

ETNNA Whitepaper

Summary of and Response to Comments

The Intersection between Carbon, RECs, and Tracking:

Accounting and Tracking the Carbon Attributes of Renewable Energy

This document summarizes the major comments received during the stakeholder comment period, and provides a summary of ETNNA responses. Eight sets of comments were received, representing seven organizations.

1. Definitions and Attributes

Stakeholder Comment

Several comments were received requesting upfront definitions of RECs and carbon offsets, as well as clarification about what attributes were included in each. It was also requested that the definition of renewable energy in the glossary be updated to include solar thermal electric and wave energy, as well as qualify the term hydropower.

ETNNA Response

The opening paragraph was adjusted to include definitions, and a discussion about primary versus derived or secondary attributes was added to the REC tracking introduction to facilitate understanding. Suggested revisions were made to the glossary.

Carbon offsets and renewable energy certificates (RECs) are tradable environmental commodities. A carbon offset represents a specific quantity of greenhouse gas (GHG) emission reductions (e.g. a metric ton of carbon dioxide absorbed or avoided) from a project-based activity. A REC represents proof that one megawatt-hour (MWh) of electricity was generated by an eligible renewable energy resource, and each REC embodies the renewable energy attributes (environmental and social) associated with the generation of power from that resource.

The REC represents the renewable attributes of the generation and is tracked separately from the electricity. Each certificate has its own unique serial number so that it can be accounted for from creation to retirement. Along with this serial number, additional information about that REC is tracked, including: energy source, generation/conversion technology, project location, and vintage (i.e., when the certificate was created). These characteristics are referred to as the *primary attributes* of the REC.

The *derived or secondary attributes* of a REC include the emissions from fossil fuel facilities that are displaced or avoided by renewable generation. These secondary attributes are currently required to be included in each REC by the operating rules of almost all of the REC tracking systems.

2. Outreach

Stakeholder Comment

It was asked whether this whitepaper been distributed to, or sought the input from the various Greenhouse Gas (GHG) Registries and Inventories. The question was also raised as to whether there is a plan to work with the various registries and inventories to implement cross-collaborative solutions.

ETNNA Response

Yes, the whitepaper was circulated to several GHG project registries and GHG inventory systems. A note was added to the conclusion stating that working with systems on collaboration could be a next step for ETNNA.

A potential next step for the ideas presented in this paper is to work on developing protocols between systems related to the best practices outlined in the summary table on page 17. A committee of representatives and stakeholders from REC tracking systems, GHG project registries, and GHG inventory systems could be formed by ETNNA to investigate and facilitate interactions between the systems.

3. General Comments

Stakeholder Comment

It was requested to number the issues inside each section, similarly to the way issues are organized in the summary tables.

ETNNA Response

To address this comment and the flow of the paper, the issues were numbered in the body of the paper.

4. Section 1, Issue 1: Carbon Equivalencies

Stakeholder Comment

It was asked whether renewable energy facilities (projects) or generation are screened for additionality. For example, what if a project gets built because of a combination of the compliance and voluntary markets?

ETNNA Response

The major certification programs screen *projects* for additionality, and then look at generation once additionality has been determined. Appropriate revisions to the text were made for clarification.

Stakeholder Comment

There was a call for supporting data on the increased demand for RECs in Section 1.

ETNNA Response

A footnote was added to page 5, drawn from NREL's green power market report of 2008 data.

Stakeholder Comment

Can ETNNA recommend a methodology for calculating CO₂e for all tracking systems to use?

ETNNA Response

Calculation methodologies are determined by CO₂ certification programs, and will differ by program. Being policy neutral, ETNNA cannot recommend one methodology over another.

Stakeholder Comment

All RE facilities registered in a tracking system should have CO₂e values displayed.

ETNNA Response

The difficulties of this are discussed in the Discussion portion of Section 1, Issue 1.

While it is possible to calculate the amount of emissions avoided by renewable electricity generation for any MWh of renewable generation, only generation by projects that are deemed to be additional under an offset project certification program can be used to offset emissions from activities other than electricity use, such as driving, flying, or heating with natural gas. Due to the fact that there are these two distinct uses of renewable energy carbon values, displaying carbon equivalency values for all RECs in REC tracking systems as a default is not recommended. Such a practice could cause confusion among system users and buyers of renewable attributes; since not all RECs in the tracking system would come from projects deemed additional under carbon-offset standards (additionality requirements are different for renewable energy claims than carbon-offset claims). If all RECs had carbon values displayed, it could imply that the projects generating them met the more rigorous carbon offset additionality standards. Certain users of the system might assume that all projects in the REC tracking system were additional and that renewable attributes from non-additional projects could be retired to allow offsetting claims to be made from the corresponding generation.

There are benefits to displaying the carbon value of renewable energy from qualifying *additional* projects, namely consistency and certainty as to what the retirement of the renewable attributes will convey to the buyer in terms of a carbon offset claim.

Stakeholder Comment

The use of “average mix of resources” on page 5 is misleading when many GHG quantification programs use different quantification methodologies.

ETNNA Response

The term “average” was deleted from the first paragraph of Section 1 issue 1. The sentence was not meant to suggest a particular methodology over another. A footnote was also added, referencing the Appendix to the paper.

Stakeholder Comment

It muddies the waters quite a bit to include avoided emissions calculations in the tracking systems.

ETNNA Response

Language in the first paragraph of the Discussion portion of Section 1, issue 1, was clarified to strengthen the statement that tracking CO₂ equivalencies of ALL RECs would be confusing.

Stakeholder Comment

Why is it more difficult for some tracking systems to add in the display of CO₂ equivalency values?

ETNNA Response

Clarifying language was added to Section 1, Issue 1. Currently, only NAR provides GHG emission reduction information for RECs, though other tracking systems could be updated to contain this feature, with varying degrees of difficulty arising from the time, administrative cost, and processes involved in making such programming changes.

Stakeholder Comment

A request was made for a table showing different CO₂ equivalencies for renewable energy.

ETNNA Response

The Appendix was expanded to include CO₂ equivalences for renewable energy generation based on different methodologies. It should be noted that within the same region, the carbon equivalency value for different renewable technologies will be the same for a given methodology. This is because the calculation is derived from the fossil fuel mix that is being backed down. In other words, a MWh of solar generation will have the same carbon equivalency as a MWh of wind generation in the same region.

5. Section 1, Issue 2: Tracking RECs and carbon offsets from the same RE project to ensure there is no double counting

Stakeholder Comment

It was requested that the best practice for the second issue in Section 1 be clarified regarding registering in REC tracking systems versus GHG project registries.

ETNNA Response

Clarification was added to this section. Not all additional renewable energy facilities currently follow the practice of registering in a REC tracking system and retiring RECs specifically to mint carbon offsets. Because of this, GHG registries should check if facilities are registered in other registries or REC tracking systems in order to prevent minting offsets for generation that is already tracked elsewhere prior to minting offsets from renewable electricity generation.

Stakeholder Comment

In Section 1, highlight that this information is only relevant under a voluntary market regime and that the issues presented in this section are not applicable under a cap and trade program. The section also implies that REC purchasers can currently claim an effect on overall emissions, when it is accurate to say that renewable energy users are responsible for fewer emissions, because they avoid indirect emissions.

ETNNA Response

To address this concept earlier in the paper, the third paragraph of Section 1 Issue 2 was moved to be the third paragraph of Section 1 in the intro of the section, and clarifying language was added.

The issues presented in this section apply primarily to sales in the voluntary renewable energy market. Also, the issues may not apply under a cap-and-trade program, under which renewable

generation may not cause a reduction in a purchaser's indirect emissions under the cap unless provisions are written into program rules that cause carbon allowances to be retired proportionately to renewable energy production or use. Such a provision exists for the voluntary renewable energy market in 9 out of 10 Regional Greenhouse Gas Initiative (RGGI) states. In these states, allowances are retired -- removed from the total allowable pool of allowances -- to reflect the carbon avoidance benefits of renewable energy purchases in the voluntary market.

Stakeholder Comment

GHG Registries should require retirement of RECs in REC tracking systems to be retired before minting offsets from that RE generation.

ETNNA Response

This idea is addressed in Section 1, Issue 2. Putting the requirement to prove retirement on one party over another may make sense, but it is not the place of ETNNA to dictate who proves retirement, so long as it is proven.

Stakeholder Comment

The paper should discuss direct versus indirect emissions and clarify that RECs aren't offsets, but for additional facilities must be retired to make an offset claim on the facility's generation.

ETNNA Response

The difference between RECs and offsets is highlighted throughout the paper. The first paragraph in the Discussion portion of Section 1 issue one was revised to clarify that facilities may or may not be additional, and that RECs aren't offsets.

6. Section 1, Issue 3: Tracking offsets from methane destruction and RECs from renewable energy generation from the same project to ensure there is no double counting

Stakeholder Comment

It was asked whether the case of biomass could be dealt with more explicitly, related to carbon emissions from biomass in the absence of sustainability standards.

ETNNA Response

Although this issue is very important, it is outside the scope of this paper.

7. Section 2, Issue 4: Accounting for REC purchases by an entity participating in a GHG inventory

Stakeholder Comment

The distinction between GHG project registries and GHG inventories is generally helpful, but through no fault of your own, several of the inventory systems are named "Registry," for example, The Climate Registry, the GHG CleanStart Registry, and the California Climate Action Registry. This apparent contradiction might be used to emphasize that it is the function of the system that is important or, if the functions are in fact being blended, to acknowledge that the distinction is not always observed.

ETNNA Response

Statements were added to the description of GHG inventory systems in the Introduction of the paper, clarifying that the term “inventory system” is used to distinguish the function of these systems from GHG project registries, noting that some inventory systems include the word “registry” in their titles.

Stakeholder Comment

Comments were received asking for more detail and examples about the way various GHG Inventories account for renewable energy purchases and sales.

ETNNA Response

Much of the information gathered for this section was based on lengthy program documents and conversations. Most GHG Inventories do not have concise language or guidance for how to account for renewables. See footnotes on page 13.

Stakeholder Comment

Comments were received to explain how cap and trade can affect the ownership of avoided emissions attributes of RECs.

ETNNA Response

A paragraph was added to explain the affects of cap and trade policy on the ownership and claims of REC purchasers.

It should be noted that if there is a cap and trade on emissions covering the electricity sector, the ability of REC purchasers to make claims about reducing GHG emissions could be in jeopardy. This is because under a cap and trade, the overall level of emissions in a region is set by the level of the cap. When renewable energy is generated--while this causes a fossil fuel facility to back down--it does not necessarily reduce the overall emissions in a region unless the number of allowances in circulation is also reduced. If there is a mechanism, such as a set aside and retirement of allowances, to reduce the number of allowances in circulation on behalf of renewable energy sales, then emission reduction claims by REC purchasers can be made. However, absent such a mechanism, a REC purchaser cannot claim to reduce net GHG emissions.

Stakeholder Comment

Numerous comments were received regarding the sale of RECs from a facility owner participating in a GHG Inventory to a purchaser participating in a GHG Inventory. Some stakeholders felt that allowing the zero-emissions attributes of renewable energy to be counted in the facility's owner's Scope 1 emissions and the emission reduction to be counted in the REC purchaser's Scope 2 emissions was not a form of double counting since the REC was counted in different scopes. Other stakeholders commented that they did view this as double counting, and it should not be allowed.

ETNNA Response

As ETNNA is policy neutral, the paper was amended to state that some might view this as double counting, but the accounting depends on the goals of the GHG Inventory. ETNNA does not have a view as to whether the same REC being counted in different scopes of a GHG Inventory is considered double counting.

8. Section 2, Issue 5: The sale of RECs by an entity participating in a GHG inventory

Stakeholder Comment

The citation from the November 2008 Climate Leaders Greenhouse Gas Inventory Protocol, Optional Module for Green Power and Renewable Energy Certifications, stating that entities owning a renewable energy facility must account for the RECs sold to another party by reporting an emissions value for the electricity associated with the RECs sold was not correctly represented.

ETNNA Response

The citation was amended to clarify that the adjustment is for entity's indirect emissions, and only applies to owners of on-site green power systems.

9. Section 3, Issue 6: Accounting for Emissions Characteristics of System Mix

Stakeholder Comment

Calculation of system mix should only subtract out voluntary market RE sales, since system mix electricity includes electricity delivered as part of RPS compliance. The figure in Section 3 should be updated to reflect this.

ETNNA Response

The figure in Section 3 was updated to call out that voluntary RE should be subtracted specifically.