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World Business Council for
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The Role of Standards in Product Carbon Footprinting

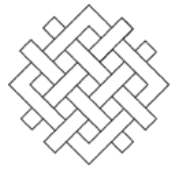
Carbon Footprint International Workshop
Tokyo, Japan
February 8, 2010



The Greenhouse Gas Protocol Initiative
The foundation for strong and sustainable climate strategies

Presentation Outline

- Role of Standards in Product Carbon Footprinting
- GHG Protocol and Product/Supply Chain Initiative Overview
- GHG Protocol Product Standard: Overview & Key Requirements
- Next Steps



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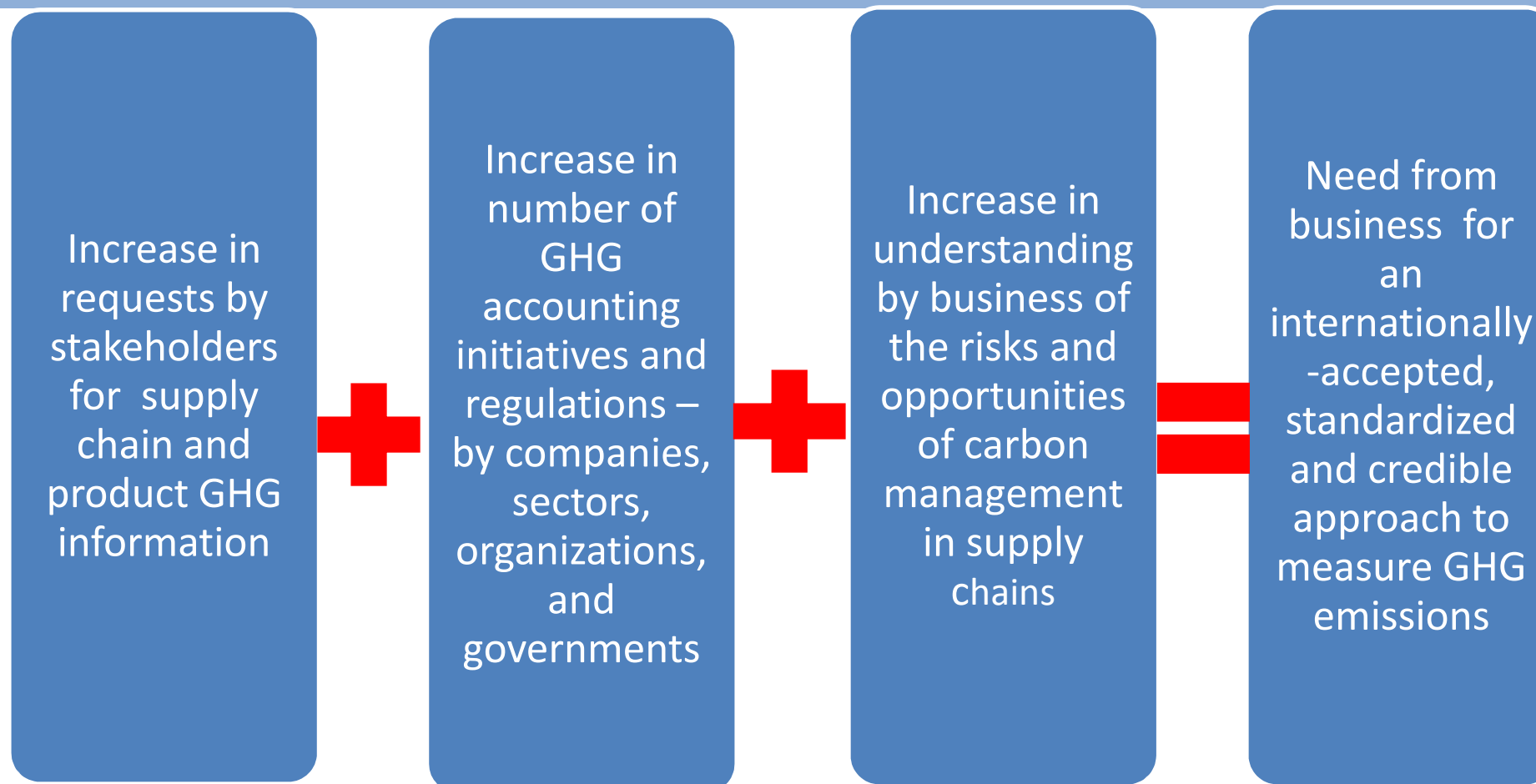
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Role of Standards in Product Carbon Footprinting



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Why Are New GHG Standards Necessary?



You can't manage what you don't measure!

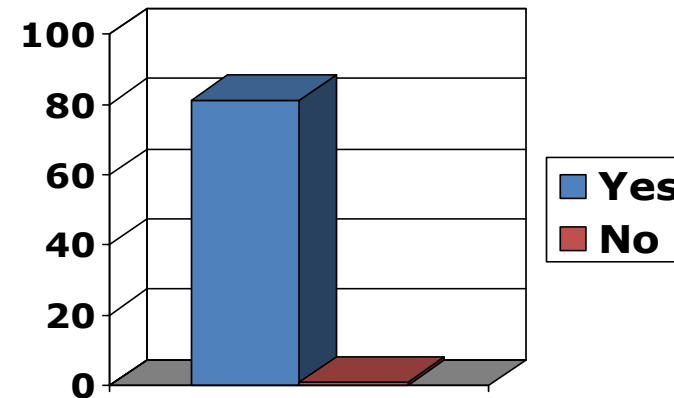


GHG Protocol Supply Chain Survey Results

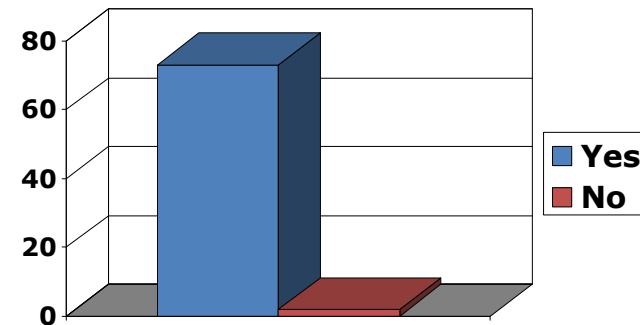
■ Key results

1. Companies expanding GHG management to full value chain / life cycle
2. Diversity of current accounting practices
3. Significant and long-term need for new GHG Protocol guidelines
4. Need for both product- and corporate-level guidelines

Important business issue?



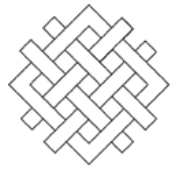
Need for new guidelines?



Role of Standards in Carbon Product Footprinting

Standards will:

- Reduce costs for business by following/ complying with one approach instead of many
- Provide confidence in the marketplace that results are valid and meaningful
- Eventual move towards valid comparison
- Drive the availability of quality primary and secondary LCA data (supplier engagement ↑ GHG accounting and management up ↑)
- Strike the right balance of credibility and flexibility to enable broad adoption of product carbon footprinting and drive GHG reductions



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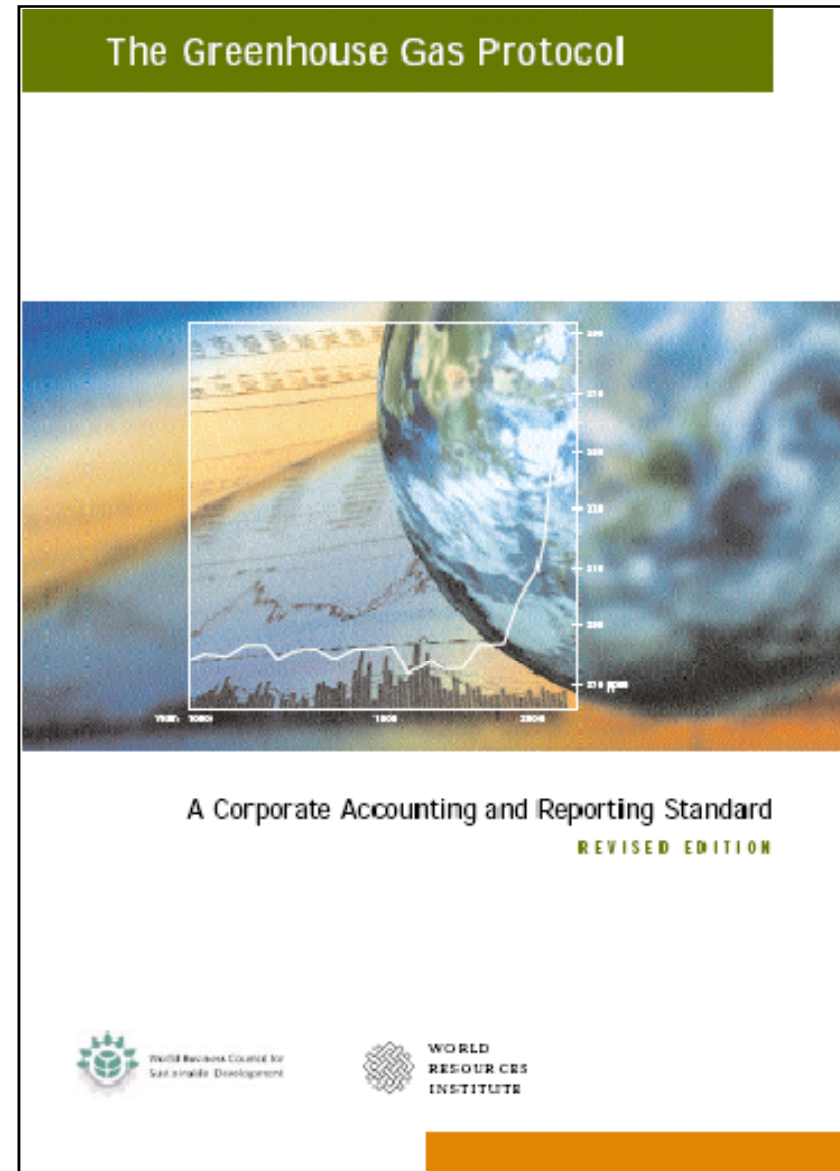
GHG Protocol Initiative



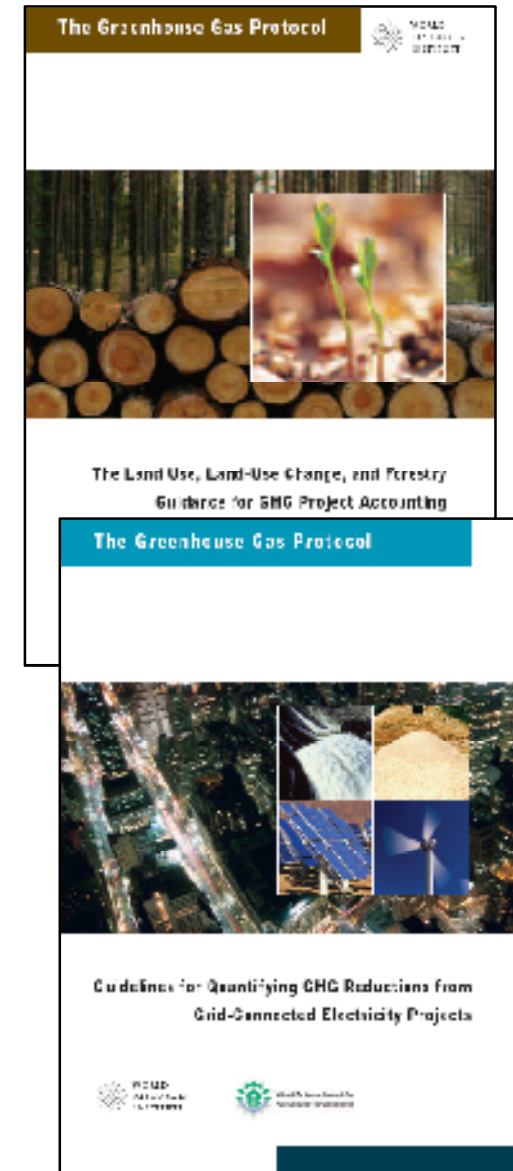
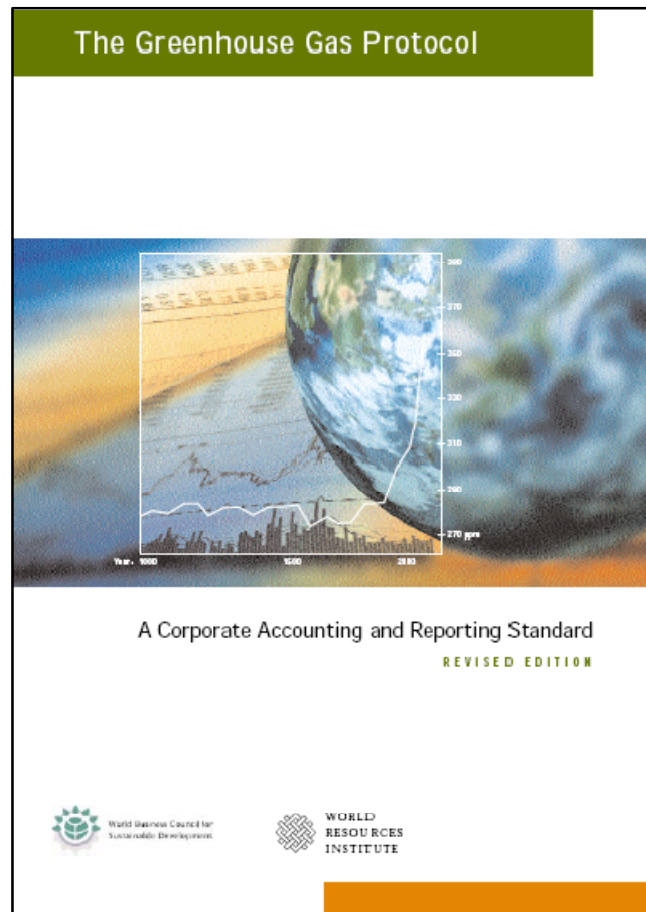
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Greenhouse Gas Protocol Initiative

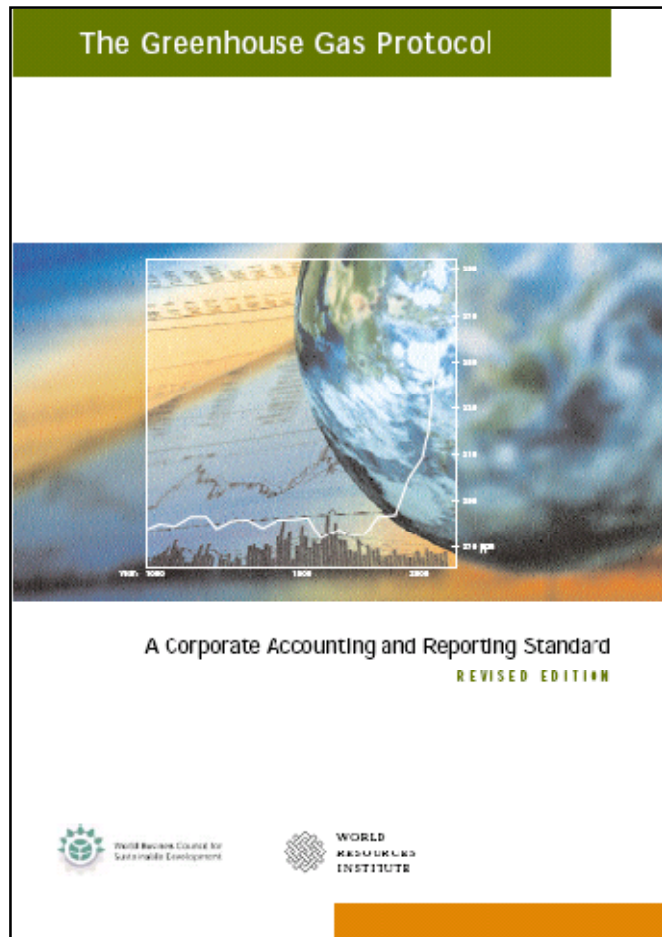
- Convened in 1998 by WRI and WBCSD
- A multi-stakeholder partnership of businesses, NGOs, governments and others convened by WRI and WBCSD
- Mission: Develop internationally accepted GHG accounting and reporting standards and to promote their use worldwide



GHG Protocol Publications



Programs Based on GHG Corporate Standard



- Carbon Disclosure Project (CDP)
- The Climate Registry
- California Climate Action Registry
- Chicago Climate Exchange
- Dow Jones Sustainability Index
- EU Emissions Trading Scheme
- French REGES Protocol
- Global Reporting Initiative
- METI, Japan
- Mexico GHG Program
- Respect Europe Business Leaders Initiative for Climate Change (BLICC)
- International Trade Associations (Aluminum, IPECA, ICFPA, Cement, Iron and Steel)
- UK Emissions Trading System
- U.S. EPA Climate Leaders Initiative
- World Wildlife Fund Climate Savers
- World Economic Forum Global GHG Registry
- ISO 14064 Part 1
- U.S. Department of Energy (1605b)

New Standards Under Development

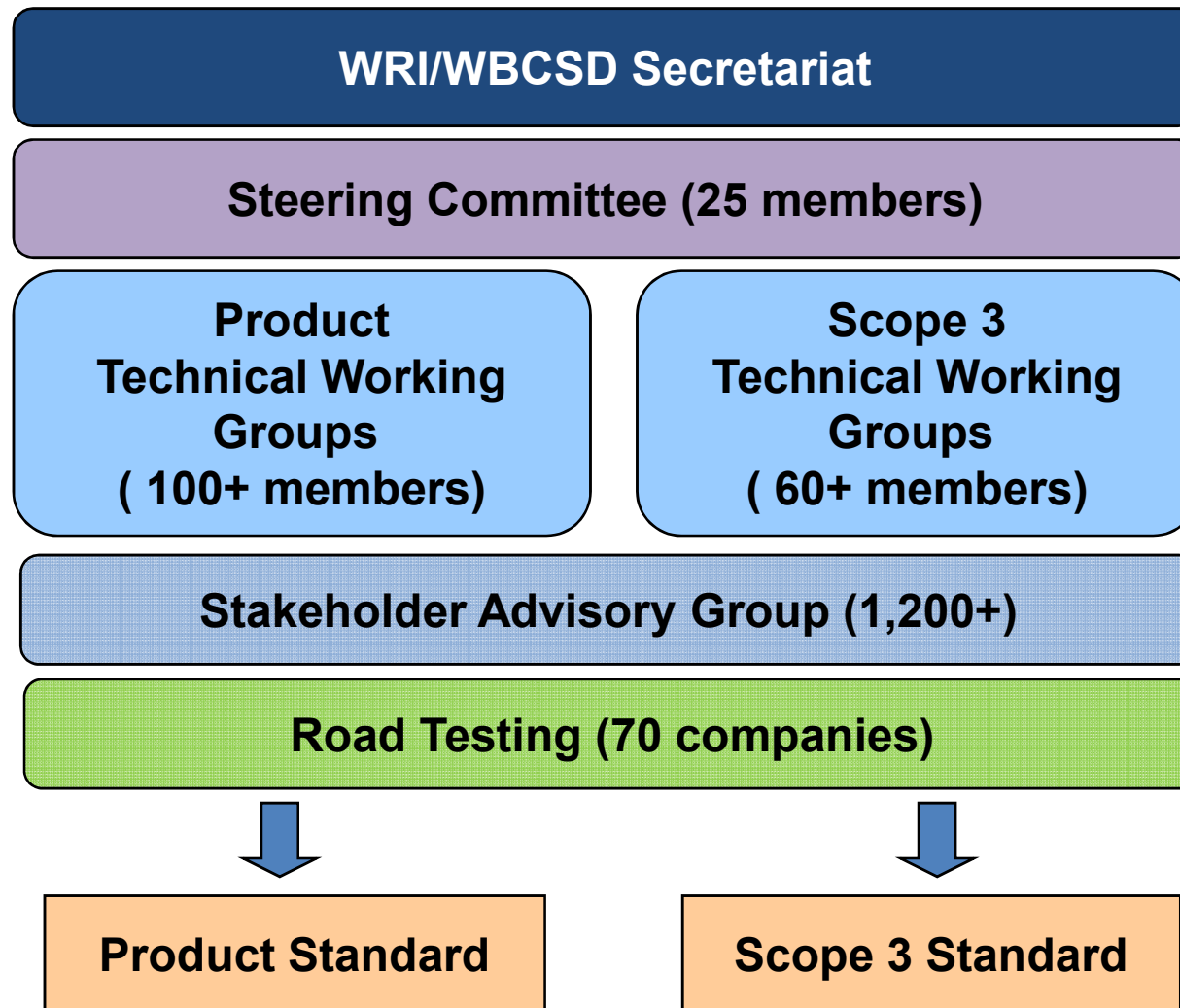
Scope 3 (Corporate Value Chain) Accounting & Reporting Standard

- Quantify and report major GHG emissions in the value chain at the company/organization level (scope 3)
- To understand, manage, and report GHG emissions across the entire value chain
- Build on GHG Protocol Corporate Standard

Product Life Cycle Accounting & Reporting Standard

- Quantify and report product-level emissions
- To understand, manage, and report the life cycle GHG emissions associated with individual products
- Build on existing life cycle assessment standards

Process Structure



Steering Committee Members

- Alcan Packaging
- Carbon Disclosure Project
- Carbon Trust
- Carnegie Mellon University
- Dow Chemical Company
- DNV
- Energy Research Institute, China
- Environmental Defense Fund
- ERM
- European Commission Joint Research Centre
- General Electric
- Georgia Pacific
- Harvard School of Public Health
- Natura

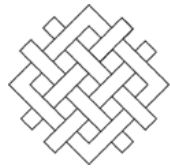
- Natural Resources Defense Council
- New Zealand Ministry of Agriculture and Forestry
- Product Carbon Footprint Pilot Project, Germany
- PricewaterhouseCoopers
- Shell
- Tsinghua University, China
- UNEP/SETAC Life Cycle Initiative
- Unilever
- UK Department for Environment, Food and Rural Affairs
- US Environmental Protection Agency
- ISO TC207 - US TAG
- Walmart

Timeline

| Date | Activity |
|--------------------------|--|
| November 2007 | ✓ Survey and consultations to assess need for new standards |
| September 2008 | ✓ Steering Committee Meeting #1 (Washington DC) ✓ Technical Working Group Meeting #1 (London) |
| January 2009 | ✓ Working groups begin drafting |
| March 2009 | ✓ Steering Committee Meeting #2 (Geneva) |
| June 2009 | ✓ Technical Working Group Meeting #2 (Washington DC) |
| August 2009 | ✓ Stakeholder webinar and comment period |
| October 2009 | ✓ Steering Committee Meeting #3 (Washington DC) |
| November - December 2009 | ✓ First draft of standards released for stakeholder review ✓ Five stakeholder workshops (in Berlin, Germany; Guangzhou, China; Beijing, China; London, UK; Washington, DC, USA) ✓ Stakeholder comment period on first drafts |
| January - June 2010 | ▪ Road testing by several companies |
| Summer 2010 | ▪ Public comment period on second drafts |
| December 2010 | ▪ Publication of final standards |

GHG Protocol Standards & Publications

- For copies of any GHG Protocol Publication, please see: www.ghgprotocol.org
- For copies of the draft Scope 3 and Product Standards, please see: www.ghgprotocol.org/standards/product-and-supply-chain-standard
- For updates on the standard development process, please join the stakeholder advisory group



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Product Life Cycle Accounting & Reporting Standard



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Current Product Standard Contents

- Goal and Scope of the Product Standard
- Principles of GHG Accounting
- Steps to Performing a GHG Inventory
- Establishing the Methodology
- Defining the Functional Unit
- Boundary Setting
- Data Collection & Data Quality
- Allocation
- Calculating GHG Emissions
- Assurance
- Reporting a Product GHG Inventory

Goal and Scope of Product Standard

- This standard does not fully support product comparison
 - Valid product comparison, comparative assertion, and labeling requires a greater degree of prescriptiveness than is provided in this standard.
- The standard will include guidance on how programs, product category rule (PCR) developers and organizations can specify additional constraints so that valid product comparisons and claims can be made

Goal and Scope of Product Standard

- The primary goal of the standard is public disclosure of product level GHG emissions
 - A product is any good or service
- Implementing the standard may support additional business goals including: Identification of GHG reduction opportunities in a supply chain; performance tracking; supply chain engagement; and product differentiation
- The standard is sufficiently flexible to support GHG quantification and reporting for many product types

Establishing the Methodology

- The overarching method for accounting for product GHG emissions is *a life cycle approach*
- Including all stages of the life cycle, from cradle to grave:



Establishing the Methodology

- Companies shall follow the process life cycle accounting approach
- Companies shall report emissions of all 6 Kyoto Protocol GHGs from the product life cycle.
- Companies shall use an attributional approach to assign life cycle GHG emissions to an individual product system for the purpose of public reporting
- Companies shall define the unit of analysis as the functional unit of the product

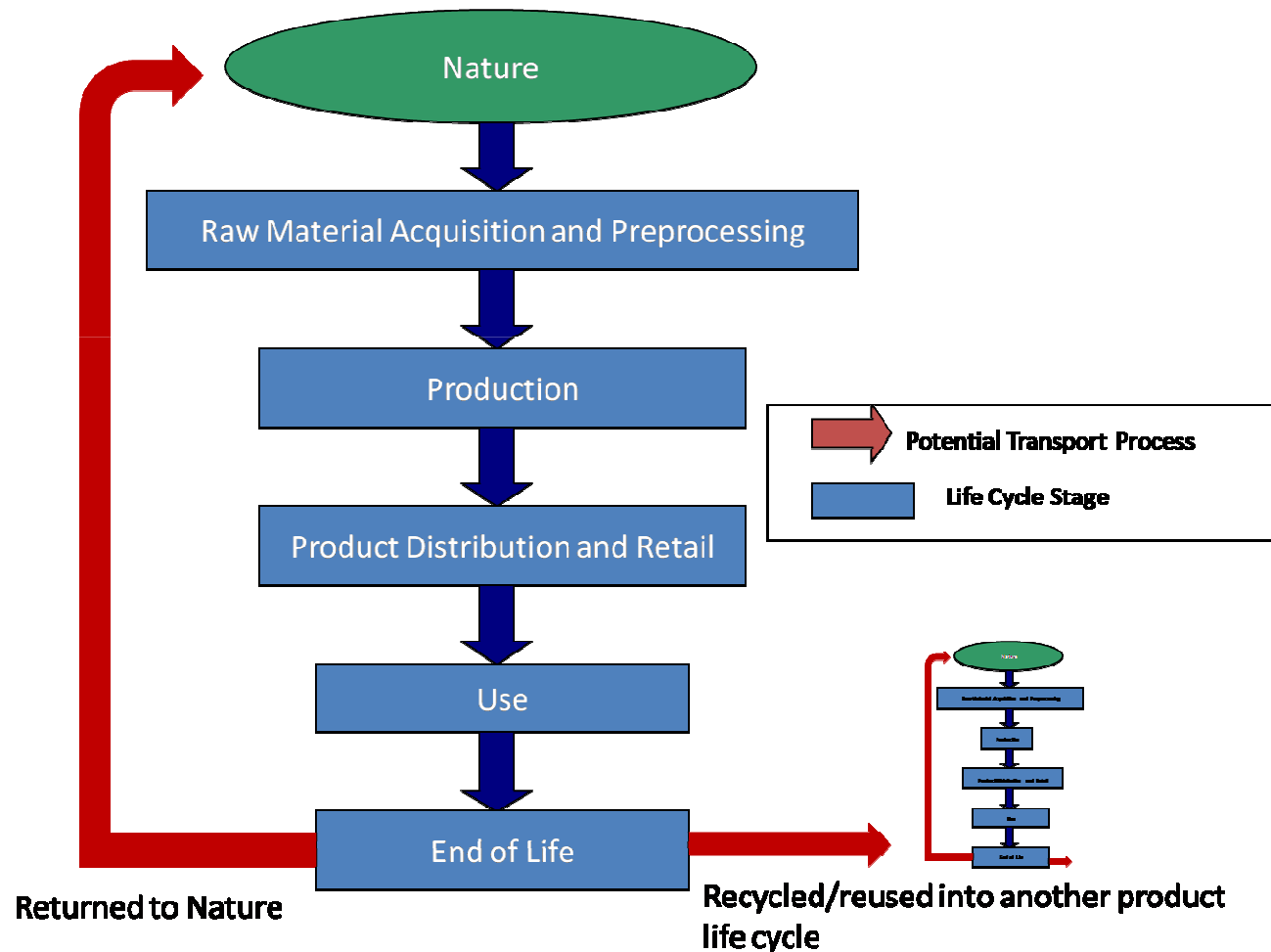
Setting the Boundary

- Processes that are attributable (directly connected) to the function of the product shall be included in the boundary
- Capital equipment shall be included in boundary if deemed significant for the studied product or product sector
 - Significance can be proven using a qualitative or quantitative test.
- Companies shall conduct a cradle-to-grave assessment for all final products
- Companies may conduct a cradle-to-gate assessment for intermediate products when the eventual fate of a product is unknown



Setting the Boundary

Life Cycle Stages



Collecting Data

- Primary data shall be collected for all processes under the control of the company undertaking the product inventory
- For all other processes, primary or secondary data of the highest practical quality shall be collected
- Data gaps shall be filled using extrapolation or proxy data

Data Quality Assessment

- A data quality assessment shall be undertaken for all GHG emissions sources that cumulatively sum to 75% of total product emissions, beginning with the largest emissions source
- For all processes quantified using *any* primary data, a qualitative data quality assessment shall be undertaken based on technological, temporal and geographical representativeness, completeness, and precision
- For processes that only use secondary data, the data quality assessment shall be undertaken based on technological, temporal and geographical representativeness

Performing Assurance

- The product GHG Inventory shall be assured
- The following types of assurance are permissible:
 - First Party (“Self” or “Internal”) assurance
 - Third Party (“External”) process assurance
- The assurance opinion shall be expressed in the form of either reasonable (high) assurance or limited (moderate) assurance

Assurance (referred to as “verification” in the GHG Protocol *Corporate Standard*) is an objective assessment of the accuracy, completeness and presentation of a reported product GHG inventory and the conformity of the product GHG inventory to the standard. In order to state compliance with the standard, the product GHG inventory shall be assured



Reporting

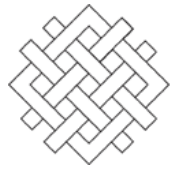
- A company shall publicly disclose a GHG inventory report
- This report is divided into a summary and detailed report to address the needs of different audiences:
 - The general audience (summary)
 - The audience familiar with GHG inventory accounting (detailed)
- The summary and detailed reports shall be disclosed together

Reporting

- The **summary report** shall include:
 - Introduction
 - Process map
 - Results
 - Assurance and data quality information
 - A statement on the use of results
 - e.g., a company will use the results to reduce GHG emissions along the product life cycle

Reporting

- The **detailed report** shall include more information on:
 - Sector or product specific data sources used
 - Assumptions and justifications
 - Cradle to Gate Inventories
 - Temporal Boundary
 - Exclusion of Capital Goods
 - Allocation (performed on data collected under the ownership of the company)
 - Recycling



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Next Steps



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Road Testing

- More than 70 companies road testing one or both of the standards
 - Wide range of sizes, sectors, and geographical locations
 - Press release: January 20th 2010
 - Kick-off meeting: January 21st 2010
- Each company will provide detailed feedback and a case study on their experience with the standard

Product Standard Road Testing Companies

| | |
|------------------------------------|--|
| 3M Company | Italcementi Group |
| Acer Inc | JohnsonDiversey |
| AkzoNobel | Lenovo |
| Alcan Packaging | Levi Strauss & Co. |
| Alcoa | Mitsubishi Chemical Corporation |
| Anvil Knitwear, Inc. | Natura Cosméticos |
| Baoshan Iron & Steel CO. LTD | New Belgium Brewing |
| BASF SE | Ningbo Youngor Sunrise Textile Dyeing & Finishing Co., Ltd. |
| Belkin | PepsiCo, Inc. |
| Belron International | Procter & Gamble Eurocor |
| Bloomberg LP | Rogers Communications |
| BT plc | Shanghai Zidan Food Packaging and Printing Co., Ltd. |
| CA, Inc. | Shell International Petroleum Company Ltd |
| Colors Fruit SA (Pty) Ltd | Siemens AG |
| Deutsche Post DHL | Suzano Pulp and Paper |
| Deutsche Telekom AG | Swire Beverages |
| DuPont | TAL Apparel Limited |
| Eclipse Networks (Pty) Ltd. | Tech-Front (Shanghai) Computer Co., Ltd. / Quanta Shanghai Manufacturing City |
| Ecolab | Tennant Company |
| General Electric | Verso Paper Corp. |
| Gold'n Plump Poultry, LLC | Weyerhaeuser |
| US GSA Federal Acquisition Service | WorldAutoSteel |



List of Products (to date)

| | |
|--|--|
| 2.5 MW Wind Turbine | Food Packaging Product |
| Advanced High Strength Steels | Forged Aluminum Wheel |
| AnvilSustainable™ Transitional Cotton Tee | Home insurance |
| Bloomberg Flat Panel | Hot rolled coil |
| Bresso Packaged Cream Cheese | Industrial Chemical |
| Calcestruzzo (concrete) | Just BARE chicken |
| Chemicals for a T-Shirt Production | Magazine |
| Citrus Fruit Exports from South Africa to the UK | Men's Levi Jeans |
| Coated Freesheet Paper | MPLS (Multi-Protocol Label Switching) network product |
| Coca-Cola Branded Products | Non-iron shirt |
| Conserve Smart AV | Notebook Computer |
| Cosmetics and soap products | Restaurant Meals |
| Cotton bleached fabric | Scotchkote Spray in Place Pipe 269 Coating |
| Desktop Computer | SIPROTEC 4 (Universal Differential Protection Relay for Two Line Ends) |
| Detergent | T3 with ec-H2O, floor scrubber with chemical free cleaning technology |
| Deutsche Post PLUSPÄCKCHEN; DHL Express TDI | Vehicle windscreen replacement/repair |
| European Disposable Diaper Size 4 | Videoconferencing system |
| Fat Tire Amber Ale | Wood Product |



Stakeholder Comments on 1st Draft

- Recently completed stakeholder comment period in November-December 2009
 - 5 workshops in China, Europe, and U.S.
 - Written comments from more than 60 organizations
- Comments on key issues were diverse
- Numerous comments requesting clarification on definitions of data terms and hierarchy

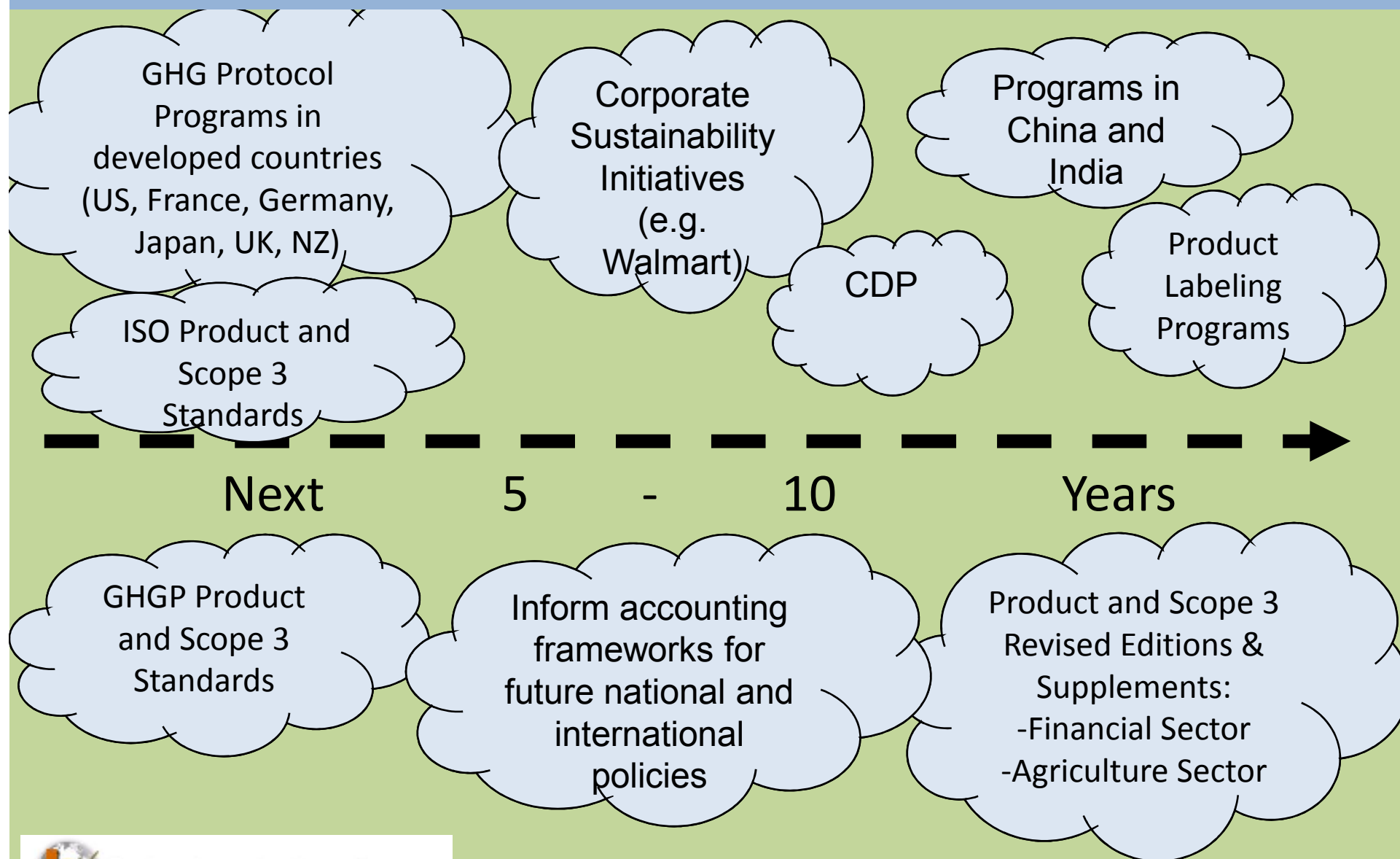
Finalizing Draft Standards

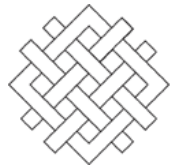
- In 2010, WRI and WBCSD, in collaboration with the Steering Committee and Technical Working Groups, will:
 - Revise draft standards based on feedback received during 5 stakeholder workshops and the stakeholder comment period (November 11 – December 21, 2009)
 - Revise draft standards based on feedback received during road testing (January – June 2010)
 - Circulate second drafts for public comment in Summer 2010
 - Revise second drafts based on feedback received
 - Publish final standards in December 2010

Drive Towards Harmonization of Standards

- 3 standards exist or are in development
 - PAS 2050 was first released in 2008
 - ISO 14067 is in development
 - GHG Product Life Cycle Standard is in development
- Marketplace would benefit from one, harmonized standard
- Current version of standards are generally aligned
- GHG Protocol, ISO, and PAS 2050 will continue to work towards harmonization over the coming year
- GHG Protocol is committed to its inclusive, consensus based process

Product and Scope 3 Standards – Taking the Long View





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Thank You

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www.ghgprotocol.org



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The standard for assessing and managing climate change