



International Panel for Sustainable
Resource Management

Assessing the Environmental Impacts of Consumption and Production:



**PRIORITY
PRODUCTS AND
MATERIALS**

Key Messages



Summary: findings at a glance

- The Panel reviewed how economic activities drive natural resource use and the generation of pollution
- Studies and perspectives converge on the dominance of:
 - ▣ **Agriculture and food consumption**
 - ▣ **Activities using fossil fuels**
- Outlook and other findings:
 - ▣ Impacts rise with income
 - ▣ Pollution embodied in trade becomes more relevant
 - ▣ Harmonized data gathering and better trend analyses will help improved decision making

The Working group used a five step approach:

1. **Relevant Impacts** - Which key environmental and resource pressures need to be considered?
2. **Production perspective** – What sectors have the highest impacts?
3. **Consumption perspective** – What consumption clusters drive most life cycle impacts?
4. **Material use perspective** – What materials have the highest impacts?
5. **Outlook and conclusions** – What are common denominators?

Step 1: Most relevant pressures and impacts

□ **Based on**

- Millennium Ecosystem Assessment
- WHO Burden of Disease study
- Life cycle impact studies

□ **Most relevant**

□ **Human and ecosystem health:**

- Climate change
- Habitat change (land + water use)
- Eutrophication (overfertilisation by nitrogen and phosphorus)
- Urban and regional air pollution
- Indoor air pollution
- Other toxic emissions

□ **Resource depletion**

- Fossil fuels and some metals
- Unsustainable fish harvest

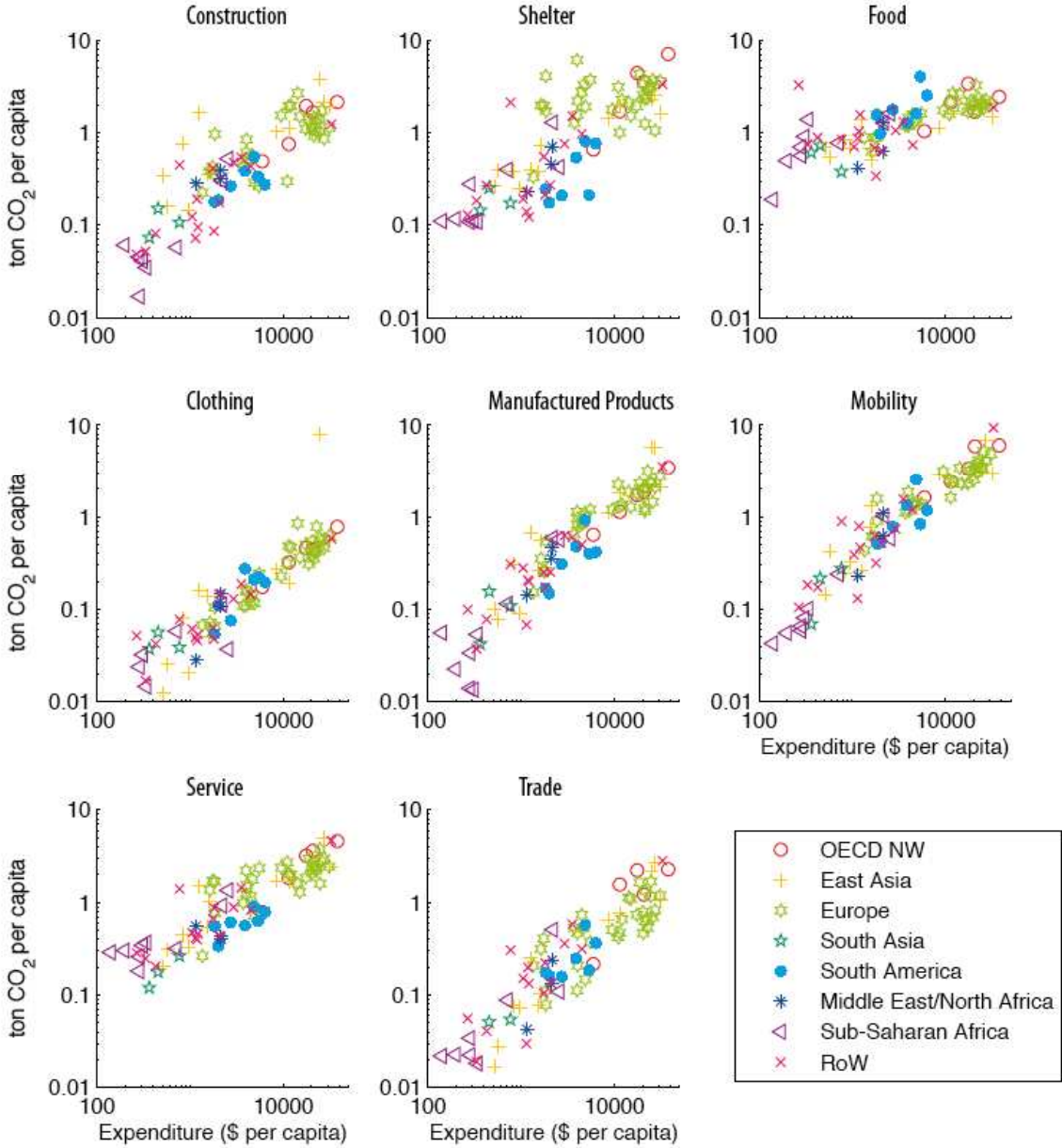
Step 2: Production perspective

- **Production perspective:**
 - looks at direct emissions and primary resource use
 - Informs policy and producers where clean technologies are most needed
- **Sources used**
 - For global warming: IPCC
 - For other problems: US database as example (insufficient global data)
- **Most critical sectors:**
 - Processes involving fossil fuel combustion (Climate change, air pollution, eutrophication)
 - Agricultural activities using biomass (Water, land, eutrophication, toxicity)
 - Fisheries (Biotic resource depletion)

Step 3: Consumption perspective

- **Consumption perspective:**
 - Looks at life cycle impacts of final consumption
 - Informs policy and consumers on areas of desirable shifts to
 - low impact products
 - sustainable life styles
- **Food, mobility, housing** (including energy using products) drive > 70% of impacts
- **Pollution embodied in trade** increasingly relevant

Consumption: Impacts increase with income



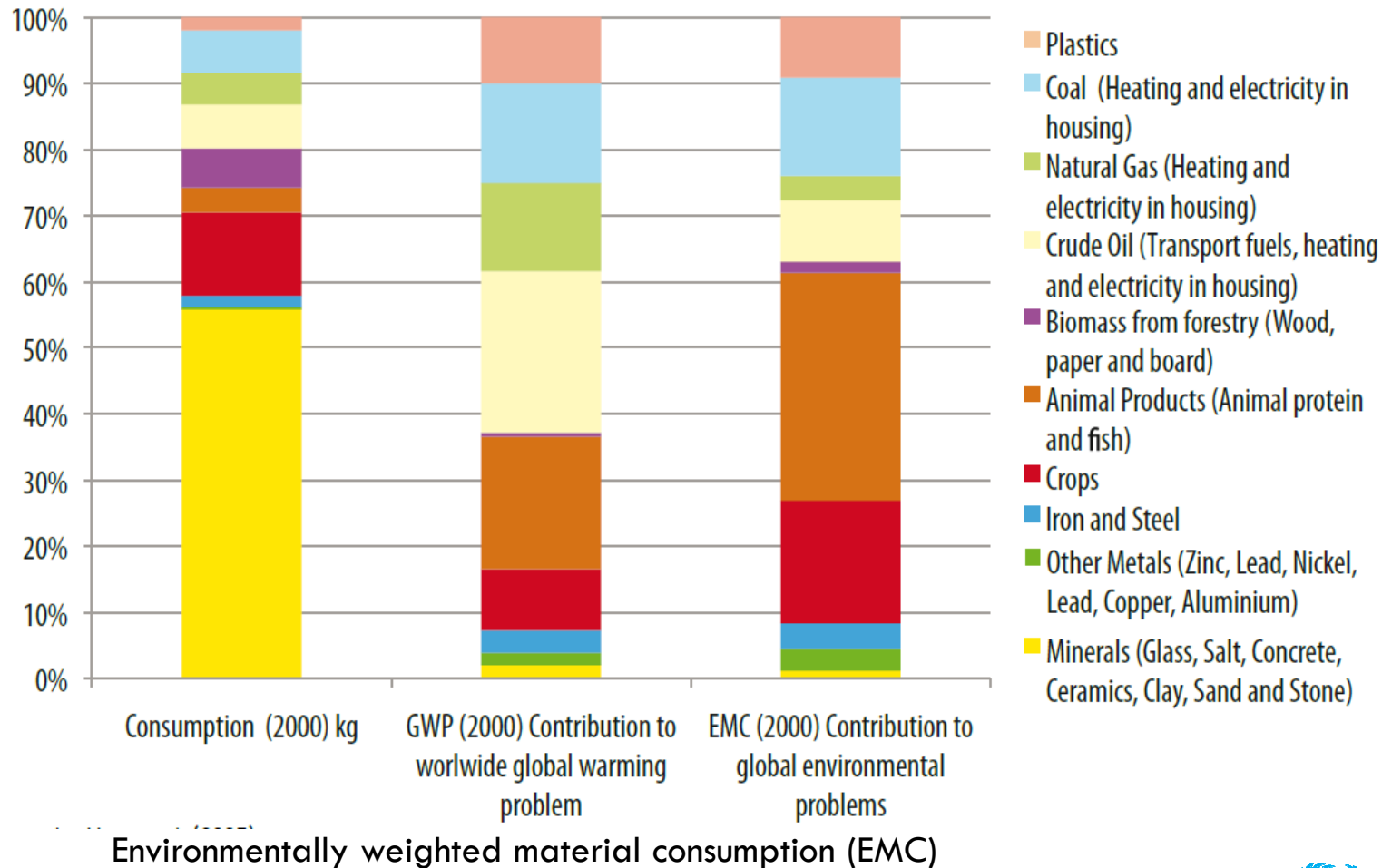
CO₂ emissions versus expenditure by consumption category, 2001

Step 4: Material use perspective

- **Material use perspective:**
 - Use of materials and their life-cycle impact
 - Informs policy and producers how shifts in material base can contribute to lower impacts

- **Two approaches:**
 - Counting mass (MFA)
 - Calculating impacts (EMC)

Material use perspective illustrated



Step 5: Outlook and conclusions

- The production, consumption and materials perspective point to:
 - ▣ Agriculture and food consumption
 - ▣ Processes engaging fossil fuels
 - Mobility,
 - Housing and energy using products
- New **patterns of consumption and production** needed: impacts rise with income
- Better **harmonized data** across countries will improve monitoring and decision making