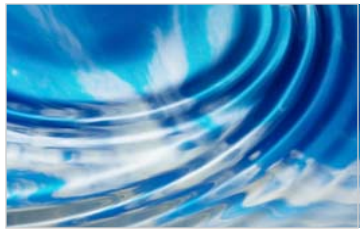
Carbon Accounting, Footprinting & LCA

Lauren Laabs, to the

CIBO Quarterly Meeting, June 2008



Delivering sustainable solutions in a more competitive world

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Carbon footprinting &LCA

GHG inventory vs. air inventory

- GHG emission reduction project accounting
- Footprinting & LCA introduction
- LCA tools

GHG inventory vs. air inventory

You've all seen/done inventories…here are differences you need to know

- **Forget fence line and think boundaries**
- **Functional unit of reporting emissions: metric tonne CO2 equivalent**
- **Facility inventory must roll up to Division and Corporate levels**
  - Consistency is key
  - Corporate Protocol or Inventory Management Plan is essential
- **Needs to be verifiable by third party**

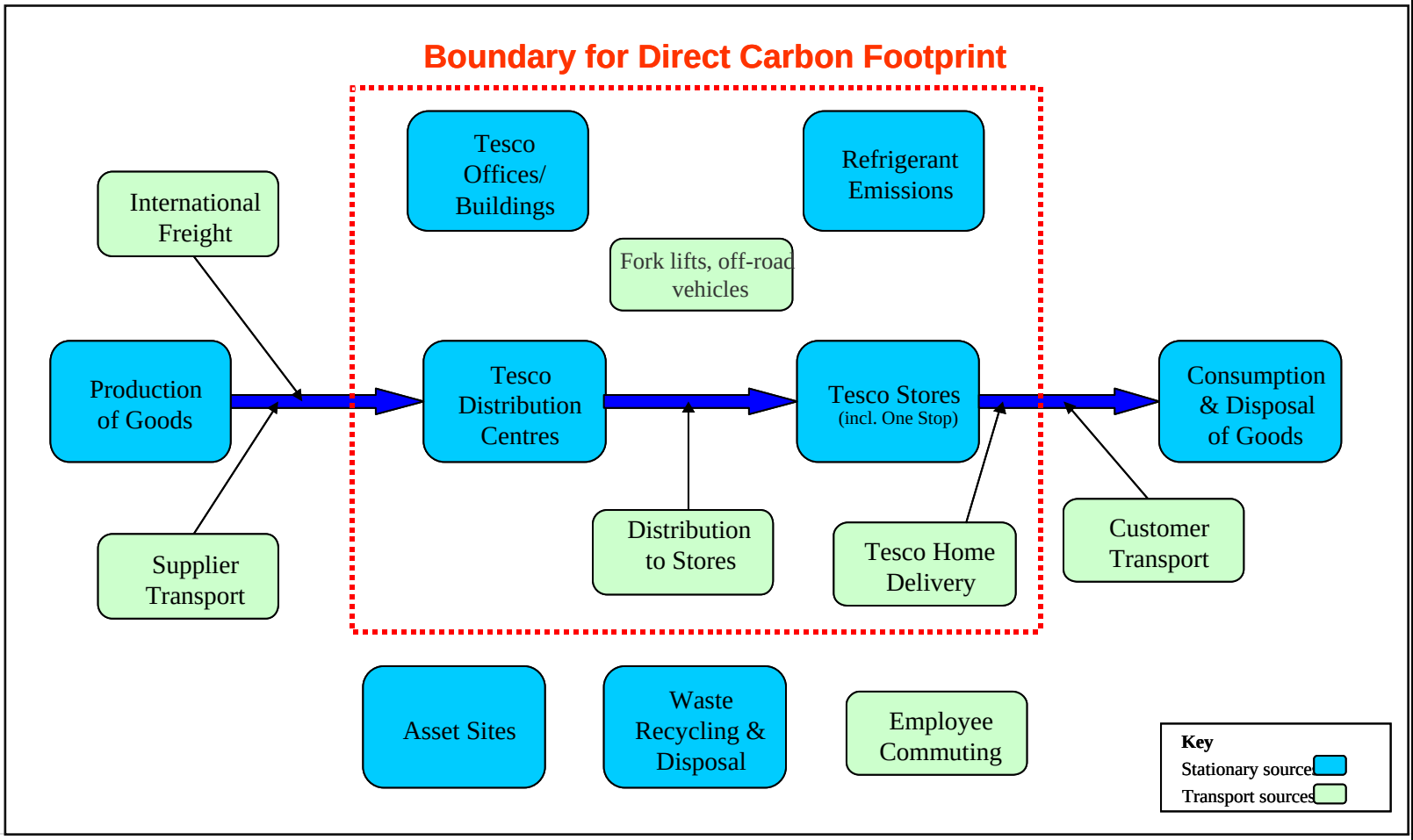
Organizational boundaries

- **Management Control**
  - Financial Control
    - Account for 100% of the associated emissions, joint ventures are reported as 50%
    - Have financial control over the operation (right to majority of benefits of the organization, retain major risks and rewards of operation's assets)
  - Operational Control
    - Account for 100% of the associated emissions over which the company or subsidiary has operational control
    - Control operational and health, safety and environmental policies
    - Operational leases are included
- **Equity Share**
  - You are responsible for a percentage of the emissions, equal to your ownership stake in the entity
  - Report based on your share of financial ownership in an entity

Operational boundaries

- **Scope 1**
  - Direct emissions - production of electricity, stack emissions, manufacturing processes, fugitive emissions, company owned and controlled vehicles
- **Scope 2**
  - Indirect emissions - from the import or purchase of electricity, heat, or steam
- **Scope 3**
  - Other indirect emissions - business travel, outsourced activities, supply chain, end use/disposal of products

Tesco Direct Footprint Boundary



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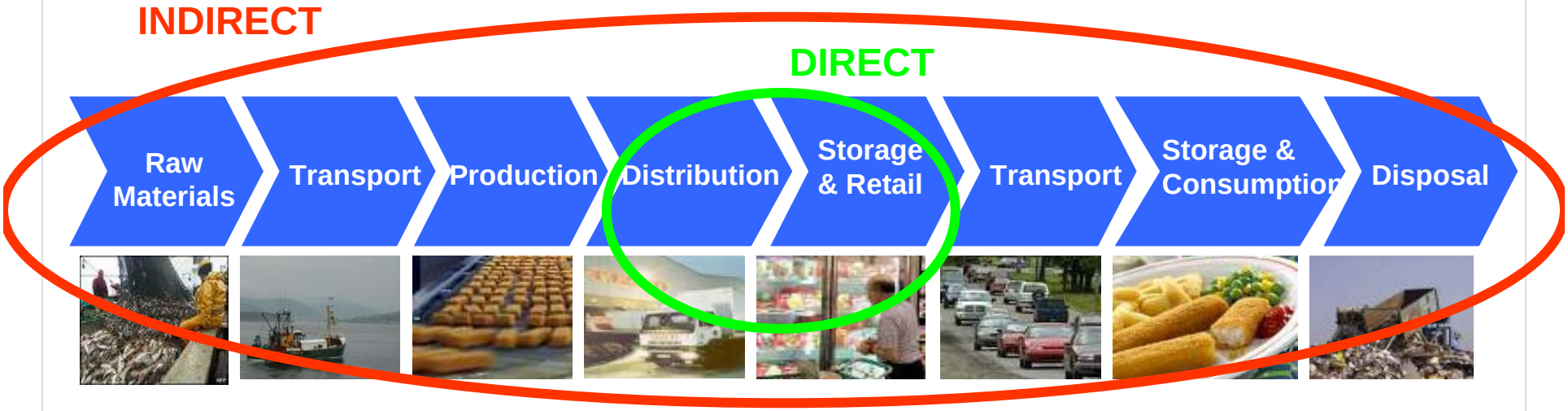
Corporate protocol

- **Clearly define reporting boundaries**
- **Set a de minimis threshold for sources and document**
- **Establish a base year or baseline**
- **Set a threshold for adjusting the baseline and document**
- **Establish metrics for reporting GHG intensity**
- **Document source methodologies and provide example calculations, if appropriate**
- **Documentation and data trail guidance**
- **Define roles, responsibilities, and quality assurance processes**

Life Cycle Assessment

- Impacts occur at every stage of the product life cycle
- Controlling direct impacts can lead to ‘burden shifting’ and may be counter-productive
- Need to take an holistic view



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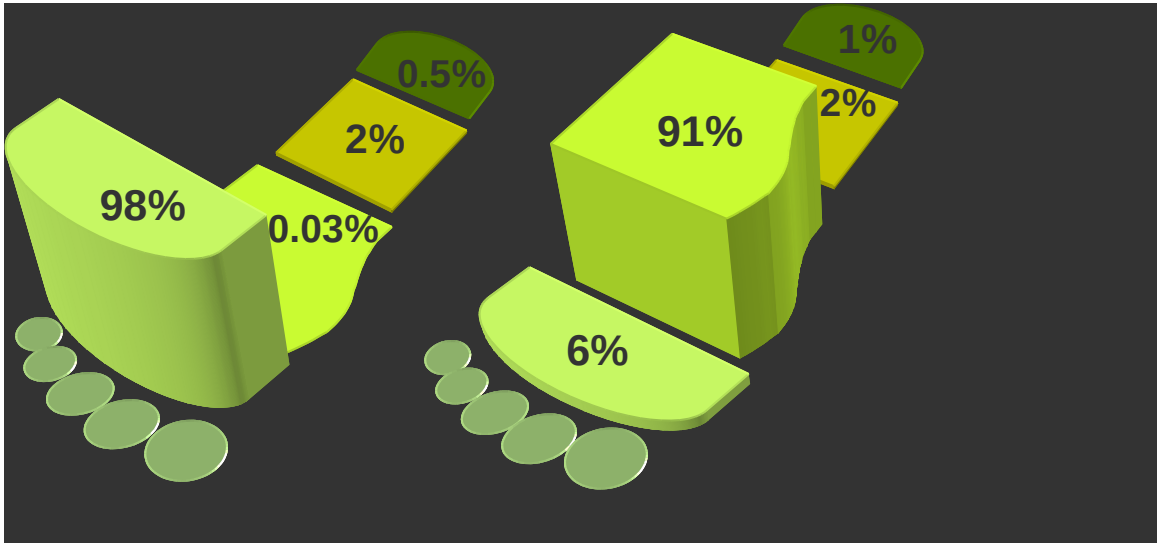
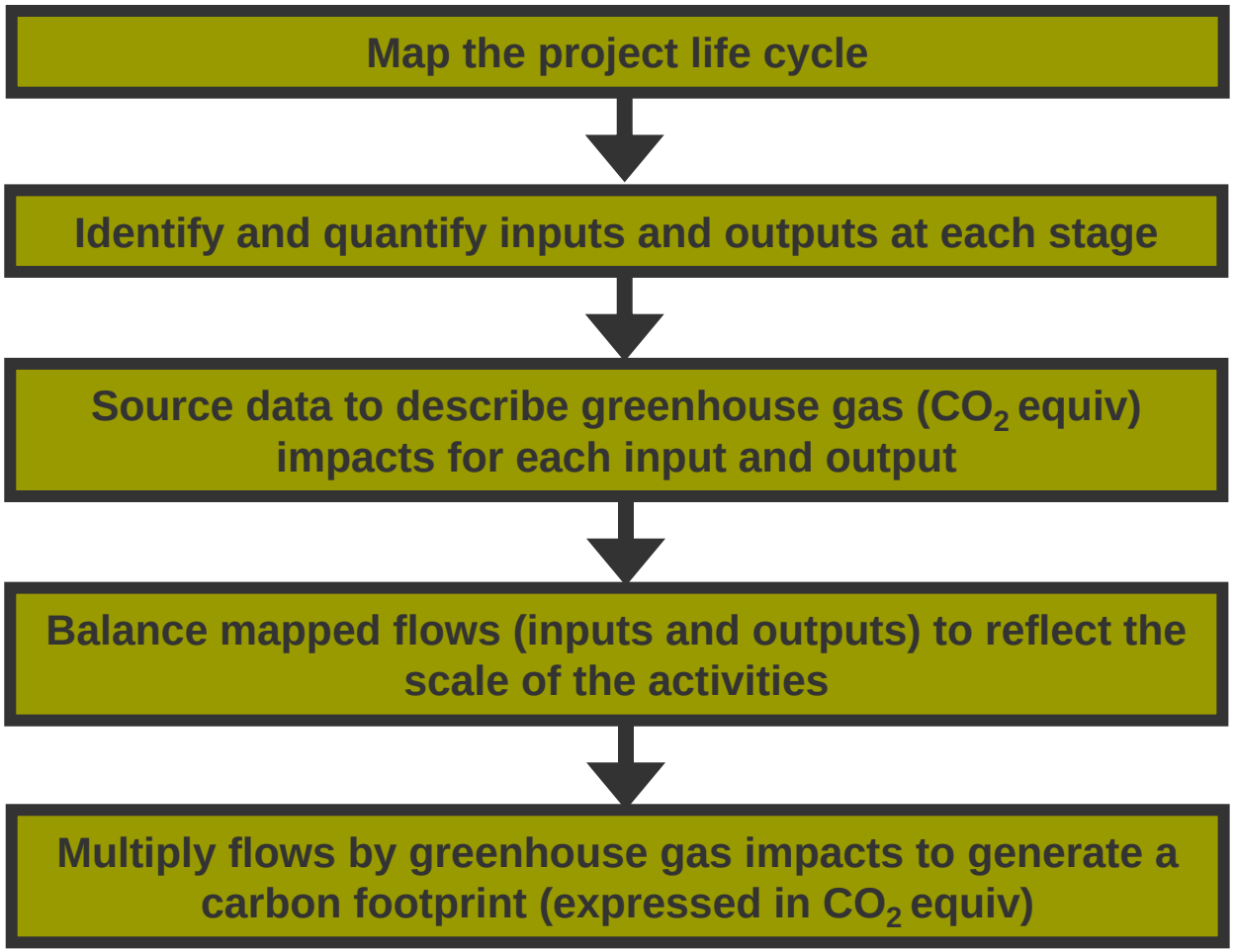
The Carbon Footprint of Cut Flowers

Kenyan grown roses vs. Dutch grown roses



10.9 kg CO_2 equiv vs. 18.8 kg CO_2 equiv for 12 roses

Calculating a Carbon Footprint



Footprinting Challenges

- **Defining boundaries (temporal and spatial)**
- **Access to data on complex supply chains**
- **Allocation to multiple products**
- **Variation in performance ('known unknowns')**
- **Which generic data sets (electricity etc.)?**
- **Consumer and post-consumer behaviours (eg disposal…)**
- **What level of precision is fit for purpose?**

Resolution Fit for Purpose?

- **Trying to inform?**
  - The footprint directs supply chain improvement
- **Seeking to communicate with customers?**
  - The challenge is in communication
- **Attempting to discriminate between products?**
  - Can we deal with the sources of error?