

World Bank Group: U.S. Operations

Corporate Greenhouse Gas IMP Validation, FY06 Base Year Verification, and FY07 Inventory Verification

1. Introduction

ERT-Winrock provides this report to the World Bank Group (WBG) as a deliverable resulting from its independent verification process of the WBG's greenhouse gas (GHG) corporate inventory. The WBG comprises five organizations: The International Bank for Reconstruction and Development (IBRD), The International Development Association (IDA), The International Finance Corporation (IFC), The Multilateral Investment Guarantee Agency, (MIGA), and The International Centre for the Settlement of Investment Disputes (ICSID).¹

This report validates the WBG's GHG Inventory Management Plan (IMP), version 4.0, dated 01 October 2008 as consistent with the principles and guidance of the World Resources Institute (WRI) and World Business Council for Sustainable Development's (WBCSD) Greenhouse Gas Protocol Initiative ("GHG Protocol") for corporate greenhouse gas accounting and reporting. The WBG developed the IMP under the guidance of the U.S. Environmental Protection Agency Climate Leaders Program. The WBG Greening and Footprint programs completed the inventory of U.S. Operations. This report by ERT-Winrock attests to the completeness, consistency, and quality of the WBG's corporate GHG inventory for FY07 specific to its operations in the U.S. for the period 1 July 2006 through 30 June 2007. ERT-Winrock verifies to the American Carbon Registry in this favorable verification report that the WBG's FY07 corporate GHG inventory reflects its actual GHG emissions for operations in the U.S.

2. Verification Approach

ERT-Winrock conducted this verification according to the Tier I methodology articulated in the ERT-Winrock *Corporate GHG Verification Guideline* (2005). ERT-Winrock expanded the verification level of effort to include several elements of a Tier II and Tier III methodology, given the more advanced nature of the WBG inventory in terms of comprehensiveness and completeness, and the organizational complexity of the WBG. ERT-Winrock completed the inventory verification between Tier I and Tier II by using the procedures articulated in the ERT *Corporate GHG Verification Guideline* (2005).

The Tier I verification level assesses the validity of the WBG's IMP (2008) design, and reviews the logic and procedures that the WBG used to compile the emissions estimates. Tier I verification focuses on a review of procedures in place and identifies gaps in the WBG's inventory program. ERT reviewed the top-line emissions levels in order to detect internal

¹ For more information on the WBG, see the following --
<http://siteresources.worldbank.org/EXTABOUTUS/Resources/wbgroupbrochure-en07.pdf>

inconsistencies and identify outliers and potential reporting errors. Consistent with a Tier I review, ERT-Winrock examined databases and spreadsheet data, and included checks on the boundary completeness.

The Tier II review calls for a systematic evaluation and review of a subset of report data, calculations, and GHG management information systems. ERT-Winrock applied a thorough review of the WBG’s IMP and the calculations and methodologies the WBG used to generate its 2006 Base Year and FY07 GHG inventory report. The objective of the Tier II review is to provide a level of assurance and credibility to WBG reporting that is consistent with voluntary non-financial public reporting. Table 1 below summarizes the ERT-Winrock verification approach.

Table 1 – Verification Approach for GHG Corporate Inventory Verification

Emissions Scope	<ul style="list-style-type: none"> • Scope 1 – direct emissions from fuel combustion, refrigerant loss, and mobile sources in owned facilities • Scope 2 – indirect emissions from purchased electricity • Scope 3 – indirect emissions from employee business air travel and direct and indirect emissions from leased facilities
Base Year	FY 2006: period 1 July 2005 – 30 June 2006
Organizational Boundaries	U.S. operations only
Operational Boundaries	Operating control basis
GHG Emissions Included	The WBG inventory includes five of the six Kyoto GHGs; there are no emissions from sulfur hexafluoride (SF ₆). The inventory includes non-Kyoto emissions from CFCs and HCFCs, both of which are optional for corporate inventory and reporting purposes.
Verification Period	FY07: period 1 July 2006 through 30 June 2007
Verification Level of Effort	Between Tier I and Tier II; some Tier III elements

3. Verification Standard

Table 2 outlines the guidance and protocols ERT-Winrock used to conduct this verification. In some instances, the WBG inventory met, if not exceeded the requirements in these standards and protocols (e.g., the ERT-Winrock verification standard requires a significance threshold of 5% while the WBG used a more stringent significance threshold of 1% as detailed in the IMP, page 18).

Table 2 –Verification Standard: WBG GHG Corporate Inventory Verification

IMP Standard	U.S. EPA Climate Leaders Program GHG Inventory Protocol (May, 2005); conformity with the WRI/WBCSD GHG Protocol/Corporate Accounting and Reporting Standard (2004, Revised Edition)
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Corporate Inventory Standard	U.S. EPA Climate Leaders Program GHG Inventory Protocol, Design Principles (May, 2005); conformity with the WRI/WBCSD GHG Protocol/Corporate Accounting and Reporting Standard (2004, Revised Edition)
Verification Standard	ERT Corporate Greenhouse Gas Verification Guideline (2005)
Level of Assurance	High (i.e., greater than 95% confidence level)
Significance Threshold	Less than 5 percent of total emissions
Verification Level of Effort	Between Tier I and Tier II; some Tier III elements

4. Overview of the Verification Process

ERT-Winrock completed the following verification process:

- Audit kick-off
- Site visit
- IMP review and data collection process review
- Review of raw data and calculations for data period under review
- report development and preliminary verification statement
- Offset quality screen and verification screening
- Final inventory verification report and statement

Audit Kick-off

The WBG initiated the verification with an initial exchange of emails in February 2008 between the WBG’s Sarah Matheson, under the direction of Judith Moore, CESR Secretariat Team Leader for the WBG, and ERT-Winrock’s Julia Philpott, Director of Registry Operations and Standards for the GHG Registry. The communication focused on confirming the scope, schedule, cost and data requirements for the verification of the WBG’s GHG corporate inventory for its operations in the U.S. only. In May 2008, Monika Kumar took over the project upon Sarah Matheson’s departure from the WBG. The communication in May and going forward focused on refining and confirming the scope, updating the schedule, reviewing data requirements for the IMP validation, inventory verification, and offset and renewable energy credit (REC) evaluation.

Site Visit

The WBG’s headquarters are located in Washington, DC at 1818 H Street. N.W. Based on the site visit in June 2007 to WBG headquarters, and the main office of the IFC located at 2121 Pennsylvania Avenue, N.W., ERT-Winrock staff found the facility descriptions in the IMP to be accurate and sufficiently detailed. ERT-Winrock staff included Julia Philpott and Gordon Smith, Senior Technical Specialist.

Discussions with Site Management

The verification team discussed the following topics with WBG staff at the time of the site visit:

- Organizational structure of the WBG
- WBG’s various internal “Greening” programs and the GHG inventory’s role
- Focus of the inventory on operations in the U.S. only
- The data collection process to generate reports
- Internal documents and protocols that set guidelines for the data collection process

The WBG’s IMP (2008, v. 4.0) describes the data collection and archiving process. The site visit confirmed the processes the WBG uses to collect, tabulate, and archive activity and emissions data are consistent with the IMP.

Verification Reporting

A verification report documents the verification process and identifies its findings and results. Verification reporting for the WBG’s FY07 GHG inventory consists of this report and inventory attestation statement from ERT-Winrock for FY07. The definition of the WBG’s fiscal year is the period from 1 July through 30 June.

5. U.S. Operations Conformance with IMP

The WBG’s IMP (2008, v. 4.0) document outlines specific requirements that a corporate inventory must meet in order to receive an attestation through independent verification that the inventory is a true, fair, and accurate representation of the organization corporate GHG inventory. Table 3 lists these requirements and identifies how the WBG’s corporate inventory meets them.

Table 3 – Conformity with GHG Inventory Management Plan

Project Boundaries and Dates	The inventory’s boundaries are consistent with those described in the IMP (2008, v4.0). The basis for the boundary is operational control; the WBG executes operational control in a manner consistent generally with accepted GHG accounting principles. The IMP and the inventory encompass the WBG’s leased and owned facilities in the U.S.
Mergers, Acquisitions, Divestitures, and Organic Change	The IMP describes correctly the need for procedures for handling changes in corporate boundaries resulting from mergers, acquisitions, divestitures, and organic growth.
Base Year	The Base Year is FY2006, i.e., the definition for the Base Year is the period 1 July 2005 through 30 June 2006. The FY2006 emissions inventory provides a performance benchmark against which the Bank will measure year on year progress towards managing its corporate GHG emissions.
Monitoring, Data Collection, and Methodology	In general, procedures were in keeping with the IMP. ERT-Winrock determines the following deviations to be acceptable for the FY07 inventory:

To calculate stationary, on-site fuel combustion, the WBG collects from building engineers/managers the amount of fuel each manager purchased for the year. The WBG assumes conservatively that the total quantity of fuel is combusted. Fuel types include diesel, gasoline, natural gas, propane, LPG, and kerosene. The WBG's assumption is appropriate.

Electricity usage records were available for all WBG-owned facilities in the U.S., which accounted for the majority of the WBG Scope 2 emissions. Data for some leased facilities required less accurate methodologies, which is appropriate for Scope 3 emissions. In some cases, the WBG calculated usage based on the intensity data from the building for which it did have data. The inventory documents defines clearly the emissions factors necessary to calculate GHG emissions from electricity use in the U.S., and reflects best practice (E-Grid NERC factors for domestic use).

The basis for mobile source fuel use in many cases is mileage and financial reimbursement records. Direct data collection and survey responses from U.S. fleet managers are the sources of data on mobile source fuel quantity and type.

Calculation of refrigerant losses from chillers, air conditioners, and other HVAC units, combined with high global warming potentials (GWPs), is important and difficult to achieve. The WBG pursues a detailed process to obtain the total metric tons of CO₂-equivalent emitted and the findings are for base year FY06 and the FY07 inventory, the amount of refrigerant is far below the amount it would take to trigger the ERT-Winrock significance threshold of 5%, much less the WBG's more stringent significance threshold of 1%. The outcome is that the inventory exceeds the required amount of rigor.

Some paper files in WBG offices are without electronic back up (e.g., electricity bills). Manual data collection, transfer, and entry steps are targets for elimination. There are good standardized data collection procedures, across all WBG agencies (e.g., the IFC), simplified and streamlined data collection templates, web-based data collection and entry tools, and electronic data transfer. ERT-Winrock recommends a more robust data management and accessible database reporting system for the WBG's management information systems for its U.S. operations (and ultimately, its global operations).

<p>Quality Control, Reporting, Documentation and Uncertainties</p>	<p>The FY07 inventory followed the quality control, reporting, and documentation procedures in the IMP. The IMP explains basic QA/QC activities on page 16. ERT-Winrock recommends a formal QA/QC program, based on the initial GHG inventory effort and the WBG’s plans for the future development of its global GHG inventory. Such a plan should include details on provisions for QA/QC procedures and practices in the inventory development process, including written documentation (e.g., QA/QC plan, problems identified and resolutions implemented, etc.). Elements for such a QA/QC plan should include requirements for reporting processes and supporting documentation, controls on reporting process and systems, management approval process for GHG data, internal QC checks on data, training for GHG data coordinators, change management procedures, and recordkeeping/data retention requirements. The IMP identified some of these for improvements in future inventories in order to improve accuracy, enhance quality, and reduce uncertainty.</p>
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6. IMP Validation Results

The IMP validation process focused on the validity and comprehensiveness of the IMP. ERT-Winrock issues a favorable validation of the WBG IMP (v. 4.0, 2008), its FY06 Base Year, and FY07 data.

7. Inventory Verification Results

The inventory verification process focused on the data that the WBG collected and calculated for the FY07 corporate GHG inventory ERT-Winrock reviewed Excel workbook filename: “WBG_2006-2008_Inventory_Draft_080930”. ERT-Winrock issues a favorable verification of the WBG FY07 inventory.

8. Offsets and REC Verification Results

The verification process focused on the ERT-Winrock eligibility criteria for the Chicago Climate Exchange (CCX) carbon financial instruments (CFIs) from the Precious Woods – Costa Rica project, the Moldsilva project, and renewable energy credits (RECs) from WindCurrent, LLC. All of the CFI and RECs are ineligible for registration on the American Carbon Registry based on failing the additionality criterion. In the case of the RECs, there is failure also to meet the ownership/property right criterion. Please see the ACR additionality standard in the Appendix.

In the absence of evidence that the projects and RECs are additional, and in absence of evidence of incontestable REC ownership, ERT-Winrock will not verify the offsets or RECs for registration on the American Carbon Registry to count against the WBG FY06 GHG inventory. ERT-Winrock confirms, on the basis of the Emissions Reduction Purchase Agreements, that the

WBG purchased 32,900 CFIs in FY06 from the Precious Wood project, a total of 108,680 CFIs from the Moldsilva project by FY06, and three 1,000,000 k-Wh windpower RECs from WindCurrent LLC in FY06. These offsets are not eligible for registration on the American Carbon Registry, however, based on the criteria established by the ACR.

9. General Conclusion

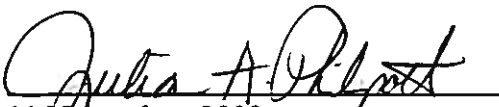
ERT-Winrock concludes that the WBG FY07 GHG Inventory for U.S. Operations for the period 1 July 2006 through 30 June 2007 is consistent with the U.S. EPA Climate Leaders Protocol (2005), and the WRI/WQBCSD GHG Protocol for Corporate Accounting (2004). In addition, ERT-Winrock provides assurance as to the consistency, accuracy, and quality of the emissions estimates and calculations for the FY06 Base Year and the FY07 inventory.


Table 4 - GHG Registry Account Initialization

Valid as of:	October 2008
Base Year Emissions (Scopes I & II)	54,811 metric tons CO ₂ -e
FY07 Emissions (Scopes I & II)	55,848 metric tons CO ₂ -e
Internal FY07 Emissions Reductions	n.a.
Verified FY07 Project-based Offsets	n.a.

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11 November, 2008


11 November, 2008

Appendix

American Carbon Registry™

A Hybrid Approach to Additionality

Additionality is a test intended to ensure that project offsets are “in addition to” reductions and/or removals that would have occurred in the absence of the project activity and without carbon market incentives. A project developer/proponent must demonstrate to the **American Carbon Registry (ACR)** that the greenhouse gas (GHG) emissions reductions associated with an offset project are not a “business as usual” baseline scenario.

To qualify as additional with the **ACR**, a project developer/proponent must demonstrate that the presence of carbon markets and potential revenue from the sales of emissions reductions were deciding factors for project implementation. In essence, the additionality test seeks answers to the following questions: Was GHG emissions mitigation part of the rationale for project design and implementation? Did the presence of carbon markets provide an incentive to project implementation? Is the project’s continuing survival contingent to some degree on carbon finance continuing?

ACR Hybrid Approach

The demonstration of additionality can be difficult. No single test is best for all circumstances because projects may differ by type as well as by site-specific characteristics and anomalies. For that reason, **ACR** uses a hybrid approach that combines three key tests for determining project additionality. These three tests help **ACR** to identify in particular whether realizing a GHG emissions reduction / sequestration goal was a reason, even if only one among many. The three (3) tests are:

- Regulatory Surplus
- Common Practices
- Implementation Barriers

General Requirements

ACR requires all project types, with the exception of forest projects, to have a start date that is no earlier than 01 January 2002. This start date does not apply to forest projects given their long lifetimes and elongated delivery schedule for carbon benefits. The Registry evaluates forest project start dates on a case-by-case basis and reserves the right to assess and revise its start date requirement on an ongoing basis. The table below describes **ACR**’s hybrid additionality approach in more detail.

ACR Hybrid Additionality Test

Test	Key Questions												
Regulatory Surplus	<p>Is there an existing law, regulation, statute, legal ruling, or other regulatory framework in effect now or as of the project start date that mandates the project or effectively requires the GHG emissions reductions?</p> <p style="text-align: center;">Yes = Fail; No = Pass</p>												
Common Practice	<p>In the field or industry/sector, is there widespread deployment of this project, technology, or practice within the relevant geographic area?</p> <p style="text-align: center;">Yes = Fail; No = Pass</p>												
Implementation Barriers	<p><i>Choose one (1) of the following three (3):</i></p> <table border="0" style="width: 100%;"> <tr> <td style="width: 15%;">Financial</td> <td>Does the project face capital constraints that carbon revenues can potentially address; <u>or</u> is carbon funding reasonably expected to incentivize the project's implementation; <u>or</u> are carbon revenues a key element to maintaining the project action's ongoing economic viability after its implementation?</td> </tr> <tr> <td></td> <td style="text-align: center;">Yes = Pass; No = Fail</td> </tr> <tr> <td>Technological</td> <td>Is a primary reason for implementation of the technology in question its GHG reduction capabilities or benefits, <u>and</u> is the reduction/sequestration of GHGs one of the goals of the project at the start date?</td> </tr> <tr> <td></td> <td style="text-align: center;">Yes = Pass; No = Fail</td> </tr> <tr> <td>Institutional</td> <td>Does this project face significant organizational, cultural, or social barriers to GHG emissions reduction/sequestration that the accrual of benefits from a GHG emissions reduction/sequestration project action will help to overcome?</td> </tr> <tr> <td></td> <td style="text-align: center;">Yes = Pass; No = Fail</td> </tr> </table>	Financial	Does the project face capital constraints that carbon revenues can potentially address; <u>or</u> is carbon funding reasonably expected to incentivize the project's implementation; <u>or</u> are carbon revenues a key element to maintaining the project action's ongoing economic viability after its implementation?		Yes = Pass; No = Fail	Technological	Is a primary reason for implementation of the technology in question its GHG reduction capabilities or benefits, <u>and</u> is the reduction/sequestration of GHGs one of the goals of the project at the start date?		Yes = Pass; No = Fail	Institutional	Does this project face significant organizational, cultural, or social barriers to GHG emissions reduction/sequestration that the accrual of benefits from a GHG emissions reduction/sequestration project action will help to overcome?		Yes = Pass; No = Fail
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	Yes = Pass; No = Fail												
<p><i>If the project passes the Regulatory Surplus and Common Practices tests, and at least one Implementation Barrier test (i.e., financial, technological, or institutional), ACR considers the project additional.</i></p>													

Regulatory Surplus Test

The regulatory surplus test involves existing laws, regulations, statutes, legal rulings, or other regulatory frameworks that directly or indirectly affect GHG emissions associated with a project action or its baseline candidates, and which require technical, performance, or management actions. These legal requirements may involve the use of a specific technology, meeting a certain standard of performance, or managing operations according to a certain set of criteria or practices (e.g., forest management practices). ACR does not consider mandatory those voluntary agreements without an enforcement mechanism, proposed laws or regulations, or general government policies.

Common Practices Test

The common practices test represent the predominant technology (ies) implemented or industry practice(s) undertaken in a particular industry sector and/or geographic region, as determined by the degree to which those technologies/practices have penetrated the market (in a specific geographic area). The proposed offset project must reduce GHG emissions below levels produced by common practices technologies within a comparable environment (e.g., regulatory framework, investment climate, access to technology/financing, etc.).

The level of penetration that represents common practice may differ between sectors and geographic areas, depending on the diversity of baseline candidates. Low rates of penetration or market shares that represent common practice are associated with a large diversity of baseline candidates. Conversely, the common practice penetration rate may be quite high if there are few alternative technologies or practices. Projects that are “first-of-its-kind” are not common practice.

Implementation Barriers Test

An implementation barrier represents any factor or consideration that would prevent the adoption of such a practice/activity proposed by the project action. Baseline candidates each may face multiple barriers. Generally, there are no barriers to the continuation of current activities, with the exception of regulatory or market changes that force a shift in a project activity, or the end of equipment’s useful lifetime.

Under the implementation barriers test, project developers/proponents must choose at least one (1) among three (3) barrier assessments: i) financial, ii) technological, and iii) institutional. The ACR does not require passing all three (3) barriers. The options are:

- *Financial* - Financial barriers can include high costs, limited access to capital, and high risks such as unproven technologies or business models, poor credit rating of project partners, and project failure risk.
- *Technological* - Technological barriers can include R&D deployment risk, uncorrected market failures, lack of trained personnel and supporting infrastructure for technology implementation, and lack of knowledge on practice/activity.
- *Institutional* - Institutional barriers can include institutional opposition to technology implementation, limited institutional capacity to implement the technology, lack of management consensus, aversion to upfront costs, and lack of awareness of benefits.