Green-e Climate

VOLUNTARY GHG PROJECT CERTIFICATION PROGRAMS

This document provides information to stakeholders about the Green-e Climate Protocol for Renewable Energy, a voluntary GHG project certification program. This is done to provide stakeholders with an opportunity to evaluate whether Green-e Climate should endorse the Green-e Climate Protocol for Renewable Energy. Comments are sought on the Green-e Climate Protocol for Renewable Energy's conformance with the Green-e Climate Principles and Criteria (www.green-e.org/getcert_ghg_standard.shtml). Stakeholders who wish to comment on this issue should use the Green-e Climate Protocol for Renewbale Energy Comment Form:
http://www.green-e.org/getcert_ghg_endorsed.shtml

General Information

Name of Program: The Green-e Climate Protocol for Renewable Energy

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Principle #1 – Transparent Program Development
Procedures for the development of the GHG Program requirements invite broad participation by interested parties, are transparent and require public availability of information

The Green-e Climate Protocol for Renewable Energy (the RE Protocol) was developed in 2007 following the guidelines from the World Resources Institute in the following documents: *The GHG Protocol for Project Accounting* (WRI Protocol) and *The GHG Protocol: Guidelines for Quantifying GHG Reduction from Grid-Connected Electricity Projects* (WRI RE Protocol).

There were two 30-day stakeholder review periods in which the public had the opportunity to read the draft RE Protocol and submit comments. Stakeholders included representatives from environmental organizations, power marketers, renewable developers, greenhouse gas reduction developers and marketers, energy and climate policy experts and other interested parties. After the 1st comment period, CRS staff revised the RE Protocol based on comments received and released the revised version for a second round of stakeholder review. Following the 2nd round of stakeholder comments CRS staff provided all comments received and summaries of major issues to the Green-e Governance Board. The Board considered these issues and adopted the Protocol.

The draft Protocol, all stakeholder comments, major issues, how these comments were addressed, and the final Protocol adopted by the Board, are all publicly available. The Program Guidelines are also available.

Written summaries of how each material issue was addressed is available at http://www.green-e.org/getcert_ghg_re_protocol.shtml.

A list of members of the Green-e Governance Board can be found at: http://www.green-e.org/about_who_gov_bd.shtml

All parties that provided comments can be found at: http://www.green-e.org/getcert_ghg_re_protocol.shtml

The Green-e Climate Protocol is not a membership based program.

Principle #2 – Balance and Impartiality

The Center for Resource Solutions is the program administrator for the RE Protocol, and neither develops projects, nor sells emission reductions. The RE Protocol is governed by an independent Governance Board.

The RE Protocol actively encourages third party participation and transparency in program development. All stakeholders can make recommendations for modifications to the certification standards. The verification process requires independent certified public accountants or certified internal auditors to conduct this verification.

Currently, any stakeholder can provide comments directly to staff by email or phone. Stakeholders are welcome to contact us with questions regarding verified and certified projects that may not be in full compliance with program requirements.

Principle #3 – Environmental Integrity
GHG Program requirements ensure real, verifiable, permanent and enforceable GHG emission reductions

The RE Protocol will be reviewed and updated every five years, or more frequently, at the request of the Board (specific calculations within the Protocol are subject to more frequent review, as specified in the RE Protocol).

The review of the RE Protocol will require documentation of all activity, and these documents must be made publicly available. The process must include a public comment period of at least 30 days. All comments must be taken into account, and a written synopsis of how each material was addressed must be made publicly available. The process must include participation of parties with relevant expertise and those that are materially affected by the standard.

If policies enacted on a state, regional or federal level impact the GHG emission benefits from renewable energy, the RE Protocol will be updated to reflect such changes. For any substantial changes to this protocol, the Green-e Climate Program commits that:

- Stakeholders will be solicited in advance of Green-e Governance Board meetings for input on substantive changes to the document; and
- At least one year of notice (following the date of announcement of Board approval) will be granted to Green-e Climate Program participants 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 this protocol.

Emission Reductions Calculations

The emission reductions will be calculated using a regional Baseline Emission Rate (BER). For baseload technologies (biomass, geothermal, hydro, ocean, and wave), the BER reflects the emission rates of the planned capacity additions in the US, and for non-baseload technologies (solar, wind and tidal), the BER is an average of the emissions rates of the build margin and the currently operating grid connected electricity generation facilities (operating margin). Baseload and nonbaseload BERs are developed for each NERC region and based on official data from the US Energy Information administration. These calculations are described in detail in Appendix A of the Protocol.

Emission Leakage
Emission leakage is assumed to be negligible. No fossil fuels are used to directly generate electricity from wind, solar photovoltaics (PV), concentrated solar power, LIHI hydro, ocean, wave and tidal energy. Therefore, only secondary emissions are associated with these technologies, and those emissions result from the manufacturing, construction, and deconstruction of the power generation facilities. Since the emissions associated with manufacturing, construction and deconstruction of these facilities are minute in comparison to the life-cycle emissions of fossil fuel plants, they are not included in this analysis. Emission leakage assumptions are described in detail in Appendix A of the Protocol.

Crediting Period
The facility may be credited for a maximum of 15 years.

Additionality
All of the following additionality tests, as defined by the Green-e Climate Standard, are required in the RE Protocol:

- Legal, Regulatory or Institutional Test
- Timing Test
- Technology and Performance Test

The RE Protocol contains an analysis which provides an explanation of the performance test applied to the US elelctricity sector.

Forestry
Our program does not permit the use of forest-based or other biological carbon sequestration or conservation projects.

Principle #4 – Validity of Emissions Reductions
GHG Programs ensure the validity of GHG emission reductions with respect to the program requirement

The implementation of the RE Protocol is administered by an independent entity. Each generator from which GHG emission reductions are certified according to the RE Protocol must sign a legally binding attestation that the generator owner or its authorized representative understands and agrees to comply with the RE Protocol requirements. All marketers and utilities who buy reductions certified according to the RE Protocol must conduct an annual verification process to substantiate product purchases, sales, and claims. These vendors must employ an independent certified public accountant (CPA) or certified internal auditor to conduct this verification. The CPA must be a member in good standing with the American Institute of Certified Public Accountants or a member in good standing and certified as an Internal Auditor with the Institute of Internal Auditors (IIA).

The RE Protocol does not require on-site verification of GHG emission reductions. Since the RE Protocol only allows for grid-connected electricity projects, and requires the use of tracking systems, the MWh of generation and the retirement of the REC in the tracking system provides evidence of the project, such that the on-site verification in unnecessary.

Principle #5 – Disclosure and No Double Counting
The GHG Program includes measures to require disclosure and prevent double counting

Ownership of GHG emission reductions will be documented through the use of electronic tracking systems for RECs. Eligible RECs can be used once and only once. When a GHG reduction claim is made on the basis of a REC, the REC must be retired in the tracking system and cannot be resold or claimed for any other purpose or by any other party. Every generator using the RE Protocol must sign a legally binding attestation that the generator owner or its authorized representative understands and agrees to comply with the requirements. Renewable energy or RECs (or the renewable or environmental attributes incorporated in that REC) that can be legitimately claimed by another party are not eligible under this protocol.

The RE Protocol requires identification and tracking of all the information required by the Green-e Climate Standard, including project information, name, type, location, year of initiation, date of creation of the quantified GHG emission reduction, and clear ownership of emission reductions.

Additional Criteria
Referenced GHG Project Protocols or Standards

The GHG Protocol for Project Accounting (WRI Protocol) and *The GHG Protocol: Guidelines for Quantifying GHG Reduction from Grid-Connected Electricity Projects* (WRI RE Protocol).

Additional Criteria
Project Specific Criteria

Nuclear Power:
Nuclear Power is not eligible under this standard.

Hydropower Projects:

Hydropower from either new generation capacity on a non-impoundment, or new generation capacity on an existing impoundment, must meet one or more of the following conditions:
a) The hydropower facility is certified by the Low Impact Hydropower Institute; or
b) The facility is a run-of-the-river hydropower facility with a total rated nameplate capacity equal to or less than 5 MW. Multiple turbines will not be counted separately and cannot add up to more than a 5 MW nameplate capacity; or
c) The hydropower facility consists of a turbine in a pipeline or a turbine in an irrigation canal.

The Governance Board will consider on a case-by-case basis new incremental capacity on an existing dam, where the "new" output is equal to or less than 5 megawatts. Pumped storage hydropower installations are not eligible. Facilities on new impoundments of water are not eligible.

Project Types Eligible under the RE Protocol:

1) Wind
2) Solar Photovoltaics (PV) and Solar Thermal Electric Power.
3) Hydropower (see eligibility requirements above)
4) Geothermal. Only geothermal electric generation facilities with no direct emissions of GHGs are eligible under this standard.
5) Gaseous biomass from landfill gas methane, wastewater methane and digester methane derived from waste biomass fuels used to generate electricity. No biomass in a liquid or solid state will be allowed. For more requirements relating to biomass, see Section 3 of the Protocol.
6) Ocean Thermal, Wave and Tidal Power.