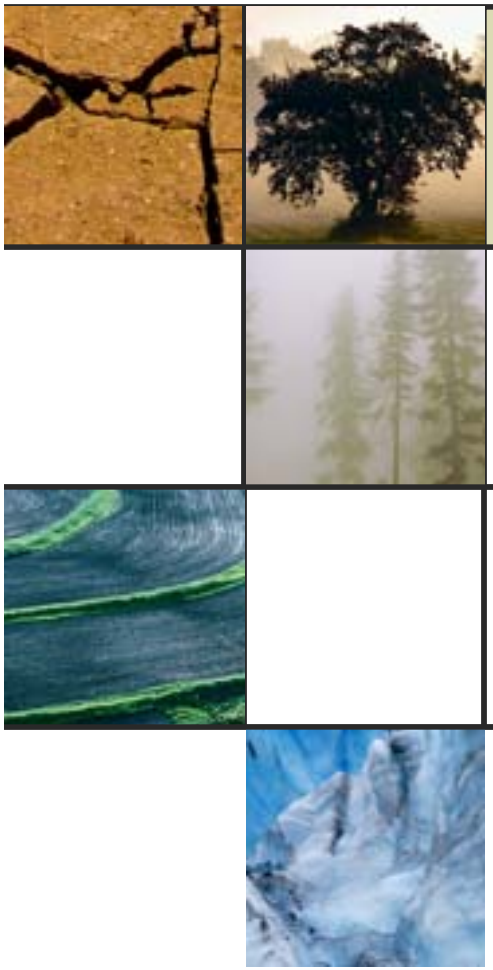


Methodologies for Measuring the Carbon Footprint

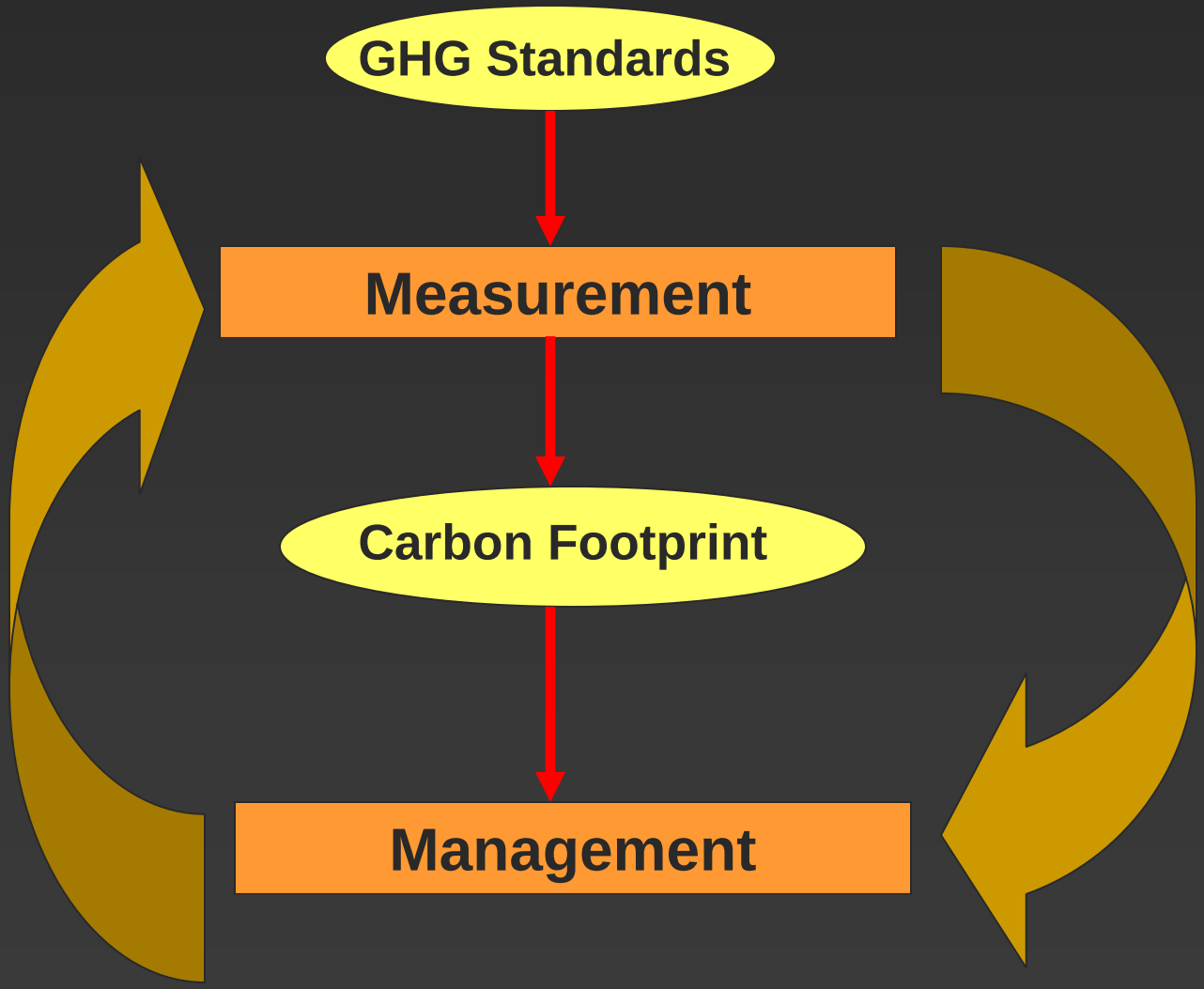
ICTs and Climate Change

International Symposium
BT Centre Auditorium, London
17-18th June 2008

Pankaj Bhatia
Director
GHG Protocol Initiative

WORLD RESOURCES INSTITUTE

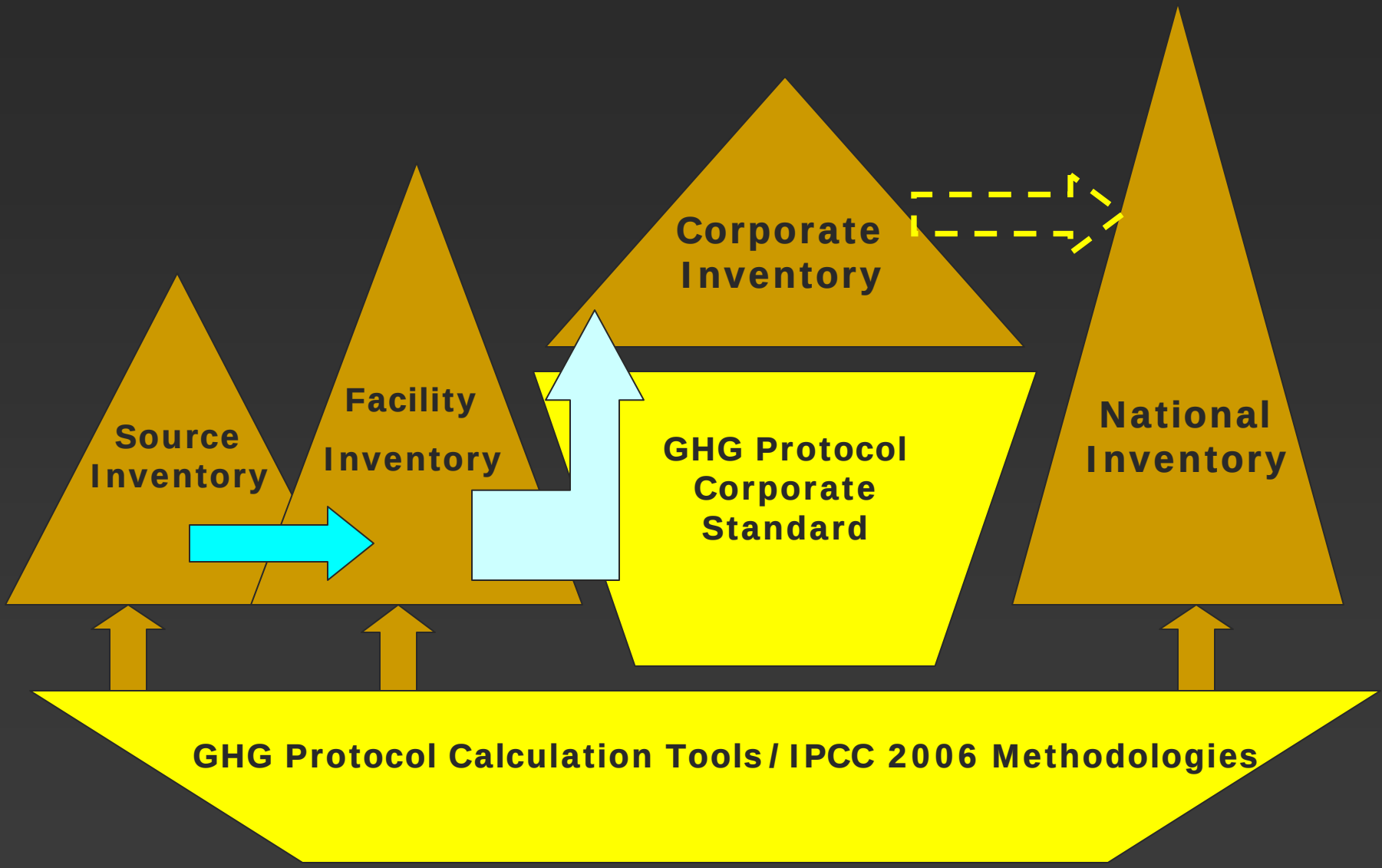
What you measure, you can manage
What you measure WELL, you can manage WELL



What is a Carbon Footprint?

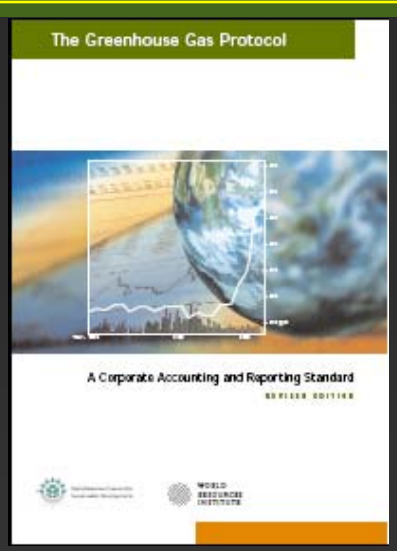
- Source Inventory
- Facility Inventory
- Corporate Inventory
- National Inventory

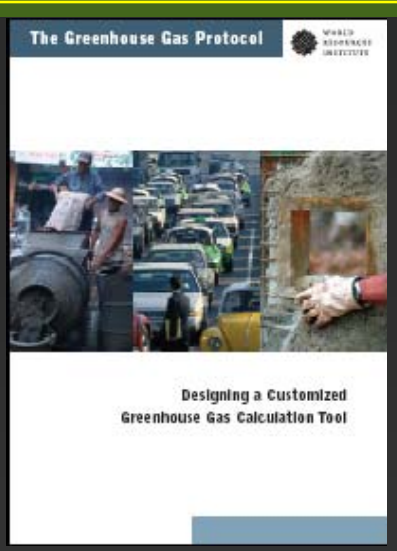
Relationship between Different Inventories



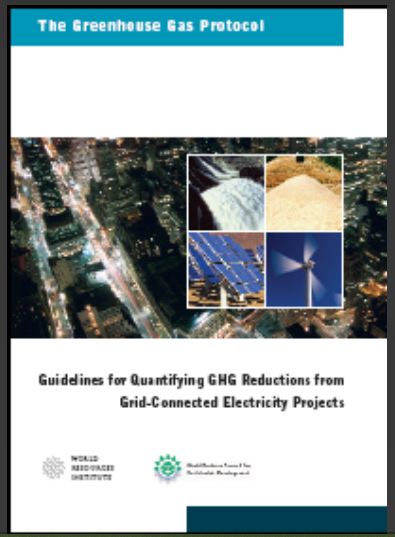
GHG Protocol Standards, Protocol, and Tools

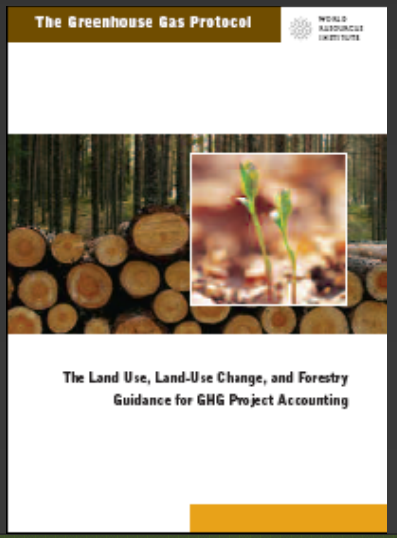
Corporate Module





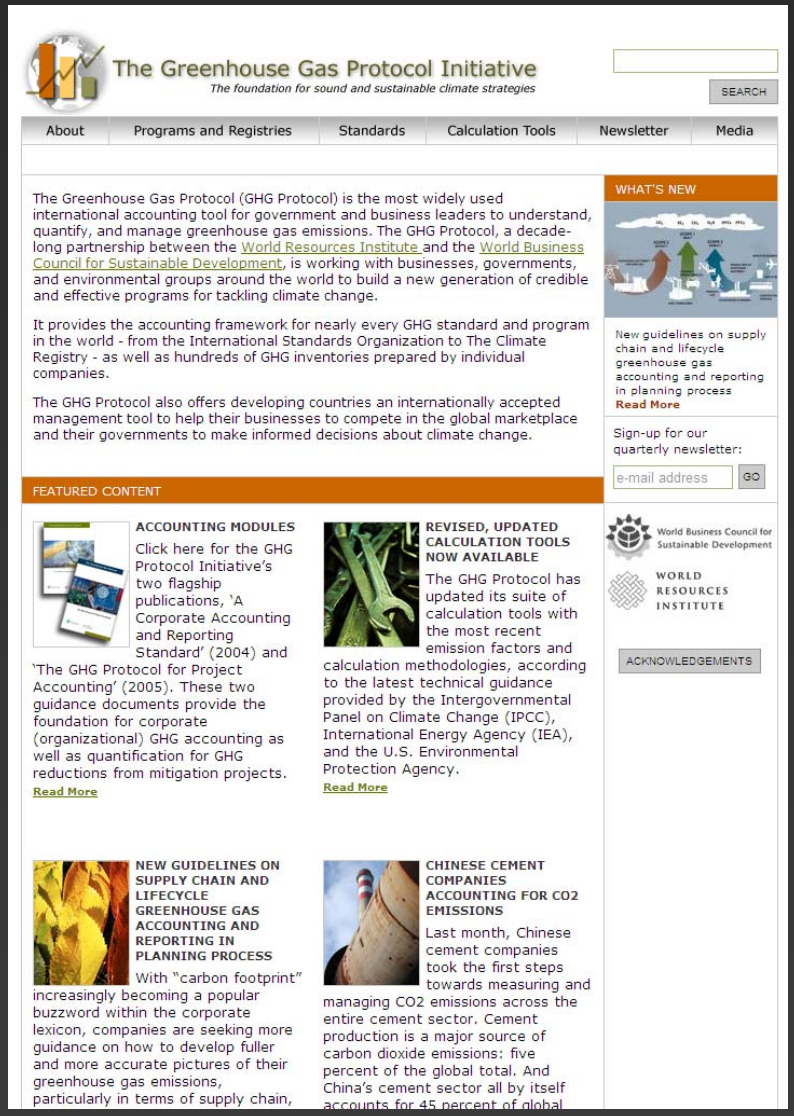
Project Module





GHGP Corporate Standard

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 Prog.
- 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

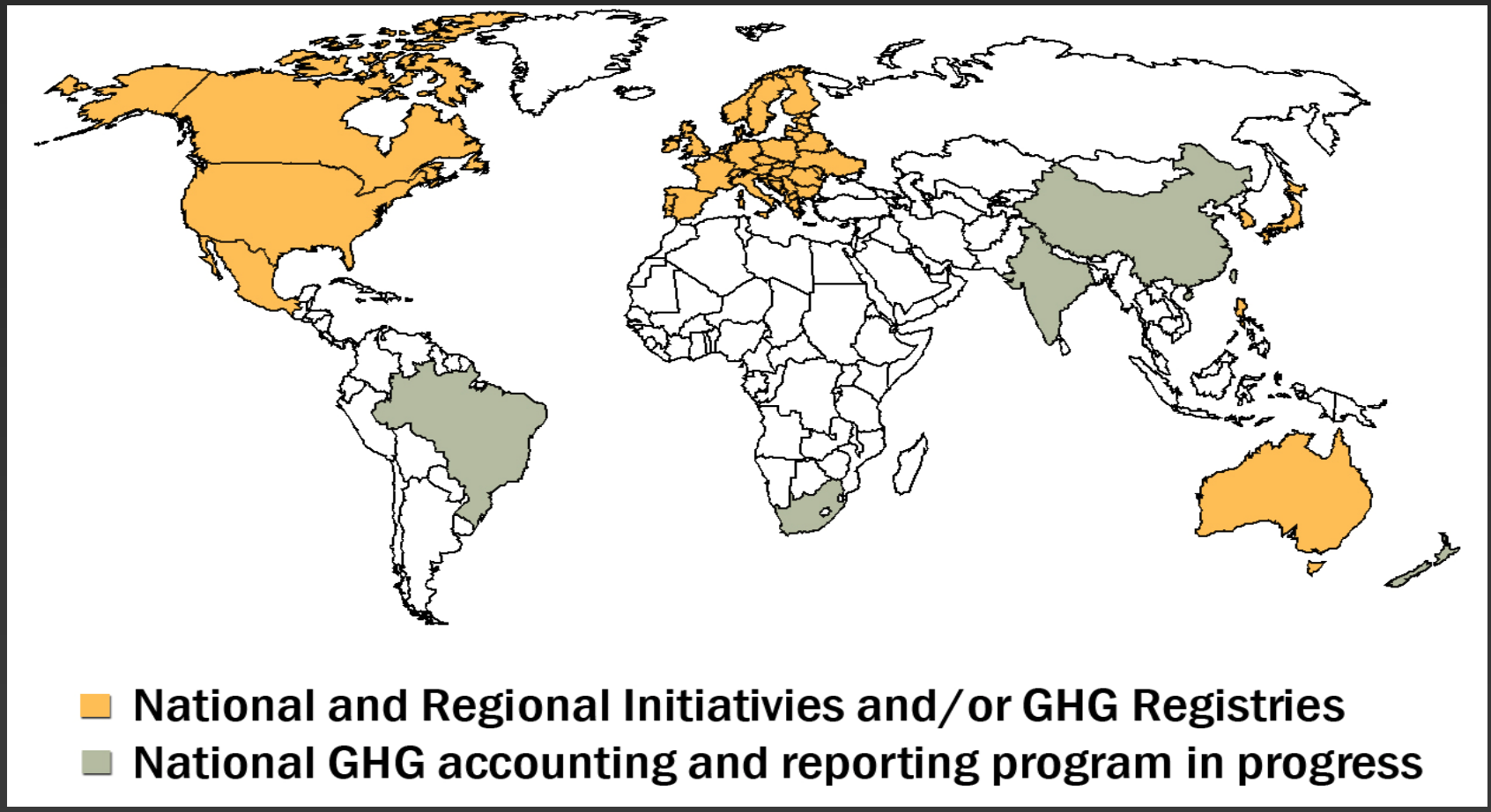
CLIMATE LEADERS
U.S. Environmental Protection Agency

CALIFORNIA Climate ACTION Registry

CARBON DISCLOSURE PROJECT

The Climate Registry

The GHG Protocol – Global Adoption

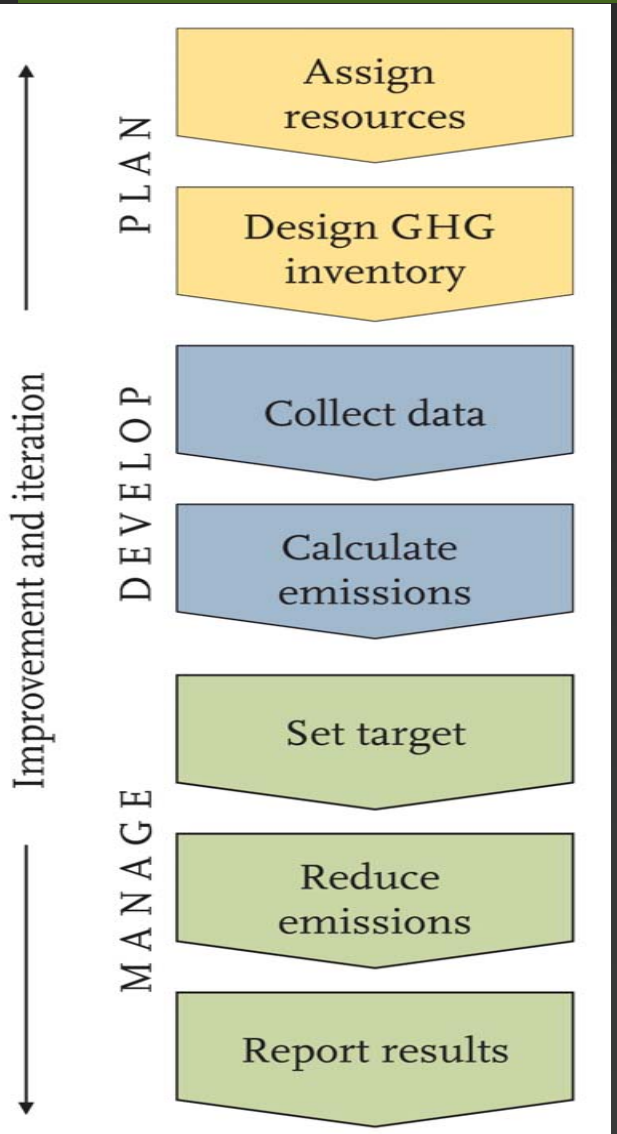


Out of the 335 Global FT500 companies studied, 63% aligned with the GHG Protocol (The Corporate Climate Communications Report 2007)

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

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

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

Why Measure a Carbon Footprint?

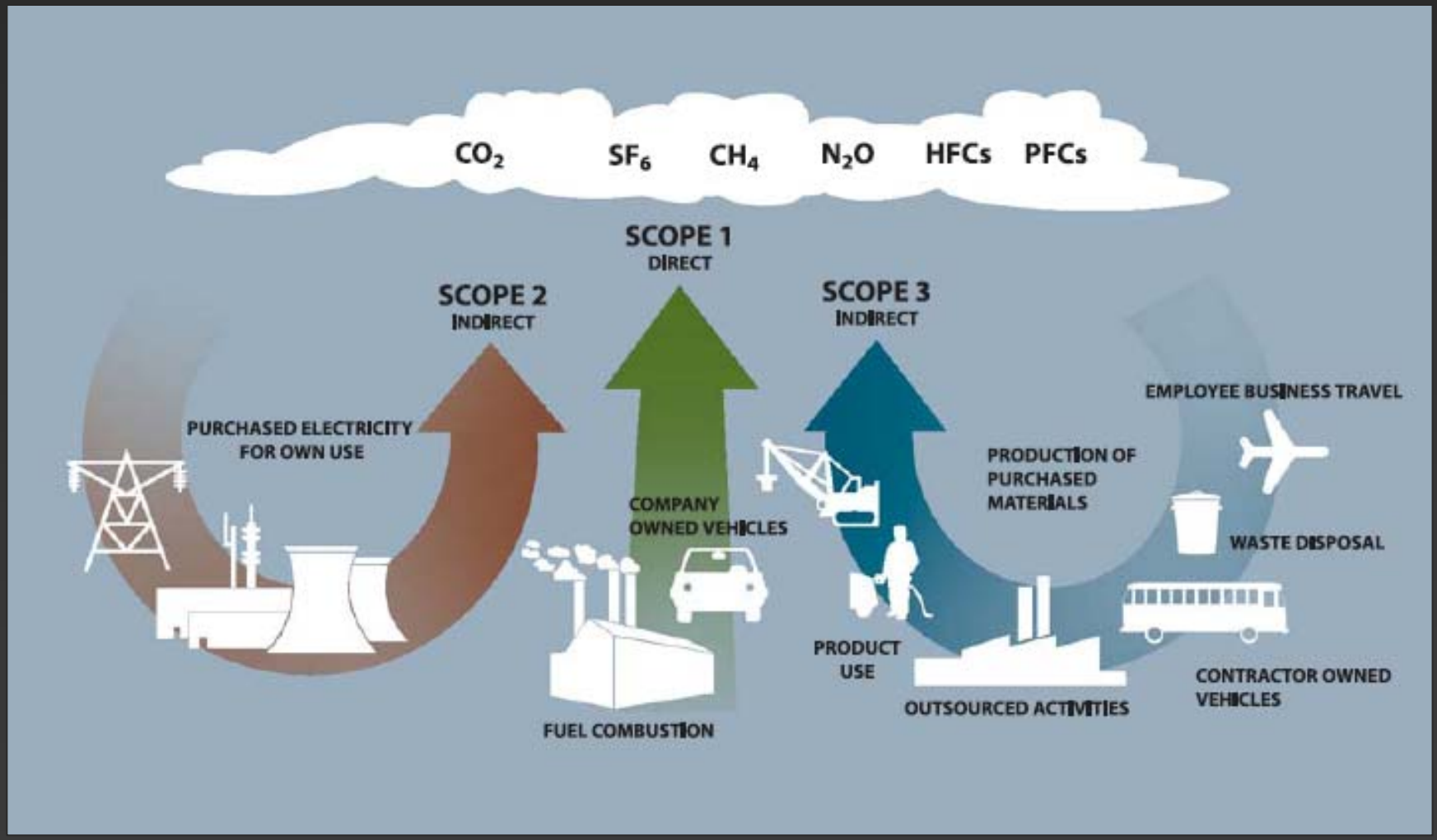
- Achieve corporate carbon management goals
- Identify opportunities to reduce energy or process costs
- Identify opportunities to enhance competitive advantage
- Participate in GHG markets
- Provide information to stakeholders
- Participate in GHG reporting programs

Footprint

Questions that need to be considered include:

- What business unites/facilities will be included in the inventory (organizational boundary)?
- What GHG sources and activities will be included (operational boundary)?
- What base year will 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

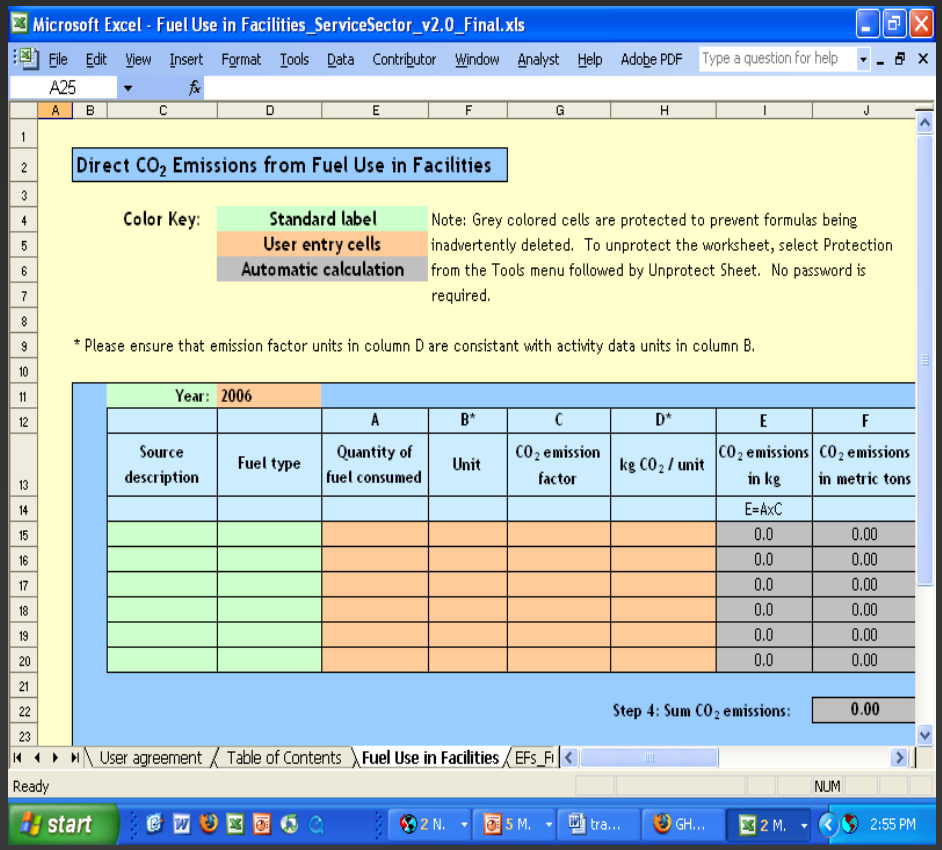
- Cross-sectoral
  - Stationary combustion
  - Mobile combustion
    - Business travel
    - Employee commuting
  - Combined heat & power
  - Purchased electricity, heat & steam

Consistent with IPCC and IEA methodologies

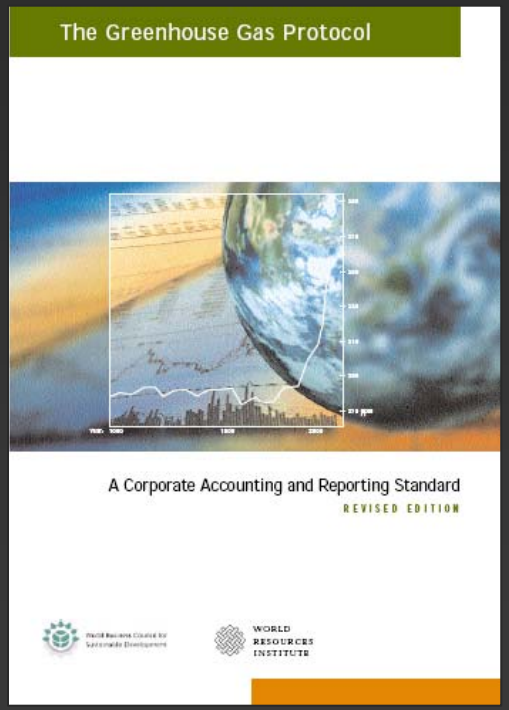
- Sector-specific
  - Ammonia
  - Cement
  - Iron & steel
  - Lime
  - Pulp & paper
  - Aluminum
  - Wood products
  - Adipic acid
  - Nitric acid
  - Semi-conductors
  - HFCs, PFCs

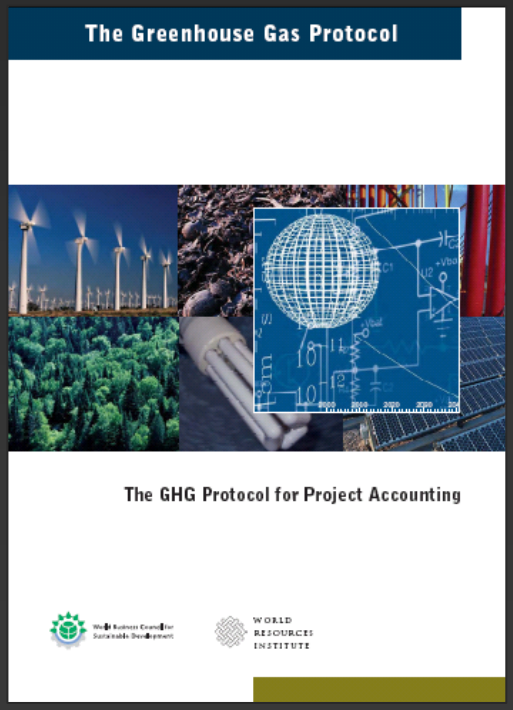
Emissions and Tools for the ICT Sector

- 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



New GHG Protocol Standard for Product & Supply Chain Accounting

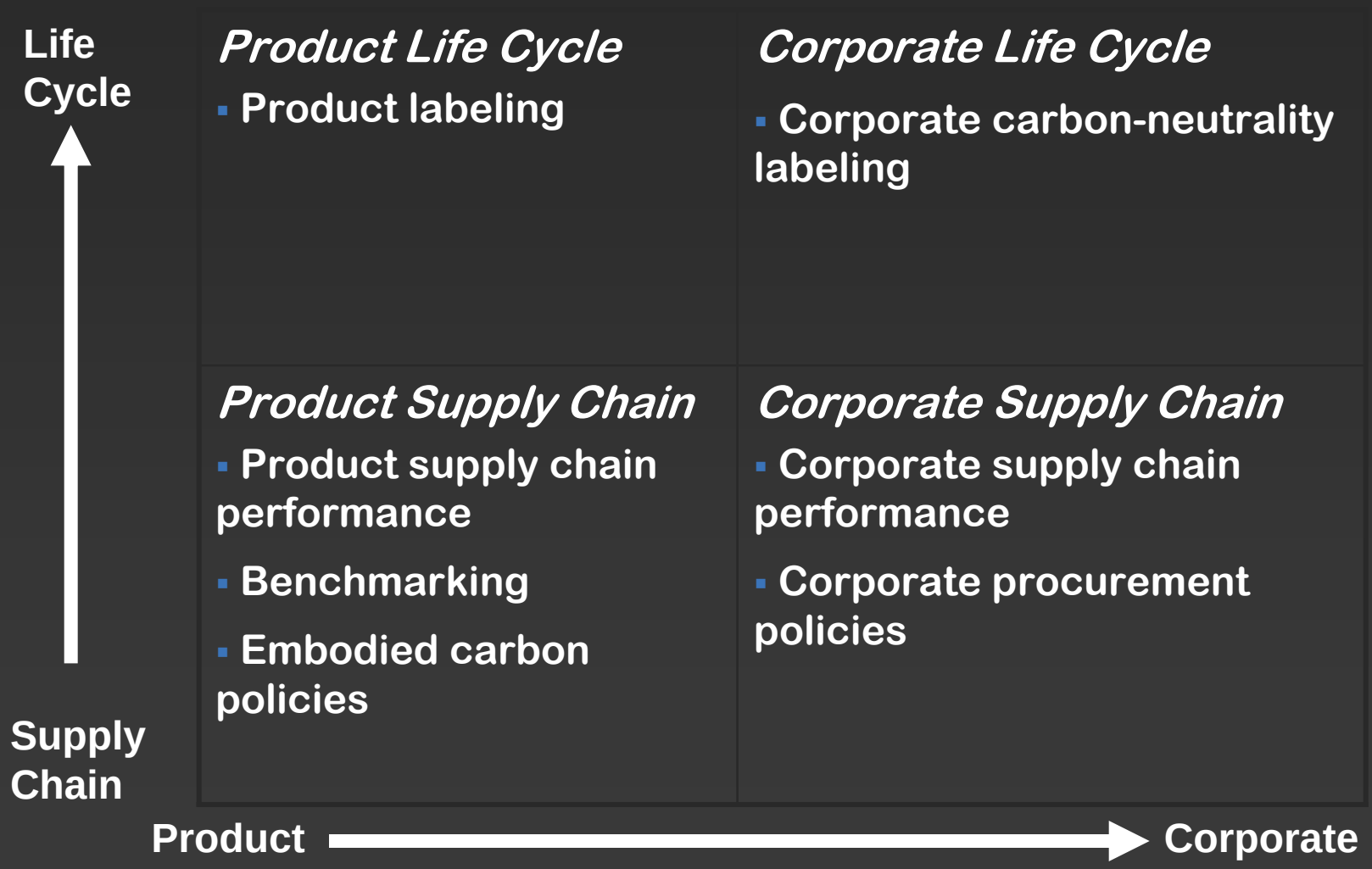




New GHG Protocol Product & Supply Chain Standard

19

Scope, Objectives, Accounting Elements



Relevance to ICT Sector

- 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