What you measure, you can manage
What you measure WELL, you can manage WELL
What is a Carbon Footprint?

- Source Inventory
- Facility Inventory
- Corporate Inventory
- National Inventory
Relationship between Different Inventories

Source Inventory → Facility Inventory → Corporate Inventory → National Inventory

GHG Protocol Corporate Standard

GHG Protocol Calculation Tools/IPCC 2006 Methodologies
GHG Protocol Standards, Protocol, and Tools
The most widely used international accounting tool for government & business leaders to understand, quantify, and manage energy use & GHG emissions
Wide Adoption by National & International Initiatives - Examples

Voluntary Climate Initiatives
- U.S. EPA Climate Leaders Program
- Brazil GHG Protocol Program
- China Energy & GHG Management Program
- Mexico GHG Program
- Philippines GHG Accounting & Reporting Program
- Korea National GHG Registry
- South Africa NBI/BUSA-DEAT Initiative
- WWF Climate Savers Program

GHG Registries
- The Climate Registry
- California Climate Action Registry
- US DOE 1605b Registry
- WEF Global Registry

Multilateral Non-government Initiatives
- International Standards Organization (ISO)

Industry Initiatives
- WBCSD CSI Protocol
- International Forum of Forest & Paper Associations
- International Aluminium Institute

Market Initiatives
- AP 6 Initiative Cement Sector Protocol
- Carbon Disclosure Project
- Chicago Climate Exchange
- EU Emissions Trading Scheme
  *(informed by GHG Protocol calculation tools)*
Wide Adoption by National & International Initiatives - Examples

ISO International Organization for Standardization

Climate Leaders U.S. Environmental Protection Agency

CARBON DISCLOSURE PROJECT

The Climate Registry
Out of the 335 Global FT500 companies studied, 63% aligned with the GHG Protocol. (The Corporate Climate Communications Report 2007)
Corporate Climate Strategy – Key Elements

- Business Context and Goals
- Monitoring and Reporting
- Data Analysis & Interpretation
- Target-setting
- Emissions Reductions Measures
  - Reduce energy intensity
  - Reduce emissions intensity
- Tracking and Assessing Performance
  - Emissions Assets Portfolio
  - Emissions Liability Portfolio
Carbon Footprint Development:

**Stages**

- Secure management support
- Establish a team & prepare budget
- Define inventory boundary
- Determine sources of emissions
- Select base year
- Design efficient data management system
- Obtain appropriate data, ensure data quality
- Apply calculation tools
- Guard against calculation errors
- Identify emission reduction opportunities
- Decide on target type & level
- Implement emission reduction activities
- Publicly report complete inventory information

**PLAN**
- Assign resources
- Design GHG inventory

**DEVELOP**
- Collect data
- Calculate emissions
- Set target

**MANAGE**
- Reduce emissions
- Report results
Corporate Accounting Standard

Standards
- Accounting Principles
- Organizational Boundaries
- Operational Boundaries
- Historic Datum
- Reporting GHG emissions

Guidance
- Business goals and inventory design
- Accounting for GHG reductions
- Identifying GHG sources
- Managing inventory quality
- Verification of GHG emissions
- Target Setting

Calculation tools
- Web-based, user-friendly, step-by-step guidance
- Build on IPCC methodologies & industry best practice
- Cross sector, e.g. mobile and stationary combustion
- Sector specific e.g. CSI Protocol

www.ghgprotocol.org
© World Resources Institute
Why Measure a Carbon Footprint?

- Achieve corporate carbon management goals
- Identify opportunities to reduce energy or process costs
- Identify opportunities to enhance competitive advantage
- Participate in GHG markets
- Provide information to stakeholders
- Participate in GHG reporting programs
Questions that need to be considered include:

- What business units/facilities will be included in the inventory (organizational boundary)?
- What GHG sources and activities will be included (operational boundary)?
- What base year will be selected?
Accounting Under GHG Protocol
Corporate Standard
Scopes Across a Value Chain

Scope 3
Upstream

Scopes 1 & 2
Own operations

Scope 3
Downstream
GHG Protocol Calculation Tools

- Cross-sectoral
  - Stationary combustion
  - Mobile combustion
    - Business travel
    - Employee commuting
  - Combined heat & power
  - Purchased electricity, heat & steam

- Sector-specific
  - Ammonia
  - Cement
  - Iron & steel
  - Lime
  - Pulp & paper
  - Aluminum
  - Wood products
  - Adipic acid
  - Nitric acid
  - Semi-conductors
  - HFCs, PFCs

Consistent with IPCC and IEA methodologies
Emissions and Tools for the ICT Sector

- **Scope 1 emissions** from stationary combustion & RAC equipment
- **Scope 2 emissions** from purchased electricity
- **Scope 3 emissions** from employee commuting, business travel, product transport, use, & disposal
# Scope, Objectives, Accounting Elements

<table>
<thead>
<tr>
<th>Life Cycle</th>
<th>Product Life Cycle</th>
<th>Corporate Life Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Product labeling</td>
<td>Corporate carbon-neutrality labeling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supply Chain</th>
<th>Product Supply Chain</th>
<th>Corporate Supply Chain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Product supply chain performance</td>
<td>Corporate supply chain performance</td>
</tr>
<tr>
<td></td>
<td>Benchmarking</td>
<td>Corporate procurement policies</td>
</tr>
<tr>
<td></td>
<td>Embodied carbon policies</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product</th>
<th>Corporate</th>
</tr>
</thead>
</table>

© World Resources Institute
Provide guidelines for supply chain and product footprinting

- How do you identify the most relevant/material activities?
- How far back in the supply chain should you go?
- Which of your suppliers’ total emissions are associated with your company?
- When should you use a particular method or level of accuracy?

- Working in collaboration with ICT companies and initiatives to address ICT issues and challenges
- ICT-specific guidelines expected to follow general standard
How to Partner and Participate

- Options
  1. Participate in technical working groups
  2. Participate as a general stakeholder
  3. Road test draft guidelines

- To participate, contact:
  David Rich, drich@wri.org
Questions?

Contact:
Pankaj Bhatia
World Resources Institute
pankaj@wri.org

Visit GHG Protocol at
www.ghgprotocol.org