Regions where renewable energy attributes / certificates are the means of tracking and claiming renewable electricity use, such attributes / certificates must be included in all Renewable Energy Product types offered in that Region.

1. Renewable Energy Attributes (including as embodied in energy attribute certificates): Sale or use of the attributes of renewable electricity generation not accompanied by the delivery of electricity, where such attributes are the legally enforceable way to demonstrate the transfer and end-use of renewable electricity in the applicable Region. Examples include Guarantees of Origin in the European Union and Renewable Energy Certificates in the US.
2. Electricity Products: Products where electricity and renewable energy attributes are delivered together, as a single product. Examples include voluntary renewable electricity programs offered by an electricity service provider or renewable electricity power purchase agreements.

### **B. Renewable Energy Provider, Contract and Generator Ownership Types**

The product types in Section I.A above may be Green-e Energy certified through the following types of providers, contract types or generator ownership types:

1. Third-party providers of renewable energy attributes
2. Incumbent / monopoly electricity service providers
3. Electricity service providers in a deregulated electricity market
4. Other third-party electricity providers, such as community choice aggregation (additional rules may apply)
5. Shared renewables programs whereby electricity consumers purchase shares of a renewable generation facility or other forms of sharing the output of a facility, such as community renewables programs (Additional rules may apply)
6. Power Purchase Agreements (contracts directly with a generator or a generator operator)
7. On-site generation (for self-use)
8. Owned off-site generation (for self-use)

Other types may be eligible upon review and approval by Green-e Energy.

### **C. Customer Types**

Green-e Energy certified Renewable Energy Products may be sold to non-residential / commercial / industrial electricity consumers in all Regions approved under this International Framework Criteria.

Certified Renewable Energy Products may only be sold to residential consumers in Regions where Green-e Energy has issued marketing guidance and compliance requirements for residential sales.<sup>1</sup>

Certified Renewable Energy Products may only be sold wholesale upon approval by Green-e Energy if there is a market relevance, demand and benefit.

It is the intent of Green-e Energy that electricity consumers may claim to be using renewable electricity in their Region if they purchase a Renewable Energy Product that is certified under their Region's Regional Standard. A consumer is not prohibited from purchasing renewable energy attribute products certified under a different Regional Standard. However, prior to purchase such a consumer must be notified of the Regional Standard under which their prospective purchase will be certified. Renewable electricity usage claims by such consumers are not endorsed by Green-e Energy.

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<sup>1</sup> The existence of marketing guidance will be noted in the applicable Regional Standards.

## **D. Eligible Methods of Transacting Renewable Energy Attributes**

The International Framework Criteria communicates Green-e Energy's general principles and requirements that are applicable to all regions and all electricity markets where Renewable Energy Products can be legally transacted, including markets in which:

1. All renewable electricity attributes are transacted without the existence or issuance of energy attribute certificates; or
2. Tradable energy attribute certificates contain all attributes of renewable electricity generation;<sup>2</sup> or
3. The attributes of renewable electricity generation are split and tracked separately across multiple contracts and/or certificate types; or
4. Other market types that may be applicable, upon approval by Green-e Energy.

## **II. Eligible Sources of Supply**

The following criteria apply to all Green-e Energy certified Renewable Energy Products.

### **A. Renewable Resource Types**

#### **1. Resource Types Allowed in All Regions**

The following types of renewable electricity are eligible to supply Green-e Energy certified Renewable Energy Products in all Regions without additional approval:

- a. Solar, including photovoltaic and solar thermal electric
- b. Wind
- c. Geothermal

#### **2. Additional Resource Types Allowed Upon Green-e Energy Approval**

The following types of renewable electricity resource types are eligible to supply Green-e Energy certified Renewable Energy Products only upon demonstration to Green-e Energy's satisfaction that locally-relevant sustainability criteria can be met at the time of generation, and upon specific approval by Green-e Energy and inclusion in a Regional Standard.

- a. Ocean-based energy resources captured through tidal and wave technologies, if located in an area with permitting processes specific to the resource type at the time of construction and if the generator is fully licensed at the national and sub-national jurisdiction level (as applicable), or if the generator is reviewed and approved by the

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<sup>2</sup> Renewable Energy Certificates in the United States are one example.

Green-e Governance Board prior to the generator's output being used in a Green-e Energy certified Renewable Energy Product.

b. Hydropower that is:

- i. Either not on an impoundment or was added to an impoundment that existed before the applicable New Date (see Section II.C). Such generators must be certified by an independent hydropower sustainability certification body that is applicable to the Region where the certified Renewable Energy Product will be used; or
- ii. A turbine in a pipeline or a turbine in an irrigation canal.

Efficiency upgrades for hydropower meeting criteria i. or ii. above may be allowed if criteria and a method for validation are developed and approved for the applicable Regional Standard.

c. Solid, liquid, and gaseous forms of biomass must at a minimum meet the criteria in items i.-vi. below as applicable. In addition, Regional Standards must include specific criteria based on stakeholder feedback, including local environmental stakeholders, that define eligible biomass. All generators must be in compliance with all local, national and/or regional laws/rules regarding emissions.<sup>3</sup>

- i. Woody waste, including but not limited to residues such as tops and limbs and urban wood waste, if adverse environment impacts are satisfactorily addressed in a Regional Standard, including:
  - a. Limiting harmful chemical treatments to contribute 1% or less of the total annual BTU value derived from treated wood
  - b. Using sustainable forestry practices and management
  - c. Limiting the use of whole trees to those that are demonstrably waste, maintenance thinning, naturally downed or certified by a sustainable forestry management system as preventing land use change or thinnings that improve the ecology, natural forest structure, biodiversity, and ecosystem function of the forest and surrounding area.
- ii. Agricultural crop residue that is unmerchantable as food.<sup>4</sup>
- iii. All animal and other organic waste.<sup>5</sup>
- iv. Energy crops that have a rotation less than 10 years (e.g. poplar, willow, or eucalyptus), and meet at least one of the below criteria:

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<sup>3</sup> Green-e Energy 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>4</sup> For example, crops intended for human consumption but damaged by drought or storms would qualify, as could crops with a non-energy primary purpose, such as waste from animal feed production. Green-e Energy does not consider a tree an agricultural crop.

<sup>5</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 renewable energy attributes 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.

- a. Grown on agricultural land not in use for food production in the last two years; or
- b. Grown on agricultural land in a way that does not displace food production.
- v. Landfill gas and wastewater methane.<sup>6</sup>
- vi. Waste-to-energy technologies that use biogenic resources and that are mature in a Region.

In addition, each Regional Standard using biomass must identify any other criteria applicable to their region as well as methods for validation and verification of the criteria.

Green-e Energy 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. Green-e Energy reserves the right to exclude biomass fuels from a Regional Standard if it is determined that meeting the intent of the Green-e Energy program cannot be substantially insured through existing infrastructure and compliance tools in a particular region, or if it is determined that the inclusion of such criteria does not significantly advance intended market impact of the Framework or Regional Standard.

- d. Biodiesel (B100), or other biofuels (specifically biomethane, biogas, bioethanol, green diesel, or syngas) that are used to generate electricity. Such biofuels blended with petroleum diesel are permitted if all of the following conditions are met:
  - i. The biofuel is separately measured (and verified) from the petroleum diesel;
  - ii. Contracts are in place to allow Green-e Energy to verify that the biofuel was converted to electricity;
  - iii. Only the amount of electricity generated from the biofuel may be counted as part of a Green-e Energy certified Renewable Energy Product; and
  - iv. Feedstock used to make biofuel must either be 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. All feedstocks must qualify under the criteria listed under Section II.A.2.c above.
- e. Fuel cells are eligible only if powered by fuels derived from one or more of the eligible renewable resources in this Section II.A, where fuel production, delivery and use can be verified.

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<sup>6</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 area in which the project is sited.

## **B. Vintage of Eligible Renewable Generation**

By default, a Green-e Energy certified Renewable Energy Product may include only renewables that are generated in the six months before the calendar year in which the Renewable Energy Product is sold, the calendar year of sale or the first three months of the following calendar year. If there are laws in a Region or compelling market reasons assessed through stakeholder processes that demand a different period, Green-e Energy may allow a different period of eligible generation in a Regional Standard.

## **C. Generator Age, “New Date” and “Market Start Date”**

In order for the output of a renewable generation facility to be eligible for use in a Green-e Energy certified transaction made in a particular year, the facility must meet at least one of the following conditions in relation to a New Date or Market Start Date (defined below):

1. The facility was placed in operation (generating electricity, including test electricity put onto the electricity grid) on or after the applicable New Date; or
2. The generator is 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 separately from the existing generation at the facility; or
3. The facility performed a 100 percent switch from a non-eligible fuel to an eligible fuel on or after the applicable New Date; or
4. The facility began co-firing eligible fuels with non-eligible fuels on or after the applicable New Date. In this case only the electricity output attributable to the eligible fuel will be eligible for use in a certified Renewable Energy Product. Calculation and verification methodologies must be approved by Green-e Energy in order for co-firing to be used in a Regional Standard; or
5. The facility was repowered on or after the applicable New Date. Repowering assessment and verification methodologies must be approved by Green-e Energy in order for repowering to be used in a Regional Standard; or
6. Certain types of resources, facilities or contracts may be treated differently in relation to the New Date in a Regional Standard if supported by stakeholders and supportive of new resource development in the applicable region.<sup>7</sup>

The New Date that is applicable to a given year of sale of a Green-e Energy certified Renewable Energy Product is shown on the following table, with the New Date continuing to advance by one year each year after 2020:

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<sup>7</sup> For example: Long-term contracts to purchase certified renewable energy from a facility for longer than the New Date or Market Start Date would otherwise allow, may be permitted if the contracts are agreed to immediately following the date the generator first comes online.

Year of Certified Transaction	New Date
2016	2002
2017	2003
2018	2004
2019	2005
2020	2006

If there are compelling, data supported reasons why a New Date of more or less than 15 years in the past is required for market growth and sustainability, Green-e Energy may approve a longer or shorter New Date period in a Regional Standard.

A Region may define a particular year as a Market Start Date that is more recent than the New Date, and require that all eligible generators must have met criteria 1. – 6. above on or after the Market Start Date. A regional standard may also apply to have an annually-increasing<sup>8</sup> proportion of generation meet criteria 1. – 6. above on or after the Market Start Date. In such cases, the regional standard must demonstrate how such criteria supports the goals of Green-e Energy, and must be approved by the Green-e Governance Board. Once the applicable New Date surpasses the Market Start Date, criteria 1. – 6. above must be satisfied for all generation included in certified products.

## **D. Location of Eligible Generators**

### **1. Geographic Eligibility for Certified Electricity Products**

Generators providing electricity for certified renewable electricity products<sup>9</sup> must be located within the Region, however, the following two rules may be applied if there is stakeholder support and approval of Green-e Energy:

- a. Generators located outside of the Region may be allowed as eligible if there is transmission grid integration with the Region and routine cross border power transmission and/or trading with the Region, and all other requirements of the regional standard can be met.

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<sup>8</sup> For example: A Region is approved for a Market Start Date of 2014, and certified sales made in 2014 year must contain at least (for example) 20% renewable generation from facilities that first came online in 2014, with the remaining 80% of renewable generation coming from eligible generators that came online at any time. In 2015, 40% of generation would come from facilities that first came online during or after 2014, and each year the proportion would rise until 100% of supply came from generators coming online in 2014 or later. Starting with certified sales made in 2029, the normal 15-year New Date rules would begin to apply and all facilities would be required to come online on or after 2015.

<sup>9</sup> Certified Renewable Energy Products that are used to meet a customer’s electricity needs; see Section I.A above for Renewable Energy Product type definitions.

- b. Regional Standards may define electricity sourcing boundaries that are more geographically constrained, or may contain rules specific to electricity trading within and between certain areas within the Region (e.g. trading at a sub-Regional level).

## **2. Grid-Connected Generators**

All eligible generators must be grid-tied, with the exception of generations used on-site electricity consumption by off-grid electricity load. All other forms of off-grid generators are not eligible.

## **3. Customer-Sited Generators**

Customer-sited (behind the meter) generators are eligible for:

- a. Certified on-site use; or
- b. Certified Renewable Energy Products sold to off-site electricity users so long as the load with which the generator is co-located is itself connected to the grid. See also Section III.C on claims.

## **E. Use of Energy Attribute Certificates in a Certified Electricity Product**

If all of the following conditions are met, then energy attribute certificates (in markets where such certificates are the legally-enforceable means to convey renewable electricity delivery and usage claims) are allowed to be combined with undifferentiated or system mix power for sale as a certified electricity product:

1. The emission rates per kWh for SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> for the electricity delivered with the energy attribute certificates is lower than or equal to the average emissions rates of consumed power of either:
  - a. The consumer's electricity service provider; or
  - b. The geographically smaller territory of the affected i) country or ii) Region; and
2. The electricity delivered with the energy attribute certificates cannot include any specific purchases of nuclear power in the non-renewable portion of the Renewable Energy Product, beyond what is contained in system power (e.g. the Renewable Energy Product may not include differentiated nuclear power); and
3. For the electricity from which the energy attribute certificates were derived, there are processes, policies and/or other methods in place with the electricity service provider and/or by the relevant government entity(ies) assuring that such electricity is not marketed or represented as renewable electricity that is delivered to retail electricity users; and

4. If a sub-Regional boundary for electricity sourcing has been set according to criterion II.D.1.b. above, then the energy attribute certificates must come from the defined geographic boundary of the electricity consumer being served.<sup>10</sup>

If criteria 1. – 4. above cannot be met, then the Renewable Energy Product will either need to be marketed as an energy attribute certificate product or the Participant must purchase generation for the product through bundled renewable electricity purchases where the Participant procures and sells the electricity and the attributes from the same generator.

## **F. Emissions Limits**

All facilities must be in compliance with all applicable local, sub-national, national and regional laws/rules regarding emissions limits and other relevant emissions-related criteria.

## **G. Parasitic Load**

Renewable electricity consumed as parasitic load (load that contributes to the process of electricity generation) of an eligible facility is not eligible.

# **III. Product Specifications**

## **A. Fully Aggregated Renewable Generation Attributes**

To the extent allowable under the Region's legal and regulatory structures, all non-power attributes that can be owned that are associated with the electricity generation must be aggregated in a certified Renewable Energy Product. None of the attributes of generation may be sold off, transferred, or claimed elsewhere or by another party, unless the same amount of equivalent attributes are acquired and included with / retired on behalf of the certified Renewable Energy Product. There must be a legally enforceable contract, instrument (such as an energy attribute certificate), or collection of contracts and/or instruments in place to substantiate the exchange and exclusive ownership of generation attributes. These attributes include, but are not limited to, all the greenhouse gas (GHG) emission benefits associated with the MWh of renewable electricity when it was generated, including avoided carbon dioxide (CO<sub>2</sub>) benefits and CO<sub>2</sub> emissions reductions. Generating a carbon offset (or other separate certificate) from the same MWh used in a certified Renewable Energy product is considered disaggregation of attributes and is not allowed.

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<sup>10</sup> Examples could include a sub-national electricity grid or electricity service provider's service territory.

Where it is not legally possible to include an attribute in a Renewable Energy Product,<sup>11</sup> the Regional Standard may establish that the inclusion of such an attribute is not required.

### **Energy Attribute Certificates**

Energy attributes certificates (or similar contractual instruments) must be included and retired/cancelled by or on behalf of the purchaser of a Green-e Energy certified Renewable Energy Product, in all cases where such certificates are used to convey the attributes of specified renewable electricity generation or to otherwise transact renewable electricity for delivery and usage claims/reporting/compliance with a renewable energy mandate or target (for any or all attributes).

Where separate certificates or instruments are created for different generation attributes, all instruments (or the same amount that was created by the electricity generation) must be obtained and retired on behalf of the Green-e Energy certified Renewable Energy Product.

When there is no tracking system (see Section IV.B) available and certificates are not issued to or on behalf of the generator, then the environmental attributes of generation must be assigned by contract to the buyer of a Renewable Energy Product in order for such a generator and its output to be eligible for certification, including generators that are 1) owned by the electricity user or 2) located on property owned or occupied by the electricity user.

### **Emissions Trading Scheme / Cap-and-Trade Mechanisms for Greenhouse Gas Emissions**

Where the GHG emissions from the electricity sector are regulated through a program (e.g. emissions trading schemes, cap-and-trade policies, or direct regulation of emissions) that is legally binding (through voluntary agreement, law or regulation), it must be demonstrated how the eligible renewable generation lowers actual emissions under the GHG emissions regulation or through some other mechanism.

If the GHG emissions regulation makes use of one of the following (or similar) mechanisms, such a mechanism must be used:

1. The GHG emissions regulation has an accounting mechanism that retires CO<sub>2</sub> emissions allowances on behalf of voluntary Renewable Energy Product sales and transactions; or
2. The level of the cap was set by accounting for all renewable generation produced in the covered electricity sector.

If none of the above mechanisms exist, then one of the following actions must be taken by the Participant on behalf of the Green-e Energy certified Renewable Energy Product:

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<sup>11</sup> For example, if a Region has policies or instrument trading programs that have the effect of preventing a certain attribute from being owned, causing the value of a certain attribute to be 0, affecting the value of a certain attribute or requiring that a certain attribute be sold to another party.

3. Retirement/cancellation of allowances or other similar GHG emissions compliance instruments from the same GHG emissions regulation; or
4. Retirement/cancellation of Green-e Climate certified offsets.

Others mechanisms and/or actions may be allowed depending on stakeholder feedback, the Region’s policies, and the approval of the Green-e Governance Board.

## **B. Regulatory Surplus: Renewable Quotas, Targets, Other Mandates and Incentives**

Renewable electricity generation is not eligible for use in a certified Renewable Energy Product when the specific generator or specific generation is counted for, or attributed to, a requirement or mandate associated with specific policy or program mechanisms covering the power sector (examples might include renewable electricity quota systems or legal settlement agreements requiring a particular generator be built).<sup>12</sup> Details on interactions with a Region’s particular policy mechanisms will be provided in the Regional Standard.

When a generator generates renewable electricity in excess of the government mandate, that excess generation is eligible supply, provided that the construction of the generator itself was not required by law.

The output of generators that obtain tax or financial incentive payments is eligible supply (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 renewable electricity, or associated certificates or attributes, be used or counted towards a governmental program, as described above.

See also Section IV.D.3: Mandated Renewables in 100% Renewable Electricity Products.

## **C. Double Counting, Double Selling, and Double Claiming**

Eligible renewable electricity and any associated certificates can be applied to an end-use only once. Making a renewable electricity delivery or consumption claim (e.g. stating “we buy wind power”) is one example of a “use.”<sup>13</sup> Renewable electricity or attributes that can be reasonably attributed to a party other than the user of a certified Renewable Energy Product may not be used in Green-e Energy certified Renewable Energy Products. Examples of prohibited double uses include, but are not limited to:

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<sup>12</sup> Generation that is counted toward a non-binding national, regional, or local renewable energy goal, for example, may be eligible for use in a certified Renewable Energy Product. Likewise, generation used in a certified Renewable Energy Product does not need to be surplus to a production- or capacity-based aspiration or goal associated with a program or policy, or a participation limit for a renewable energy incentive or finance program, for example.

<sup>13</sup> For further resources on double claims, see [http://green-e.org/learn\\_re\\_claims.shtml](http://green-e.org/learn_re_claims.shtml)

1. When the same MWh or attributes are sold to more than one party, or any case where another party has a conflicting contract for the attributes or the renewable electricity;
2. When the same MWh is claimed by more than one party, including any expressed or implied environmental claims made pursuant to electricity coming from a renewable electricity resource, environmental labeling or disclosure requirements. This includes representing the electricity from which certificates are derived as renewable;<sup>14</sup>
3. When the same MWh is used by an electricity provider or other entity to meet a delivery or consumption mandate for renewable energy and is also used to supply certified sales, transactions, or consumption under Green-e Energy; or
4. When another party uses one or more attributes of the renewable electricity or certificate (See Section III.A. on Fully Aggregated Renewables for details). This includes when a MWh or associated certificate is sold as a Renewable Energy Product to one party, and one or more attributes associated with the same MWh of generation (such as CO2 reduction or offset) are sold to another party.

In all cases, the relevant government agency(ies) in the region of the generator and the region of the Renewable Energy Product user (if different) must be notified by or on behalf of the Participant in writing at least annually of all generation used in Green-e Energy certified voluntary Renewable Energy Products. A renewable energy tracking system or other infrastructure that already provides this information to the relevant agency(ies) may satisfy this requirement upon approval from Green-e Energy.

#### **D. Minimum Purchase Quantity**

Green-e Energy certified Renewable Energy Products sold to non-residential electricity consumers have no minimum purchase quantity requirement. However, commercial purchasers interested in using the Green-e logo to promote their purchase must participate in the Green-e Marketplace Program: [www.green-e.org/marketplace](http://www.green-e.org/marketplace).

Green-e Energy certified Renewable Energy Products sold to residential electricity consumers must contain at least the minimum amounts of Green-e Energy eligible renewable energy described below.

1. Renewable energy attributes sold without electricity service: When sold on a one-time basis to a residential electricity consumer, the minimum allowable purchase quantity shall be the lower of 100 kWh or 10% of the average monthly residential electricity use in the year that the applicable Regional Standard is adopted.<sup>15</sup>

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<sup>14</sup> An example of such representations includes use of the renewable energy in calculating product or portfolio resource mixes for the purposes of marketing or disclosure to electricity end-users when the certificates have been sold off or claimed separately.

<sup>15</sup> If data is not available for that year, the minimum purchase quantity may be based on the best available data.

2. Percentage-of-use electricity products: Must match at least 25% of a residential electricity consumer's electricity usage with eligible new renewables above and beyond any mandated renewable amount. If a Participant offers the option to match less than 50% of a residential electricity consumer's electricity use, they must also offer a 100% option to residential electricity consumers.
3. Electricity products sold in kWh blocks: The minimum amount of Green-e Energy eligible renewables that this product type must provide each month is 10% of the average monthly residential electricity use in the year that the applicable Regional Standard is adopted.
4. Products sold as kW of capacity from a facility or as shares of a facility: Each month, such Renewable Energy Products must deliver at least the same minimum amount as determined in III.D.3 above, averaged over a calendar year.

### **E. Criteria for the Non-Eligible Portion of a Renewable Electricity Product**

There are additional requirements for electricity products that provide less than 100% of a customer's load with eligible renewable electricity. The portion of such products that is not composed of eligible renewable electricity must have an average emission rate per kWh for SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> that are equal to or less than the emission rates of the consumer's default electricity service. Rates of default service should be based on the most detailed and recent data provided by the relevant government-approved body that collects and publishes such data, unless one or more of the Region's transmission system administrators, utility oversight bodies or other authorities makes more up-to-date and accurate information available.

While any electricity that meets the above criteria will qualify, the following may explicitly be used to satisfy the non-renewable portion of a Green-e Energy certified electricity product:

1. The system mix of the consumer's electricity service provider;<sup>16</sup> or
2. The residual mix of the consumer's power pool or country

The non-eligible portion of the product may not include nuclear power beyond what is contained in any system power purchase (i.e. may not include differentiated nuclear power).

## **IV. Additional Criteria**

### **A. Third Party Verification**

Green-e Energy requires that certified Renewable Energy Products undergo an annual verification process to substantiate certified product-related purchases, sales, and claims. The Green-e Energy Participant must employ an independent qualified auditor to conduct this

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<sup>16</sup> This may also be called the 'default mix' or 'supplier mix' in some locations.

verification in accordance with verification procedures supplied by Green-e Energy. Required auditor qualifications are specified in the verification rules for each Regional Standard. Such verification procedures are developed as part of a Region's application approval process and may vary by Region. The results of the verification and selected supporting documents must be made available to the Center for Resource Solutions and verification is not considered completed until all materials are submitted and accepted as complete and final by Green-e Energy.

Participants must have data and document tracking procedures adequate to prepare and provide verification materials to Green-e Energy and auditors. Examples of the types of documents that are likely to be required include, but are not limited to:

1. Verification of generation facility eligibility
2. Reports and/or documentation of all renewable attribute purchases
3. Tracking system reports
4. Attestation documents signed by various entities in the renewable electricity and/or attribute certificate supply chain
5. Data on electricity generation facilities and their output used in Green-e Energy certified Renewable Energy Products, including owned generation facilities
6. Documentation supporting any special cases or exceptions to facility or Renewable Energy Product eligibility
7. Data on certified sales, including data on resource types and amounts provided to each customer type
8. Prospective and historical data on the content of certified Renewable Energy Products
9. Billing records and contracts for renewable energy purchases and sales
10. Internal reports and data related to renewable energy purchases and sales

All audit costs are the responsibility of the Green-e Energy Participant undergoing verification.

## **B. Use of Renewable Energy Tracking Systems**

This section applies only in markets where renewable electricity is transacted using one or more attribute certificates.

In such markets, Green-e Energy certified Renewable Energy Products must be supplied and substantiated by energy attribute certificates tracked in a third-party renewable energy tracking system that is approved by Green-e Energy and that meets the following criteria:

1. In regard to a government agency(ies) that oversees relevant renewable energy policies, electricity resource disclosure and/or carbon accounting, the tracking system is:
  - a. Overseen by such agency(ies); or
  - b. Actively shares data with such agency(ies); or

- c. Subject to a governance structure which provides outside oversight of its operations, or
  - d. Required by such agencies for compliance with government mandates or policies.
2. Has the ability to indicate that MWh are retired/cancelled/used for Green-e Energy certified sales, for example through dedicated retirement account, or “retirement reason” field in the tracking system.
3. Issues certificates based on generation data supplied by the system operator(s) or other qualified entity(ies) that have access to the meter production or settlement data for each registered generator.
4. Records at a minimum the following information for each tracked MWh:
  - a. Generator name;
  - b. Generator ID (as available);
  - c. Resource type;
  - d. Generator location;
  - e. Year generator first put electricity onto the grid (i.e. commercial online date);
  - f. Any other information that is needed to uniquely identify the generator;
  - g. Generation date of each MWh produced;
  - h. Certificate issuance date; and
  - i. Ownership (e.g., account holder) of each certificate at the time of certificate retirement/cancellation.

A generator may register in more than one eligible tracking system simultaneously, so long each tracking system has a mechanism in place to ensure against double issuance and double retirement of the certificate for each MWh of generation.

If stakeholders present a compelling reason why it would be beneficial (e.g. for the renewable energy market or project development) that certain generator types or generation should not be required to use an eligible tracking system, Green-e Energy may, at its sole discretion, grant exceptions to the requirement to use eligible tracking systems in a particular Regional Standard.

If a Region has access to a tracking system that does not meet all of the above criteria, that Regional Standard may require the use of the tracking system so long as the Regional Standard specifies how the unmet criteria can be satisfied through other means.

### **C. Customer Disclosure**

With the exception of direct renewable energy purchases between a generator and a user or on-site generation and use, Green-e Energy Participants must disclose product information, including the Regional Standard under which the Renewable Energy Product was certified, to each consumer prior to their purchase of the Renewable Energy Product, and make additional

disclosures in the case that their purchase changes during the term of their purchase agreement.

## **D. Additional Requirements for Electricity Products**

Regional Standards may be more restrictive than criteria 1-3 below if supported by stakeholder consultations and needed to achieve the intent of the Green-e Energy program.

### **1. Regulatory Approval of Electricity Products**

For certified renewable electricity programs / green tariffs offered by state-owned electricity providers, regulated electricity providers and electricity providers in non-deregulated electricity markets, 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.

### **2. Pricing of Electricity Products**

For electricity providers in regulated electricity markets, in no case shall the "above-market" costs of the bundled renewable electricity or energy attribute certificates used directly for a certified renewable electricity program be allocated to consumers who are non-participants in the certified program / tariff. If such costs are related to public policy initiatives deemed acceptable by their regulators, a utility or other energy seller may appeal to the Green-e Governance Board for eligibility approval of their program.

### **3. Mandated Renewables in 100% Renewable Electricity Products**

Under renewable energy mandates or similar policies that require that all customers of an electric service provider receive the mandated renewable energy (including consumers signed up for voluntary renewable electricity programs), and only for a certified renewable electricity product that meets 100% of a consumer's load, a percentage of the certified electricity product's content may be satisfied with the required renewables, up to the amount that is attributable to the consumer of the voluntary electricity product.<sup>17</sup> All such resources must meet all applicable Green-e Energy rules and be included in Green-e Energy verification. Distribution of renewables reported toward a renewable energy mandate 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.

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<sup>17</sup> As a general principal, Green-e 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.

## V. Governance and Framework Revisions

This Green-e Energy International Framework Criteria is a dynamic document and may be updated over time to accommodate changes in renewable electricity markets, policy changes that affect renewable energy, and/or innovations in renewable energy technology.

This Framework is reviewed every five years or more frequently as needed.

All revisions and calls for comments will be posted on the Green-e Energy website ([www.green-e.org](http://www.green-e.org)). For any substantial changes to this Framework, Green-e Energy commits that:

- Stakeholders are solicited in advance of Green-e Governance Board meetings for input on substantive policy change issues; and
- At least one year of notice (following the date of announcement of Board approval) is granted to Participants and other stakeholders before the substantive changes go into effect.

There may be an exception made to the above two criteria if a more timely change is necessary to respond more immediately to market, policy or technology issues that would otherwise undermine the goals or requirements of Green-e Energy certification. Such changes can be made by Green-e Governance Board decision.

Details of the standard setting process and of how to submit comments or grievances are available at: [http://green-e.org/about\\_standards.shtml](http://green-e.org/about_standards.shtml)

### A. Governance

Details on governance of the Green-e Energy program are available at: [http://green-e.org/about\\_who\\_gov\\_bd.shtml](http://green-e.org/about_who_gov_bd.shtml). As of the date of publication of this International Framework Criteria, all Green-e Energy certification standards are reviewed and approved by the Green-e Governance Board, a group of volunteer renewable energy experts that represent the major stakeholder categories for the Green-e Energy program. It is the intent of Green-e Energy to develop governance and/or advisory bodies that support the creation and maintenance of Regional Standards for countries or large geographic areas over time.

### B. Rule Changes Impacting Existing Contracts with Participants

Green-e Energy Participants may petition Green-e Energy for a waiver from specific changes in the criteria if they can document current contracts or other conditions that prevent them from meeting the change. The waiver must be broadcast to consumers in a clear manner,<sup>18</sup> and

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<sup>18</sup> For example: “25% of the renewable energy content of this product is supplied by facilities placed online prior to 2007”

Green-e Energy reserves the right to publicly announce that such Renewable Energy Products have been granted criteria exemptions on the Green-e website.

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

Any Green-e Energy Participant that includes renewable electricity or certificates from a facility with which it has a contract approved by Green-e Energy for a waiver for continued use (such as due to a rule change when the Framework or regional standard is updated) must disclose such use on the Price, Terms, and Conditions and Product Content Label disclosure provided to consumers considering the purchase of a Green-e Energy certified Renewable Energy 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 waivers may transfer such contracts or ownership of such facilities to other Green-e Energy Participants and the original waiver will remain intact for the original period. If a company loses Green-e Energy certification of all Renewable Energy Products for any reason, the waivers granted to facilities based on that company's contracts or ownership will be withdrawn as of the date that the Green-e Energy certification is terminated.

## **VI. Current Regional Standards**

### **A. Canada and the United States of America**

The Green-e Energy National Standard defines certification rules for certified Renewable Energy Products intended for use by electricity consumers in all parts of Canada and the USA. Certain areas of Mexico bordering the USA are eligible under this standard as well. This document is available on the Green-e website at: [http://green-e.org/getcert\\_re\\_stan.shtml](http://green-e.org/getcert_re_stan.shtml)

## **VII. How to Apply for a Regional Standard**

Entities interested in offering or purchasing certified renewable energy in a Region not covered or included in an existing Regional Standard should review the application details on the Green-e Energy website at: [www.green-e.org/framework](http://www.green-e.org/framework)

CRS's determination to develop a Regional Standard will consider several factors, including if the relevant regulatory and market infrastructure exist to support voluntary renewable energy products, whether demand within the Region for such products exists, and that there is sufficient technical support, stakeholder engagement and development resources available to support the development of the Regional Standard.