



UL 2854

Standard for Sustainability for Renewable Low-Impact Electricity Products

Standard for Sustainability for Renewable Low-Impact Electricity Products, UL 2854

First Edition, Dated January 25, 2018

Summary of Topics

This is the first edition of the Standard for Sustainability for Renewable Low-Impact Electricity Products, UL 2854.

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INTRODUCTION

1 General

1.1 This Standard is designed to support a continuing effort to improve and/or maintain environmental quality by reducing energy and materials consumption and by minimizing the impacts of pollution generated by the production, use and disposal of goods and services.

1.2 This Standard is based on a review of life cycle information and consideration of the electricity markets, as well as stakeholder input. This standard is intended to assist with the identification of the top environmental performers in the electricity sector, and realizing the value of those environmental benefits in the marketplace. These best performers would demonstrate that, compared to others on the market, they have an overall reduced burden on the environment. Some of this reduced burden can be achieved by:

- a) The displacement of non-renewable fuels by renewable, more sustainable fuel sources;
- b) Lower air emissions that contribute to climate change, smog, acid rain and air-borne particulate pollution;
- c) The reduction of solid wastes arising from both the mining and extraction of non-renewable fuel sources, and the disposal of toxic metal emissions and nuclear wastes; and
- d) The reduction of impacts on aquatic, riparian and terrestrial ecosystems from electricity generating activities.

1.3 This Standard is a republication of Ecologo Certification Criteria Document (CCD) 003, Renewable Low-Impact Electricity Products. The criteria have been reformatted for consistency with the Style Manual for UL Standards.

1.4 Due to long term contractual agreements, such as Power Purchase Agreements, clients will be grandfathered to maintain certification under previous versions of the standard, as long as they maintain continuous certification to the earlier version of the standard. For informational purpose only, the criteria pertaining to each version of the standard have been included as follows:

- a) PRC-018-1996: Appendix C;
- b) PRC-084-2000: Appendix D;
- c) CCD-003-2003: Appendix E; and
- d) CCD-003-2006: Appendix F.

It is to be noted that no new certification will be granted under the versions of the standard listed above and which are provided under the Appendices C to F.

2 Scope

2.1 This Standard covers two renewable low-impact electricity products, which allow the commodification of renewable energy generation, and denote relatively low environmental impacts when compared to traditional fossil based electricity generation activities. These impacts are among other things, low net greenhouse gas emissions, limited depletion of non-renewable resources, reduced emissions of other pollutants and reduced impacts on aquatic, riparian and terrestrial ecosystems and species. These two products are:

- a) Bundled renewable low-impact electricity; and
- b) Renewable Energy Certificates.

3 Units of Measurement

3.1 For the purposes of these requirements, values shall be reported in accordance with the requirements of the specific criteria and shall be in metric units. If a manufacturer's choice of units deviates, that change shall be documented and justified as to the reason and relevance for that change.

4 Undated References

4.1 Any undated reference to a code or standard appearing in the criteria of these requirements shall be interpreted as referring to the latest edition of that code or standard. The exception shall be in the case where the criterion explicitly states a certain version or date to be used.

5 Glossary

5.1 For the purpose of these requirements, the following definitions apply.

5.2 BIOGAS – Gaseous products (primarily methane and carbon dioxide) produced by the anaerobic decomposition of organic wastes. For the purpose of this standard, facilities producing biogas include sewage treatment plants, manure and other farm and food/feed-based anaerobic digestion processing facilities, and excludes landfill gas.

5.3 BIOGAS-FUELED ELECTRICITY – Electricity generated from a system in which biogases are captured for combustion and conversion to electricity.

5.4 BIOGENIC – From recently living plants and animals that have died 80 or less years ago.

5.5 BIOMASS – Vegetative matter or its derivatives including:

- a) Solid biomass removed from fields and forests which are managed by following sound environmental management practices. Solid biomass can either be whole plants, parts of plants, or harvesting and industrial by-product residues arising from the harvesting and processing of agricultural crops or forestry products that would otherwise be land filled or incinerated;
- b) Dedicated energy crops; and
- c) Liquid fuels derived from biomass as defined in items (a) and (b) above, including among other things ethanol, biodiesel, and methanol.

Eligible biomass fuels exclude manufacturing process by-products that have been treated in the manners listed below to prevent toxic emissions:

- a) Wood coated with paint, plastics or laminated plastic;
- b) Wood treated with preservatives containing halogens, chlorine or halide compounds like chromated copper arsenate or arsenic;
- c) Wood that has been treated with adhesives; and
- d) Wood that is treated with creosote, for example, railroad ties.

If the treated biomass types comprise 1% or less by weight of the total biomass used to generate electricity at a particular facility and the remainder is from eligible sources of biomass, all biomass-derived electricity may be eligible.

5.6 BIOMASS-FUELLED ELECTRICITY – Electricity generated through the combustion of biomass.

5.7 BROKER – An entity that puts a seller of a REC or bundled renewable low-impact electricity product in contact with a buyer of these products. The broker is not an owner of REC or bundled renewable low-impact electricity products at any point in the process.

5.8 BUNDLED RENEWABLE LOW-IMPACT ELECTRICITY – A combined transaction in which RECs and electricity are sold together. Bundled renewable low-impact electricity can come from the initial generating facility or be, with restrictions as defined in this standard, bundled with a grid power mix.

5.9 BYPASSED REACH – That area in the waterway between the initial point where water has been diverted through turbines or other mechanical means for water-powered electricity generation and the tailrace.

5.10 "CAPTIVE" RATE-BASED CUSTOMERS – Utility clients who have no choice but to purchase electricity from their local utility if on-grid.

5.11 CITES – The Convention on International Trade in Endangered Species of Wild Fauna and Flora.

5.12 CONCENTRATING SOLAR THERMAL TECHNOLOGY – A system that concentrates the heat of the sun through collectors, and uses the collected heat to drive a generating system to produce electricity.

5.13 CUMULATIVE EFFECTS ANALYSIS – An analysis performed following the Council on Environmental Quality's recommendations.

5.14 CUMULATIVE EFFECTS ASSESSMENT – A cumulative assessment performed following the Cumulative Effects Assessment Practitioners Guide of the Cumulative Effects Assessment Working Group.

5.15 DEDICATED ENERGY CROPS – Those non-food crops grown specifically for their fuel value, and in the case of this standard, for electricity generation. These sources include: short-rotation woody crops (e.g., poplar trees) and herbaceous energy crops (e.g., switch grass).

5.16 DE-INKING SLUDGE – Solid material filtered out of the wastewater from the process used to remove ink and other undesirable materials from printed wastepaper.

5.17 DIVERSION – The construction of works to divert water into a canal, tunnel, penstock or similar conduit to supply water for electricity generation purposes.

5.18 CHLORINE – The gas in its elemental form (Cl₂).

5.19 ECOLOGICAL VALUES – In the context of forestry, the ecological attributes that are maintained by following sound environmental practices.

5.20 END-USER – The final purchaser or recipient of a REC or bundled renewable low-impact electricity product. An end-user could be anyone who consumes a bundled renewable low-impact electricity product or promotes themselves in relation to a REC purchase. An end-user could be a residential or commercial customer, a marketer or a generator. Additionally, an end-user could have an on-going contractual agreement for the delivery of a REC or bundled renewable low-impact electricity product, or could be receiving a REC or bundled renewable low-impact electricity product on a one-time use basis.

5.21 ENVIRONMENTAL ATTRIBUTE – The representation of the environmental costs and benefits associated with a fixed amount of electricity generation, usually from a specific generation facility.

5.22 ENVIRONMENTAL BENEFITS – The beneficial environmental attributes of a generation facility. In the context of this standard, the environmental benefits result from the generation of renewable low-impact electricity. These benefits can include among other things the displacement of non-renewable fuels, the reduction of air emissions, the reduction of solid and nuclear wastes, and the reduction of impacts on aquatic, riparian and terrestrial ecosystems.

5.23 EUTROPHICATION – The process by which a body of water becomes enriched in dissolved nutrients (e.g., phosphates) that stimulate the growth of aquatic plant life usually resulting in the depletion of dissolved oxygen, lowering its availability to higher order aquatic species.

5.24 FARM AND FOOD/FEED-BASED BIOGAS SYSTEMS – Biogas-fuelled electricity systems in which biogases are based on the anaerobic digestion of plants including dedicated energy crops and animal residues (including manure) with no remaining food market value.

5.25 FISH HABITAT – Spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.

5.26 FISH PASSAGE – Both the upstream and downstream migration of fish that can be ensured with the use of natural and/or human-made methods. Human-made methods include among other things fishways, fish ladders, fish locks, fish elevators, powerhouse collection galleries, diversion screens, and by-pass facilities.

5.27 FOSSIL – From coal, petroleum, natural gas or any of their derivatives.

5.28 GENERATION FACILITY – A power station designed and built to produce electricity.

5.29 GENERATOR – An entity that owns and operates a generation facility or multiple generation facilities.

5.30 GEOTHERMAL-POWERED ELECTRICITY – Electricity generated from a system that uses hydrothermal steam or water.

5.31 GREENHOUSE GAS (GHG) – A gas that is considered to contribute to climate change by trapping heat emitted from the earth's surface, and includes, among other compounds, carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) (U.S. EPA).

5.32 GRID – A network of wires and cables that transport electricity from generation facilities to end users situated elsewhere.

5.33 HABITAT COMPENSATION – The replacement of habitat that has been subjected to harmful alteration, disruption or destruction with newly created habitat or improvement of the productive capacity of some other natural habitat.

5.34 HARMFUL ALTERATION, DISRUPTION OR DESTRUCTION – With respect to fish habitat, any change to fish habitat that reduces, or eliminates, its productive capacity in relation to one or more life processes of fish.

5.35 HARVESTING AND INDUSTRIAL BY-PRODUCT RESIDUES – By-products of agricultural and industrial activity limited to the following types of biomass:

- a) Silviculture and logging residues not needed to be retained for ecological values;
- b) Crop and animal residues with no remaining human food market value and not needed for soil nutrient balance and management (e.g., straw, chaff, corn cobs, bean residues, and dried stalks of harvested grain);
- c) Mill residues (e.g., residual by-products associated with the processing of forest materials such as bark, sawdust, solid trim, shavings, veneer clippings, clarifier sludge, pulping liquors); and
- d) Untreated construction and demolition wastes that have been demolished in such a manner that they cannot be reused in their previous form.

5.36 HEAD POND – Generally the body of water immediately upstream of the intake structure of electricity generation facilities. Head ponds may be natural or human made (lands inundated, and/or water bodies created as a result of the construction of the generation station and/or the associated diversion structure(s)), or a combination thereof. Head ponds may serve one or more purposes including, but not limited to:

- a) Providing the appropriate hydraulic characteristics, such as submergence, for the intake structure;
- b) Increasing the available head of the generation facility; and
- c) Storing water for subsequent discharge through the generation facility.

Head ponds also include changes caused by the diversion of a portion of a river through a canal or penstock.

5.37 HIGH CONSERVATION VALUE FORESTS – Forests of outstanding and critical importance due to their environmental, socio-economic, cultural, biodiversity and landscape value.

5.38 HUMAN FOOD MARKET VALUE – Food that could be reasonably expected to be environmentally and cost-effectively transported to a place where it could be used for food purposes (e.g., is unspoiled, found in food markets).

5.39 HYDRO-POWERED ELECTRICITY – Electricity generated from a system or technology that uses a mechanical method to capture and convert the potential energy of water into electricity. Hydropower facilities use one-way water flow to generate electricity. There are two categories of hydropower plants, run-of-river and store and release. Not included in the definition of hydropower are pump storage or instream-powered electricity.

5.40 INSTREAM FLOW – The water volume flowing in a waterway.

5.41 INSTREAM-POWERED ELECTRICITY – Electricity generated from currents within a stream or river which has not been dammed or altered by a bypass reach.

5.42 ISLANDED GRID – A small grid system that is not connected to another power pool.

5.43 LOW NET GREENHOUSE GAS EMISSIONS – Those emissions that are either mostly biogenic greenhouse gases and/or life cycle greenhouse gas emissions that are lower than the best fossil fuel systems. Greenhouse gases include: CO₂, CH₄ and N₂O.

5.44 MARKETER – A commercial body that sells their REC or bundled renewable low-impact electricity products to interested buyers (e.g., residential, commercial or institutional buyers or other marketers). Note that a marketer possibly combines electricity from various sources and that sometimes, marketers are also generators.

5.45 MEGAWATT (MW) – A unit of electrical power capacity.

5.46 MEGAWATT-HOUR (MWH) – Megawatt-hour, and a unit of electricity equal to one megawatt of power produced, consumed or flowing for a period of 1 hour.

5.47 NEW RENEWABLE LOW-IMPACT – The age nature of an eligible facility that began operating or that was repowered after the indicated dates in the following table:

Year of Sale	New Date
2010	1997
2011	1997
2012	1998
2013	1999
2014	2000
2015	2001
2016	2002
2017	2003
2018	2004

The New Date will continue to advance by one year each year after 2018. To be considered a new renewable low-impact electricity product, the facility from which the REC or bundled renewable low-impact electricity product was derived must have either been:

- a) Placed in operation (generating electricity) on or after the applicable New Date; or
- b) Repowered on or after the applicable New Date such that 80% of the fair market value of the project derives from new generation equipment installed as part of the repowering.

The definition of "new renewable low impact" electricity is relevant to some renewable energy markets and it is included in this standard primarily for attribution for marketing purposes of Renewable Energy Certificates. The standard applies to all renewable electricity facilities that meet the criteria in this document.

5.48 NULL ELECTRICITY – Electricity distributed on the grid from which RECs have been separated that has no associated environmental, social and premium economic attributes. Once all the RECs have been separated from the renewable low-impact electricity, the electricity becomes "null".

5.49 OFF-GRID – That a generation facility is not connected to any islanded grid or large power pool.

5.50 OPERATIONAL AIR EMISSIONS – The quantity of air-borne emissions of a specified substance or compound that is released as a result of the generation of electricity.

5.51 PARTICULATE MATTER (PM) – Suspended air particulates less than 10 microns in size, often implicated in cardiopulmonary health effects when inhaled. Sources can be dust or construction sites, or in the case of fine particulate matter (less than 2.5 microns), chemical reactions by pollutants emitted from fossil fuel combustion (U.S. EPA). PM concentrations should be measured using the frequency and methods specified in Section 27 of this standard.

5.52 PCDDS and PCDFS – Polychlorinated dibenzo-para-dioxins and polychlorinated dibenzo-furans, and is a family of chlorinated organic compounds formed as trace contaminants or by-products in industrial processes. This includes the undesirable toxic contaminants generated when chlorine is used in the bleaching of wood pulp and when salt-laden wood is combusted.

5.53 PLANNED GENERATION FACILITY – A generation facility not yet producing electricity.

5.54 PHOTOVOLTAIC (PV) TECHNOLOGY – A cell, module, panel, array and/or array field that directly converts light energy from the sun into electricity.

5.55 REGIONAL POWER POOL – Any power pool of which a smaller region is a part. The role of the power pool may be to coordinate, control, and monitor the operation of an electrical power system. For example, in North America, organizations playing this role include the North American Electric Reliability Corporation (NERC) region, the Independent System Operator (ISO) region, the Electric System Operator (ESO) region, the Regional Transmission Organization (RTO) region or the Balancing Authority Area.

5.56 RENEWABLE – Replenished through natural processes or through sustainable management practices so that a resource is not depleted at current levels of consumption.

5.57 RENEWABLE ENERGY CERTIFICATE (REC) – An authorized electronic or paper representation of the environmental, social and premium economic attributes associated with the generation of 1 MWh of renewable low-impact electricity. It is basic evidence for the generation or purchase of an amount of renewable energy. A REC is allowed to be passed on or sold as a separate product from electricity itself, or as part of a bundled renewable low-impact electricity product. For the purpose of this standard, where legally possible, only indirect GHG emissions from the consumption of purchased electricity are quantitatively included in the REC.

5.58 RENEWABLE PORTFOLIO STANDARD (RPS) – A national or sub-national level policy that requires retailers to buy, or electricity suppliers to provide retail customers a minimum level of electricity generated from eligible renewable energy sources. A synonym of an RPS is a Renewable Electricity Standard (RES). The RPS usually specifies the minimum amount of electricity required (usually as a percentage) and those renewable resources that are eligible for inclusion (e.g., can include solar PV, wind, wave, tidal, low-impact hydro, low-impact biomass). Many such policies also specify, at least for a portion of the requirement, the date after which eligible generators must have begun operation.

5.59 RETIREMENT – The final disposition of a REC or bundled renewable low-impact electricity product in the market. It does not necessarily refer to the retirement of a REC in a particular web-based tracking system for the purpose of trading across tracking systems. Once a REC has been retired, it can longer be exchanged on the market.

5.60 RIPARIAN – The land and habitat found along the banks of streams, rivers and lakes.

5.61 SALT-LADEN WOOD – Timber and forestry residues that contain a high concentration of salt (NaCl), due to either a prolonged exposure to maritime air or to immersion in marine waters (generally for the purpose of transportation).

5.62 SOLAR-POWERED ELECTRICITY – Electricity generated by converting the sun's light energy and/or heat energy into electricity, and includes among other things photovoltaic technologies and concentrating solar thermal technologies.

5.63 SOCIAL IMPACTS – Effects on community values like, for example, heritage, culture, recreation, landscape aesthetics, noise and/or tourism.

5.64 SOUND ENVIRONMENTAL MANAGEMENT PRACTICES – Those practices and goals used to manage forest and/or agricultural products, fish and wildlife harvesting, resource extraction, etc. within a sound environmental management system, as defined in the definitions section of this standard, that have the objectives of maintaining ecological values of the surrounding ecosystem. At a minimum for biomass production, these practices must address the following elements, among others:

- a) Species selection;
- b) Soil structure, temperature and fertility;
- c) Soil composition, compaction and conservation;
- d) Erosion control;
- e) Hauling distance from the harvesting site to the generation site;
- f) Silvicultural practices and techniques;
- g) Harvesting practices including techniques, rates and waste minimization;
- h) Crop regeneration;
- i) Road/trail construction and maintenance;
- j) Protection of biodiversity, wildlife and rare, threatened and endangered species;
- k) Water quality and quantity;
- l) Watershed conservation and eutrophication control; and
- m) Prior land use.

5.65 SOUND ENVIRONMENTAL MANAGEMENT SYSTEM – A system, including among other things the International Organization for Standardization (ISO) 14000 series of standards, used to manage forest and/or agricultural products that incorporates sound environmental management practices. At a minimum, system elements must include:

- a) Planning elements such as: identifying forest and/or agricultural resources; identifying environmental aspects; assessing environmental impacts; identifying environmental governmental environmental policies, regulations and guidelines and committing to meeting or surpassing these within an adaptive management framework; and defining and committing to environmental policies, objectives and targets;
- b) Operational elements such as: defining roles and assigning responsibilities; providing adequate staff training; communicating environmental aspects and policies both internally and externally; implementing an environmental management program based on identified environmental aspects and impacts; documenting all policies, goals and procedures; periodically reviewing and, where necessary, revising the system; performing public consultation and/or outreach; and establishing an environmental emergency preparedness and response plan; and

- c) Monitoring and measurement of elements such as: monitoring and measuring key aspects of the system; evaluating and mitigating negative environmental impacts; correcting non-conformance with the management system; performing internal reviews; and having third party audits performed.

The Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI) forest management certification systems are potential examples of sound environmental management systems used to manage forest products. The background documentation which led biomass feedstock to receive one of these certifications may need to be investigated to ensure that these adequately meet sound environmental management practices and explicitly address intensive biomass removals.

5.66 SPECIES DESIGNATED AS ENDANGERED OR THREATENED – Any species that is listed as either “endangered” or “threatened” on recognized catalogues of such species. The default international listing shall be that of the International Union for the Conservation of Nature’s (IUCN) Red List. In Canada and the U.S., the federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and species listings falling under the Endangered Species Act in the U.S., are acceptable. Relevant national or sub-national listings that supersedes the former, where designations are more stringent, may be used.

5.67 TAILRACE – The point at which water is released back into the waterway below a generation station after being passed through turbines or other mechanical means to produce water-powered electricity generation.

5.68 TEQ – Toxic equivalent, and is determined by multiplying the measured concentration level of a given congener by the appropriate I-TEF. By converting the measured concentration levels to a common basis, the TEQ quantities may be summed to provide a single representative quantity. For the purposes of this standard, TEQs are determined for 2,3,7,8-TCDD and 2,3,7,8-TCDF.

The seven congeners for which 2,3,7,8-TCDD TEQs shall be determined are 2,3,7,8-TCDD; 1,2,3,7,8-P5CDD; 1,2,3,4,7,8-H6CDD; 1,2,3,6,7,8-H6CDD; 1,2,3,7,8,9-H6CDD; 1,2,3,4,6,7,8-H7CDD; and OCDD. The ten congeners for which 2,3,7,8-TCDF TEQs shall be determined are 2,3,7,8-TCDF; 1,2,3,7,8-P5CDF; 2,3,4,7,8-P5CDF; 1,2,3,4,7,8-H6CDF; 1,2,3,6,7,8-H6CDF; 2,3,4,6,7,8-H6CDF; 1,2,3,7,8,9-H6CDF; 1,2,3,4,6,7,8-H7CDF; 1,2,3,4,7,8,9-H7CDF; and OCDF.

5.69 TIDAL-POWERED AND WAVE-POWERED ELECTRICITY – Electricity generated from kinetic energy arising from tidal or wave action.

5.70 UTILITY – Any electricity service provider that has “captive” rate-based customers.

5.71 WATER-POWERED ELECTRICITY – Electricity generated from hydro-powered electricity, instream-powered electricity and tidal and wave-powered electricity.

5.72 WATER QUALITY – Characteristics of water, specifically including amount of dissolved oxygen, pH, total phosphorus, turbidity, transparency and chlorophyll, and any other item that is critical for ecosystem and human health.

5.73 WIND-POWERED ELECTRICITY – Electricity generated from a wind turbine that converts the kinetic energy of the wind into electricity.

5.74 WIND TURBINE – A system that uses air foils or blades attached to a drive shaft in order to capture the kinetic energy of the wind. The wind pushes against the blades/foils and spins a drive shaft. The drive shaft, either directly or indirectly through a series of gears, moves the generator to produce electricity.

GENERAL REQUIREMENTS – ALL TECHNOLOGIES

6 Generation Requirements

6.1 To meet the requirements of this standard, a REC and a bundled renewable low-impact electricity product must initially be derived from renewable low-impact electricity that must:

a) Meet or exceed all applicable governmental, industrial safety and performance standards;

b) Be accompanied by evidence that:

1) Appropriate consultation with communities and stakeholders has occurred, that issues of concern have been reasonably addressed, that reasonable mitigation of negative social impacts and environmental impacts, where applicable, has been carried out, and that unmitigated or immitigable social and environmental impacts, if they exist, are of limited scale and scope;

Exception: Evidence is not required for this item if the preexisting facility was built prior to national or sub-national requirements for consultation or previously exempt for another reason, for example size of facility.

2) Prior or conflicting land use, biodiversity losses and scenic, recreational and cultural values have been addressed during project planning and development;

Exception: Evidence is not required for this item if the preexisting facility was built prior to national or sub-national requirements for consultation or previously exempt for another reason, for example size of facility.

3) A Cumulative Effects Assessment has been performed, or that such an assessment has been considered and if not performed, reasons why are provided;

Exception: Evidence is not required for this item if the preexisting facility was built prior to national or sub-national requirements for consultation or previously exempt for another reason, for example size of facility.

4) A monitoring plan has been considered to monitor all of the stressors of potential environmental impacts addressed by this standard such that:

i) There is proof that a monitoring plan is in place that monitors these stressors;
or

ii) If no monitoring plan is in place or if the monitoring plan is incomplete, there is proof that such a plan has been considered and if it was not pursued, reasons why are provided;

5) An appropriate waste management plan is in place for the proper waste minimization, re-use, sorted recycling and/or safe disposal of all solid waste resulting from the construction, generation and end of life phases of the electricity generation;

c) Be generated in a manner that:

1) All steps of the process, including the disposal of waste products arising therefrom, will meet the requirements of all applicable governmental acts, by laws and regulations in the jurisdiction where generation takes place;

2) Is reliable and practical (i.e., not in research and development stage but actually generating electricity);

3) An appropriate water management plan is in place for ancillary water uses if water is used during generation activities. This plan must include, where appropriate, water conservation and water quality considerations;

4) It is only attributable to:

i) The proportion of fuel heat input that is an eligible renewable low-impact source of power as defined by this standard; and

ii) The net value of renewable low-impact electricity produced (i.e., fossil fuels or grid power cannot be used to directly generate renewable low-impact electricity);

5) It will not jeopardize the survival or recovery of any species designated as endangered or threatened; and

d) Be generated in the same calendar year, the first three months of the following calendar year and the last six months of the previous calendar year in which this REC or bundled renewable low-impact electricity product is sold.

TECHNOLOGY-SPECIFIC GENERATION REQUIREMENTS

7 General

7.1 To meet the requirements of this standard, a REC and a bundled renewable low-impact electricity product shall also initially be derived from renewable low-impact electricity that meet the technology-specific generation requirements and associated definitions in this standard.