PAGE PARTNERSHIP FOR ACTION ON GREEN ECONOMY

Indicators for a Green Economy
Introductory course

Session 3

# APPROACHES TO MEASUREMENT

UN environment ILO UNDP UNIDO unitar United Nations Institute for Training and Research

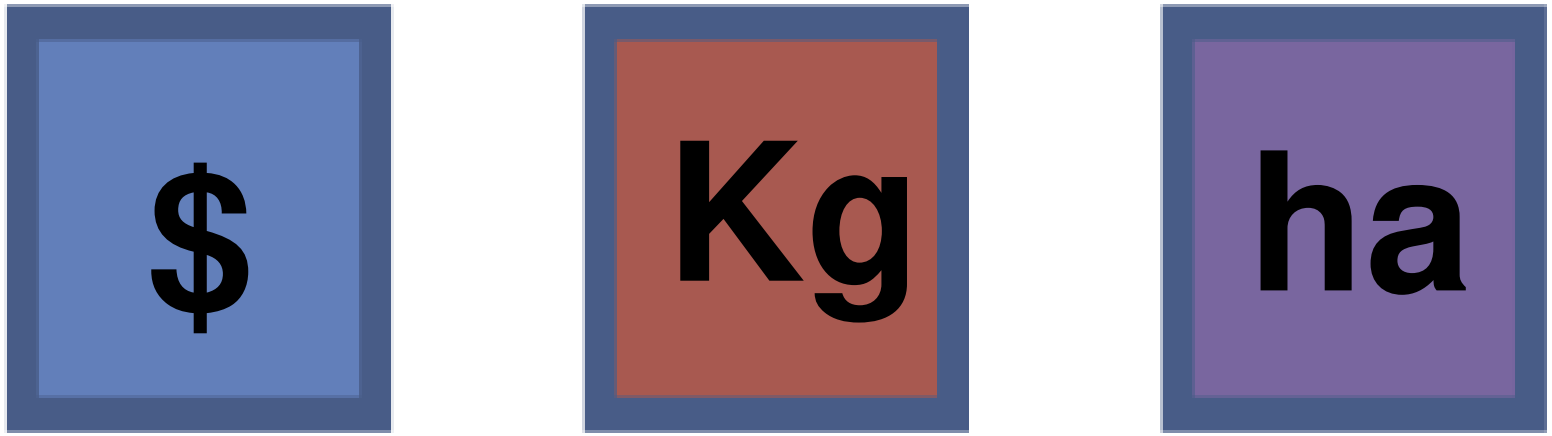
# Key points

- IGE indicators can be categorized in four ways: (1) dashboards, (2) composite indicators,
  (3) footprints, (4) adjusted economic indicators.

- These approaches vary as to:
  - how granular or summary a picture they paint
  - assumptions and value judgements
  - how easy to communicate

# Dashboard

A set of indicators – often measured in different units – without hierarchy

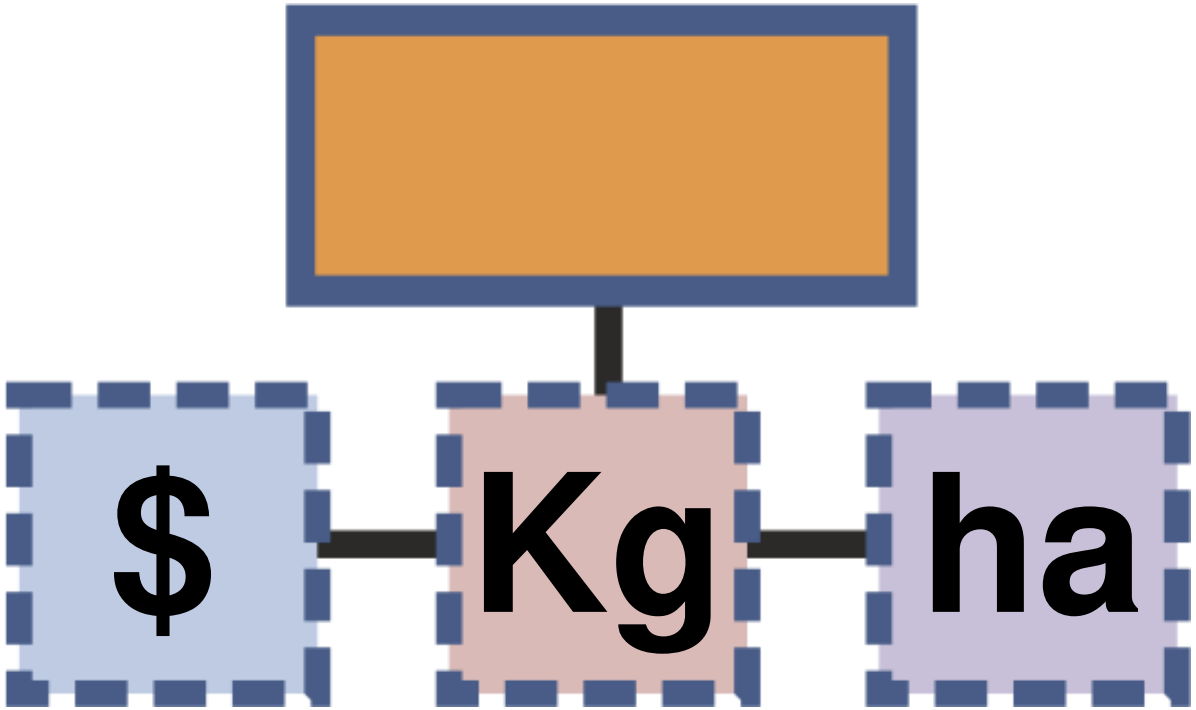


# Examples of dashboards

- OECD Green Growth Indicators
- European Union (EU) Sustainable Development Indicators

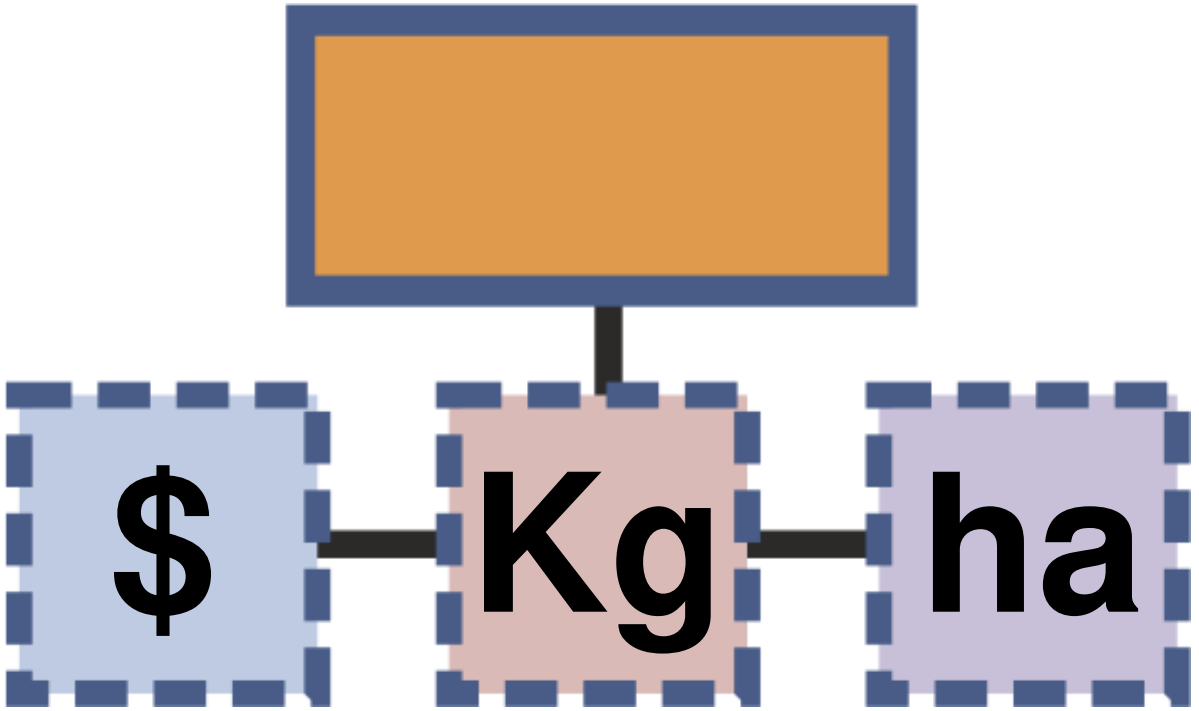
# Composite index

Aggregated measure that combine indicators – often measured in different units – through rescaling the components and weighting



# Examples of composite indices

- Yale Environmental Performance Index
- Global Green Economy Index
- Global Sustainable Competitiveness Index

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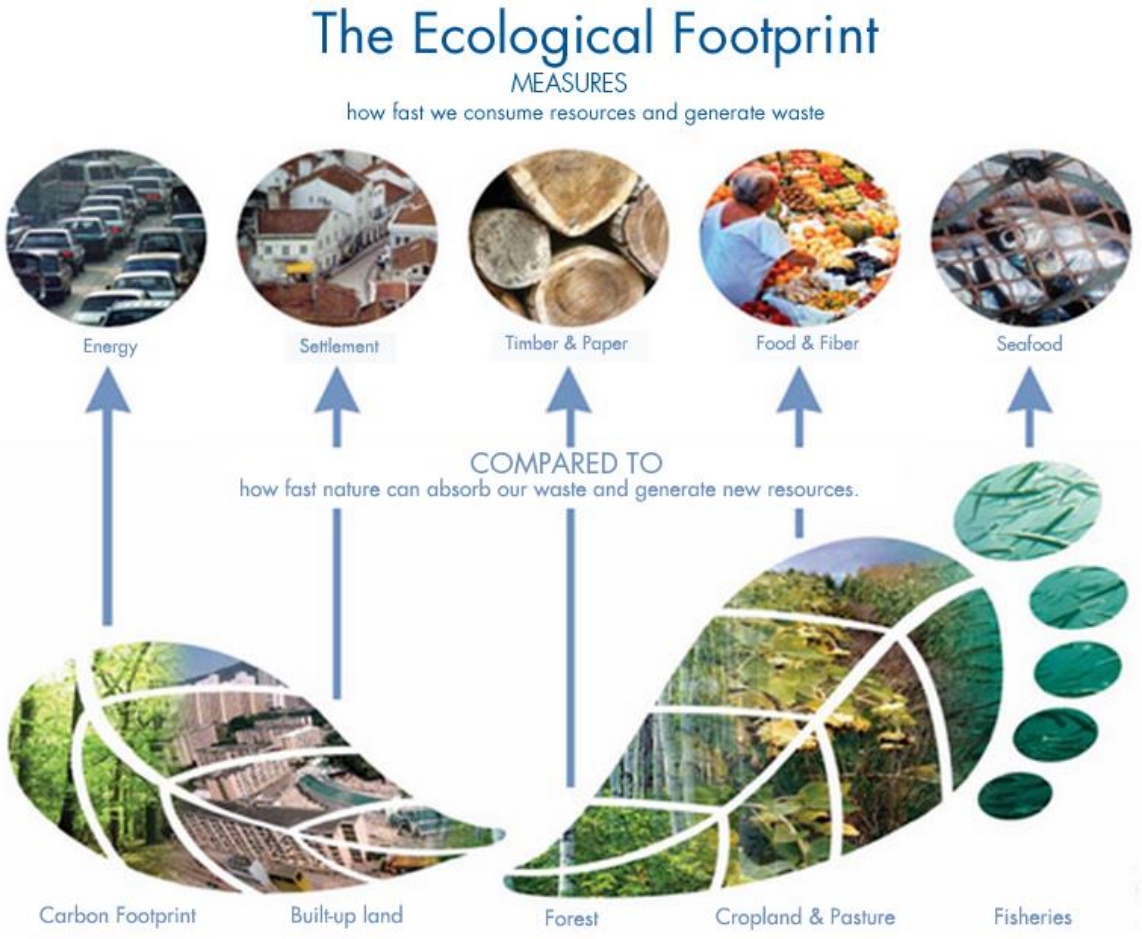
# Footprint

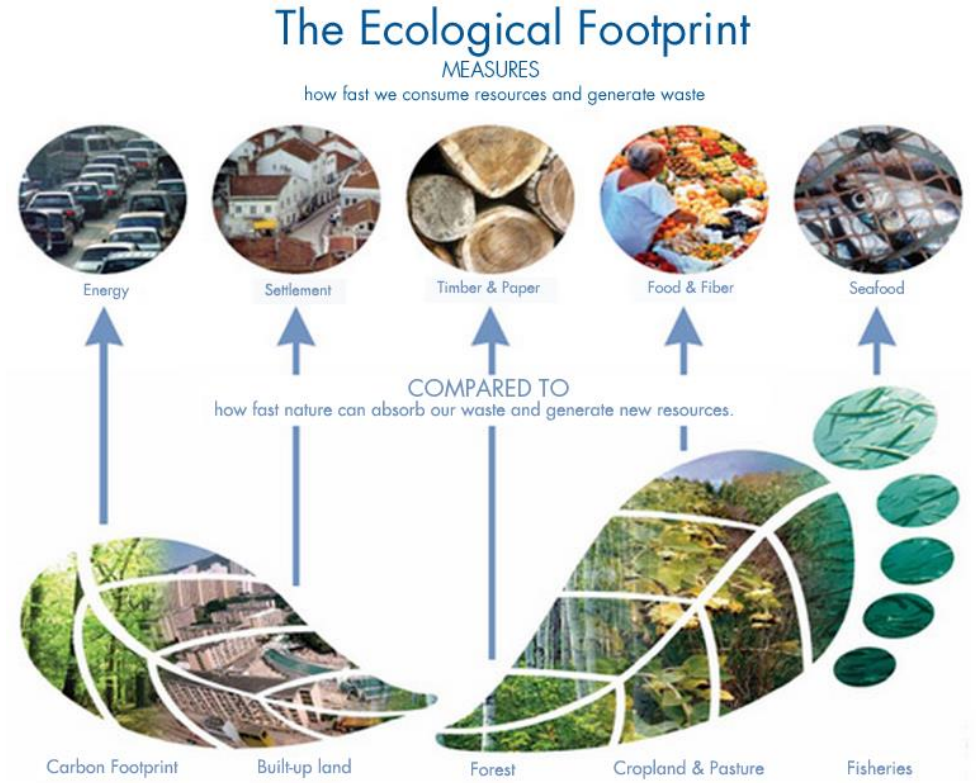
How much of existing biological capacity is used to support economic activities and human needs




Source: Global Footprint Network, www.foootprintnetwork.org

# Examples of footprint indicators

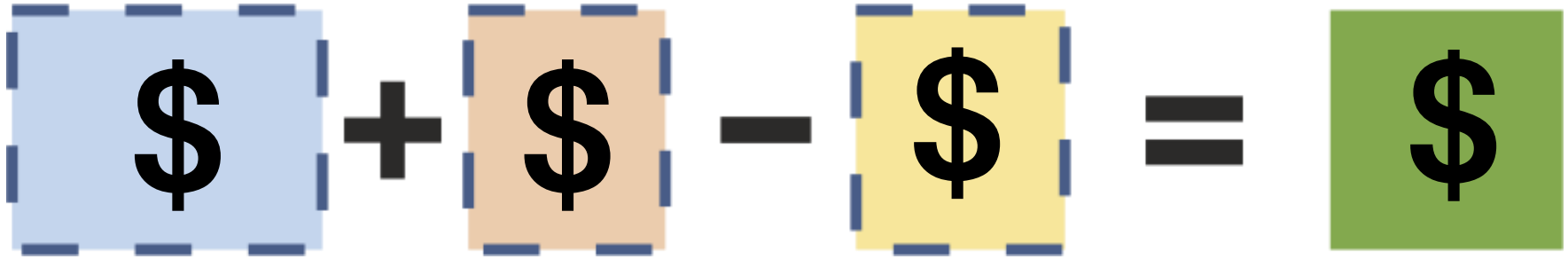
- Atmospheric concentrations of greenhouse gases
- Area of forested land as % of original forest cover
- Consumptive blue water use




Source: Global Footprint Network, www.foootprintnetwork.org

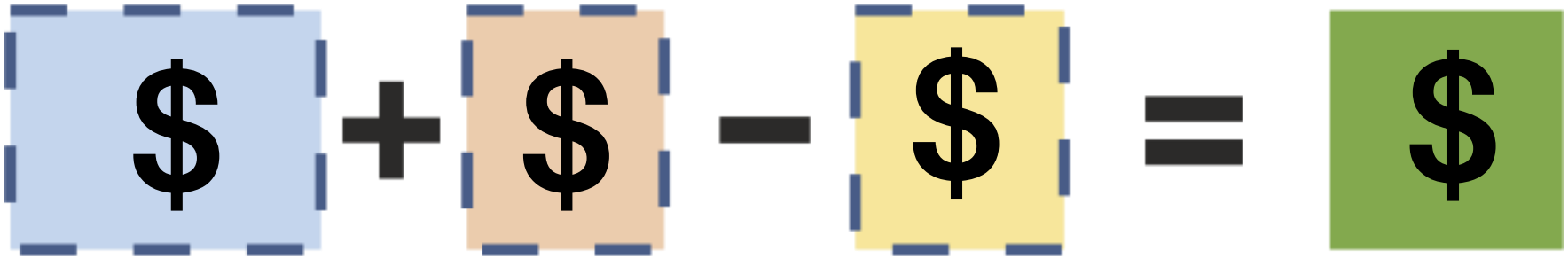
# Adjusted or expanded economic measure

A monetary metric derived by adjusting a conventional economic variable for broader environmental and social sustainability values



# Examples of adjusted/extended economic measures

- **adjusted GDP** – adjusted for value of welfare-increasing or reducing activities (e.g., natural resource degradation)
- **environmentally adjusted multifactor-productivity growth** – adjusted for natural resource use and pollution
- **extended wealth measures** – adjusted for changes in environmental and human capital (e.g., UNEP's Inclusive Wealth Index)

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# Strong versus weak sustainability

- **Strong sustainability:** Natural resources necessary to support life cannot be substituted for one another. Each needs monitoring.
- **Weak sustainability:** As a resource is depleted, efficiency improves and prices change; other resources are substituted. A composite index can represent them all jointly.

# Comparing approaches to measurement

| Approach | Sustainability assumption | Can present distribution effects? | Strengths | Weaknesses |
|---|---|---|---|---|
| Dashboards | Strong | Yes | • Transparent. No formulae or weighting obscures underlying data.<br>• Breadth and flexibility. Countries can pick and choose among indicators. | • Difficult to communicate<br>• General international comparisons are difficult |
| Composite indicators | Weak | Not usually | • Single measure can be easily communicated<br>• Easy to make international comparisons and time trends | • Weighting and aggregation are arbitrary |
| Footprints | Strong | Yes | • Easy to communicate and to understand | • Difficult to account for technological change of a limit or threshold |
| Adjusted economic indicators | Weak | Not usually | • Single measure can be easily communicated<br>• Easy to make international comparisons and time trends | • Difficult to value non-marketed goods and services<br>• Assumes that values of environmental inputs and outputs are fixed across countries and time |