World Business Council for Sustainable Development

WORLD RESOURCES INSTITUTE

The Greenhouse Gas Protocol

Product Life Cycle Accounting and Reporting Standard

Comment Template

We are providing this template to streamline public comment submissions. To use this template, please follow the instructions below:

- The Product draft is open for stakeholder comment from November 11, 2009 through December 21, 2009.
- To provide written comments, please use the comment template provided, instead of sending comments in a separate file or e-mail, in order to streamline the comment process.
- When using the comment template, please organize comments by chapter/section and reference page numbers and line numbers.
- If you have questions during the public comment process, please email Holly Lahd at hlahd@wri.org.
- Submit comments as an attached MS Word file by email to Holly Lahd at hlahd@wri.org no later than **Monday, December 21st, 2009**. We appreciate any effort to submit written comments before the deadline.

Feedback from (name):_**Timothy M Mann**_____

Organization: _International Business Machines Corp.____

Chapter/Section	**Comments**
The outline and overall structure of the document	•
1. Introduction	• Section 1.2 Goal and Scope of the Product Standard (Page 6, Lines 26-28): Sentence regarding the primary purpose of the standard is confusing and poorly worded. Public reporting of greenhouse gas emissions is not necessary for manufacturers and designers of products to reduce emissions by making informed choices about the products they design, manufacture, and sell. Public reporting supports the needs of product users and purchasers, not manufacturers and designers or products. Many of the requirements of this standard go well beyond what is necessary to support the needs of manufacturers and designers in making informed choices about products they design, manufacture, and sell. • Section 1.2 Goal and Scope of the Product Standard (Page 6, Lines

	34-36): Sentence asserting that companies expect customers to demand reporting of their GHG emissions annually is not appropriate for "Product Standard" and should be removed. The fact that companies may or may not report annually on their Scope 1 and Scope 2 GHG emissions has no bearing regarding their ability to report product specific GHG emissions. Even companies that attempt to collect and measure some or all Scope 3 emissions may not be able to allocate those emissions at the product level. While some IBM customers have inquired regarding the availability of product specific "carbon footprint" information on products, there is no evidence that there is a significant "demand" for this information. Development of GHG emissions inventories for products is extremely complex and subject to significant inaccuracy. This standard does little to change that situation. As such, many companies will likely continue to choose the route of educating their clients about the limitations of GHG inventories and the unreasonable demand that may be placed on businesses that attempt to generate such inventories. Many companies can and likely will improve their products without the need of developing comprehensive life cycle greenhouse gas emissions inventories for their products. • Section 1.2 Goal and Scope of the Product Standard (Page 6, Lines 43-46): IBM's experience is that manufactures already have ample incentives to reduce the greenhouse gas emissions associated with their products, absent any public reporting of these emissions. IBM's focus on energy efficiency in its internal operations and products dates many years before these attributes were publicly reported. Particularly in the area of GHG emissions, the financial savings associated with reducing unnecessary energy use and the corresponding GHG emissions associated with this energy use provide ample incentives for manufacturers to focus on reducing these emissions. While public reporting may encourage some level of additional focus on these activities, it is the actions of the individual companies to reduce their use of energy that will result in the greatest savings. • Section 1.2 Goal and Scope of the Product Standard (Page 7, Lines 5-8): While the draft document acknowledges that the standard does not enable "comparative assertions," it should further state that the reported GHG emissions that are envisioned by the standard will also not be suitable for "comparative assessments" by third parties or purchasers / users of products. The final sentence of this paragraph should also be modified to clarify that valid comparative assertions, comparative assessments, or product "carbon footprint" labeling requires greater accuracy and precision as opposed to greater "prescriptiveness." Greater prescriptiveness will not necessarily lead to a level of accuracy that is required to support comparative assessment of products with similar product attributes. If you start with questionable assumptions and data, with differing boundary conditions, then no degree of additional prescriptiveness will produce a more accurate number. The adage of garbage in garbage out is very true in this situation. • Section 1.2 Goal and Scope of the Product Standard (Page 7, Footnote #2): We have not seen the additional "Guidance" that will be provided to allow companies and other organizations to be able to make "valid assertions and claims," but we are extremely skeptical that this guidance will be adequate to overcome the inherent errors

	that are a part of the processes employed for estimating life cycle GHG emissions associated with products. Until this guidance has been developed and received critical review, this footnote should be eliminated. • Section 1.3.1 Business Goals (Page 9, Line 7-9): While this is good guidance, the fact remains that the methodologies prescribed by this standard likely exceed those required by companies to identify GHG reduction opportunities in the supply chain or encourage supplier engagement.
2. Principles of Product GHG Accounting	• Section 2 Principles of Product GHG Accounting (Page 12, Lines 29-31): For the purposes of the Product Standard, it is important that uncertainties are not only reduced as far as practicable, but also that uncertainties are quantified and reported along with product emissions estimates. Providing this information to users is essential to avoid misleading them. Moreover, without a good understanding of uncertainty in the reported product life cycle GHG emissions estimates, it will be impossible for report users to know if their decisions are in fact justified and reliable.
3. Overview of Product GHG Accounting	• Section 3.1 Key Concepts (Page 17, Lines 14-15): The statement that "Once data has been collected for the GHG emissions of each process, the global warming potential of the product life cycle is determined" is extremely simplistic and ignores the complexities involved in allocation of emissions in processes with multiple product outputs, temporal issues associated with data, as well as issues associated with establishment of boundaries. While it is recognized that this section is meant to highlight "key concepts," it would be appropriate here to mention other significant issues that must be addressed in establishing a GHG inventory, and explain that these issues will be addressed later in the standard.
4. Establishing the Methodology	•
5. Defining the Functional Unit	•
6. Boundary Setting	• Section 6.2 Requirements (Page 24, Lines 34-40): Criteria for determination of significance of capital goods are vague and unclear. Criteria for determining the relevance of facility operations and corporate activities are vague and unclear. In addition it is not clear if the determination of the significance and relevance of these "background processes" are to be assessed one time for the entire product system or whether they should be assessed for each specific process input. It is certainly possible that capital goods, facility operations, and corporate activities may be significant in relation to one specific process input, but insignificant or not relevant in relation to other specific processes. It is also not clear what types of "corporate activities" should be considered in developing a product GHG inventory, and how emissions from these activities may be appropriately allocated among the many products and services provided by a large corporation. • Section 6.3 Guidance (page 26, Line 34): Poor grammar. Change to, "For some products, the use stage does not require energy or produce emissions…" • Section 6.3 Guidance (page 26, Line 37): The meaning and intent of this bullet is unclear in regards to the requirement to include product transportation "during use." Would this require that the manufacturer

	of a portable generator include the emissions associated with transporting the generator between various job sites where the generator would be used in the emissions inventory? If so, how would the manufacturer reasonably be expected to calculate this number, and how would the standard ensure that manufacturers used consistent assumptions in any estimations regarding transport of products during use. Will documentation of these and other use stage assumptions be required in any reporting of emissions? • Section 6.3.2 Identifying Use and End-of-Life Foreground Processes (Page 28, Lines 1-2): The statement that it is "imperative that a company relays to the user what use and end-of-life assumptions have been made and how the users actions could impact the GHG inventory of a product" should be clarified to state that this information must be included in the external reporting of the GHG emissions. Use and end-of-life assumptions may have very significant impacts on the total GHG emissions reported for a product, and the numbers are meaningless without an understanding of these assumptions. It is also important to understand that while the product standard cautions against making comparative assertions based on GHG inventories developed by this standard, the standard still promotes the use of the standard by purchasers of products, and invariably, comparisons will be made by the purchasers and other parties. As such, it is important that they have a full understanding regarding how differing use assumptions for products may have influenced corresponding GHG inventories. • Section 6.3.2 Identifying Use and End-of-Life Foreground Processes (Page 28, Lines 16-17): The statement, "Distance from use to disposal and disposal procedures (i.e., landfill, incineration) should be based on the average values for the area (state, region, country) where the product is used" needs to be clarified. It is not clear how this statement would be applied in situations where a product is used in multiple geographic regions. Would the entity report multiple GHG emissions inventories for the product along with the corresponding information on where the product was assumed to be used, or would they average distances from all geographic regions where the product was sold (weighted average based on unit sales??) and report a single GHG emissions inventory number? If the latter, this would seem to result in a situation where entities with identical products, manufactured in identical processes, and with identical distribution emissions would report differing GHG inventories based solely on the fact that they may have differing market shares in different regions. This is an issue not only for "distance from use to disposal," but for all use and end-of-life emissions that may vary based on geographic region. • Section 6.3.4 Intermediate Products (Page 28, Lines 48-51): The draft standard is too prescriptive regarding the requirement that any branded product sold to an end user must provide a cradle to grave inventory. In the resin example sited, it is certainly possible that the company providing the resin could make assumptions regarding possible end uses. However, we fail to see any value in doing this and providing this information. Invariably, the actual use will not match the "assumed" use except in limited situations. As such, the information has very limited value to users. We believe that cradle to gate inventories are more useful and appropriate in situations where the final use of products can not be accurately projected. In any

	event, the inventory numbers that are reported have no meaning without a complete understanding of use and disposal assumptions, and inventories reported by differing manufacturers will not be comparable unless assumptions are identical. • Box 6.2 (Page 29, Line 24): The rationale of considering a turbine sold to a company producing a product using the turbine as a final good, while considering an electrical motor that that is sold to a company that incorporates that motor into a final product as an Intermediate product is not clear. Is the implication here that the turbine is used to produce the product (a capital good) as opposed to a component that becomes a part of the purchasing company's final product? This needs to be clarified or explained more fully. • Section 6.3.6 Background Processes (Page 33, Lines 21-22): It is not clear what criteria must be used to determine the relevance of Corporate activities
7. Collecting Data	• Section 7 Collecting Data (Page 35, Lines 7-9): The requirement that primary data be collected on all foreground processes and all background processes under the financial or operational control of the company undertaking the product inventory is completely arbitrary and likely makes compiling GHG inventories much more difficult for companies who maintain financial and operational control of higher amounts of the full manufacturing process. The fact that a company maintains financial or operational control over a specific process used in manufacturing a product does not mean that process level GHG data an be readily obtained. In fact manufactures may have facility level data regarding GHG emissions, but little ability disaggregate the data to specific manufacturing processes used in the manufacture of specific products. As such, obtaining accurate primary data, even for processes under financial or operational control may be difficult and expensive. Requirements for data quality and use of primary data versus secondary data should be tied to the goals of the study, and the required accuracy and precision necessary to meet these goals, and not based on an arbitrary cutoff such as operational or financial control. • Section 7 Collecting Data (Page 35, Lines 11-15): The requirement that "data of the highest practical quality shall be collected" is vague and inadequate. The required quality of data should be tied to the goals of the study and the required accuracy and precision necessary to meet these goals. If data of sufficient quality to support study goals and use is not available, then either the goals must be modified, or the study should be abandoned. In cases where GHG inventories will be published externally, it is important that high quality primary data be used for all significant processes to ensure results are in fact representative of the product being evaluated. • Section 7.2 Guidance (Page 36, Lines 2-3): It is unclear why the data management process detailed on page 36 is merely "recommended" as opposed to "required." The requirement that companies use data of the highest practical quality is simply inadequate to ensure ultimate GHG inventory results are suitable for external reporting or making decisions. The wording of this sentence is also inappropriate, as the purpose of this standard is not to encourage company "effort" but should be to ensure that GHG inventories developed are of a suitable quality to meet the goals of the users. • Section 7.2 Guidance (Page 36, Lines 29-36): See previous comment related to requirement that primary data be collected on all

	foreground processes and all background processes under the financial or operational control of the company undertaking the product inventory. • Section 7.2.2 Guidance on Collecting Data (Page 38, Lines 51-52): This bullet seems to imply that facilities level GHG emissions data that are disaggregated through some allocation process to specific processes and products are still considered "primary data." While this is much simpler and likely more practical than collecting product and process specific data, it is dubious that this disaggregated facility level data will be of a higher quality than other secondary data sources derived from process specific data. As stated previously, the quality of data must support the intended use of the study and the resulting use of the GHG inventory report. Estimated data based on disaggregation of facility level data may not necessarily be of sufficient quality to justify their use in a GHG inventory. • Section 7 (Pages 40-46): Section and figure numbering seems to be wrong starting on page 40, until the end of Section 7. • Section 8.2.5 Complex and Complicated Products (Pages 44-46): While IBM appreciates the discussion regarding complex products and the acknowledgement that estimation of GHG emissions using the methodology prescribed in this standard may not be possible or practical for these products, we have serious concerns regarding the public reporting of GHG inventories derived from "simplified" approaches. The accuracy of these simplified approaches is questionable. While it may in fact be appropriate to use these simplified approaches for some purposes, including internal evaluations, the results of such studies should not be reported externally. Publicly reporting GHG inventories for no other purpose than to say that it has been done serves little purpose for companies or potential users of reports, and may result in report users drawing inappropriate conclusions.
8. Allocation	• Section 8.1 Introduction: What is an allocation Problem? (Page 47, Lines 10-12): The statement, "Note that products and co-products shall have an economic value to apply allocation to the process; emissions should not be allocated to waste streams" is unclear and requires some clarification.
9. Assessing Data Quality and Uncertainty	• Section 9.2.3 Assessing Uncertainty (Page 66): Given the complexity of the process for estimating the GHG inventory of a products and the many assumptions and allocations that must be made to develop the GHG estimates, it is acknowledged by most practitioners and experts that the accuracy of GHG estimates can be highly variable. As such, it is extremely important that users of publicly reported GHG inventory data understand the uncertainties associated with published data. The fact that the proposed standard does not include any methodology for addressing uncertainty raises serious questions regarding the validity of the standard for use in public reporting. Publishing GHG inventory numbers without requisite estimation of uncertainty will encourage inappropriate and unwarranted use of results which may result in significant damage to manufacturers whose products may be unfairly represented, and purchasers and users of equipment who rely on poor estimates to make decisions. The lack of a requirement for assessing and reporting on uncertainty will lead to reporting of questionable inventories based on poor quality data and place the onus of fact checking on the users of the reported data, not the generator. Report users do not have the

	information or skills necessary Reporting GHG emissions uncertainties will drive discipline in both companies that disclose GHG emissions inventories for products and the companies that assist them with this practice.
10. Calculating GHG Emissions	•
11. Assurance	•
12. Reporting	• IBM believes that GHG inventories reported externally must include an estimate of uncertainty. Regardless of any disclaimers provided to end users regarding the no comparability of results, reporting GHG inventory numbers for products without requisite estimation of uncertainty will encourage inappropriate and unwarranted use of results which may result in significant damage to manufactures whose products may be unfairly represented. See previous comment regarding Section 9.2.3.
Appendix A: Data Management Plan	•
Appendix B: Additional Guidance on Collecting and Calculating Data	•
Appendix E: Glossary	•
Any other general comments or feedback	• The draft product standard provides good guidance on current best practices for completing a product level GHG inventory. However, the methodology does not adequately assure that GHG inventories developed in accordance with the standard are of sufficient accuracy to support their use in external reporting. Given the potential for misuse of data reported externally, IBM believes that it is important that this data have a high level of accuracy, and be accompanied by required discussion on uncertainties. • Uncertainties resulting from data quality issues, allocation procedures, and study assumptions regarding boundaries, product use, and end-of-life make reported results unsuitable for comparative assessment of products in most instances. As such, the value of the information to users and purchasers of products is questionable. • Given the complexities of estimating GHG emissions of products, the high cost of collecting and analyzing data necessary for compilation of a GHG inventories, and the high level of uncertainty in final results, there is little incentive for most product manufacturers to engage in completing a full product GHG inventory in compliance with the requirements of this standard. The value of the information that a company may obtain from completing this process in terms of potential process and design improvements will likely be far less than what is necessary to justify the effort and expense required to complete the inventory. In addition, insight required to identify opportunities for potential process and design improvements can be obtained using simplified, less data intensive analyses. • While the draft product standard strives to cover a large variety of potential products and services, it is unlikely that it can be applied practically to complex products with large numbers of unique components and parts, and extensive and / or deep supply chains.