Accounting for RE Purchases in a GHG Inventory: Analysis of Issues, Approaches and Draft GHG Protocol Recommendations

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Who is the GHG Protocol at WRI?

What’s the accounting problem?

How has it been approached previously?

What is the GHG Protocol doing to address the need?
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What is the GHG Protocol doing to address the need?
WBCSD/WRI GHG Protocol

- EPA Climate Leaders Guidance
- ISO 14064 Standards
- Public Sector Protocol
- CCAR Reporting Protocol
- The Climate Registry Protocol
MWh consumed x Grid Average Emission Factor = Total Scope 2
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- **Generators**:
  - 300 tons
  - 100 MWh

- **Suppliers**:
  - 200 tons
  - 100 MWh

- **End Users**:
  - 0 tons
  - 100 MWh
MWh consumed x Grid Average Emission Factor = Total Scope 2

Generators

- 300 tons
- 100 MWh

Suppliers

- 200 tons
- 100 MWh

- 0 tons
- 100 MWh

1.66 tons CO2e/ MWh

End Users
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Attributes? Function?

- Generators
- Suppliers
- End Users

Contracts
Attributes? Function?

Contract

RECs
REGOs

Supplier green pricing programs

Generators
Suppliers
End Users
Attributes? Function?

- Suppliers
- Generators
- End Users

- RECs
- REGOs

- Supplier disclosure
- Supplier green pricing programs

Greenhouse Gas Protocol
Contracts

GHG Emission Allowances

LECs

ROCs

REC

REGO

Supplier disclosure

Supplier green pricing programs

Supplier quotas

Attributes? Function?

White Tags
GHG Emission Allowances

Supplier quotas

Supplier disclosure

Supplier green pricing programs

Attributes? Function?

Contracts

On-site renewables

White Tags

SUPPLIERS

GENERATORS

END USERS
Contracts

On-site renewables

White Tags

Attributes? Function?

GHG Emission Allowances

LECs

ROCs

Supplier quotas

Supplier disclosure

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REGOs

REC

REGO

GENERATORS

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GHG Emission Allowances

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ROCs

Offsets

Supplier quotas

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Supplier green pricing programs

REC

REGO

Generator

Suppliers

End Users
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What is the GHG Protocol doing to address the need?
#1. Treat RE Purchase as Alternative or “Contractual” Emission Factor

<table>
<thead>
<tr>
<th>SUPPLIERS</th>
<th>GENERATORS</th>
<th>END USERS</th>
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</thead>
<tbody>
<tr>
<td>300 tons</td>
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<td>1.66 tons CO2e/ MWh</td>
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</tbody>
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**CO2e emissions per MWh:**
- 1.66 tons CO2e/ MWh
#1. Treat RE Purchase as Alternative or “Contractual” Emission Factor

**SUPPLIERS**

- 300 tons
- 100 MWh

**GENERATORS**

- 200 tons
- 100 MWh

**END USERS**

- 0 tons
- 100 MWh

1.66 tons CO2e/MWh
#1. Treat RE Purchase as Alternative or “Contractual” Emission Factor

MWh consumed x Grid Average Emission Factor = Total Scope 2

100 MWh x 1.66 tons CO2e/MWh = 166 tons CO2e

100 MWh RECS x 0 tons CO2e/MWh = 0 tons CO2e

Adjusted/Contractual Scope 2

= 0 tons CO2e
#1. Treat RE Purchase as Alternative or “Contractual” Emission Factor

**Issues:**

- **What attributes and instruments needed?**
  - How verify?

- **What ownership requirements to avoid double selling and counting?**
  - Tracking and verification systems
  - Supplier disclosure / EFs
  - Grid average EFs

- **What policy implications?**
  - Cap and trade – implicit vs. explicit attribution, allowance retirement
  - Offsets in emerging economies – many protocols prohibit, but not always clear in emerging economies
#2. Treat RE Purchase as Avoided Emissions for Scope 2

MWh consumed x Grid Average Emission Factor = Total Scope 2

100 MWh x 1.66 tons CO2e/MWh = 166 tons CO2e
50 MWh RECS x 1.9 tons CO2e/MWh = 95tons CO2e

166 - 95 = 71 tons CO2e

Adjusted/Contractual Scope 2
= 71 tons CO2e
#2. Treat RE Purchase as Avoided Emissions for Scope 2

**Issues:**

- **What attributes and instruments needed?**
  - How verify?

- **What ownership requirements to avoid double selling and counting?**
  - Tracking and verification systems
  - More difficult to integrate into supplier disclosure

- **What policy implications?**
  - Cap and trade → not feasible claim without allowance retirement
  - Offsets in emerging economies → not feasible claim
#3. Record Separately with No Inventory Impact

**Instrument Quality**
- Not transparent on what information included, or how to substantiate
- No mechanisms for verification

**Consistency of Tracking/Calculation Systems**
- Supplier disclosure / EFs
- Relative importance of Grid average EFs?

**Unclear Role and Achievement of Additionality**
**Additionality:** incentivizing behavior beyond what would have occurred in the absence of the incentive’s “intervention”

**Rationale for inclusion**

- Consumers expect degrees of additionality with expectation of “making a difference,” “driving new projects,” and “going beyond regulation”

- GHG accounting is a valuable benefit of purchase, and should be ascribed to those projects which are brought about due to the incentive of the REC

**Challenges**

- Concerns about motivation of project distinct from the objective attribute of its emissions: question is what kind of mechanisms make distinction of whether it’s available for claiming

- Degree of “direct causal impact” inherently obscure

- Execution of tests can be intensive, subjective

- Every market different, responds to different incentives

- Market/regulatory conditions change over time and what’s “additional” changes
Broader concept of **eligibility**

*additionality is subset*

“shrinking” the pool of existing projects, shaping the profile of new

**Regulatory Quota** – sometimes ownership question
**Financial Support** – identify threshold of what level support is “enough” (Subsidies, tax credits, FiT?)
**Vintage** – drive new projects
**Technology** – specifying types to achieve enviro outcomes or spur innovation
**Environmental Performance** – Other impacts beyond GHG’s
**Geographic Boundaries** – Local economic/enviro benefits
**Integration with other attributes** – Maintenance of all attributes with purchased product
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International, multi-stakeholder process on GHG accounting issues of RE purchases and related instruments that fits in GHG Protocol framework

- scoping workshops
  - Washington DC, USA – December 2010
  - London, UK – January 2011
  - Mexico City, Mexico – May 2011

- Technical Working Group Drafts and Discussion
  - Open process, technical depth – Summer/Fall 2011

- Public comment
  - March 2012

- Publication
  - Summer 2012
Minimum Criteria
• Attributes: Substantiated? Defined by regulatory or voluntary body? Other related policies which have restricted claiming?
• Ownership: registry to track the transaction? Retired once claim is made? Other instruments associated with this underlying project? Do any other instruments convey those same attributes/rights directly? Indirectly?

Reporting Options and Clarifying Explanations
• Gross/Net (still report electricity consumption)
• Optionally list other GHG impacts separately from the scopes
• For on-site: Quantity produced, consumed on-site, send/sold back to grid (and whether net metering applications), and have attributes been sold?
• What if instruments do not meet all criteria?
• More context on hosting a project
• Language recommendations: ‘offset’ and ‘reductions’

accuracy, transparency, consistency, completeness and relevance
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Best Practice Compendium
TRACKING SYSTEMS, EMISSION FACTORS and SUPPLIER PROGRAMS
• Importance of tracking systems; what information recorded
• Calculating supplier fuel mix disclosure and related EFs
• Common formats for transparent disclosure and related claims

POLICY CONSIDERATIONS FOR RE PURCHASING MECHANISMS
• Survey criteria added to different electricity labels, programs and certified RE products in prominent markets, identifying rationale/intended objectives
• Environmental impacts beyond GHG’s for energy purchasing
• Economic considerations

Not normative, but hopefully resource for considering impacts and relationships between products and market outcomes
Materials to date and summaries of scoping workshops available on project website:


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