Up in the air...
Up underground
Exploring absolute REDUCTIONS in material throughput and energy use
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Everything is up...

20th Century
- Population: 4X
- Global freshwater withdrawals: 3X
- Economic Output: 22X
- Fossil fuel consumption: 14X

Today’s worldwide resource consumption is about 50% higher than 30 years ago, at about 60 billions tons raw materials per year.

The future is up...
By 2025, waste generation will be doubling in some regions

Emerging economies are coming up...
Per Capita Resource Use for the Asia-Pacific, Rest of World and World, for the years 1975 – 2005.

...or maybe not
When resource depletion is taken into consideration, national savings reveal a negative trend in a number of African countries.

...Up to limits
We’re hitting planetary boundaries
Decoupling? Up but...

- Americans Efficiently Consume Ever-Increasing Amounts of Energy

The Jevons Paradox, or "rebound effect".

Recycling? Up but...

- Recyling plays a role but has not grown much in the last decade
- Primary production continues to grow exponentially

End-of-life recycling rates for sixty-two metals

Trade? Up but...

- Where is the production for UK demand happening? Drivers of impacts?

Trading away the future?

- Sectors that drive GDP growth do not always create the most jobs
REDUCTIONS

**Reducing Environmental Degradation & Unsustainable Consumption Trends & Impacts On Nature & Society: Research, Policy and Practice**

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**The REDUCTIONS project**

- Exploratory project to frame reductions
- Analyse science-based concepts, case studies and frameworks;
- Intervention nodes
  - Reduction in resource use
  - Reduction in (quantity of material) consumption
  - Reduction of waste generation and pollution
- bring together knowledge from a number of disciplines and communities
- Int. expert panel
- (Limited) funding from the Japanese government

An activity of IGES, the Global Research Forum on SCP (GRF), the World Resources Forum...

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**Priority matrix for solutions**

- **Promising concepts:**
  - Technology
  - Natural resources
  - Business
  - Individuals
  - Others
- **Prospects of achieving substantial global reduction**

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**Next steps I – planned publications**

- **Special Volume J. Cleaner Prodn**
  - Analysis and case studies
  - Defining boundaries
  - Measurement/accounting approaches
  - Substitutability of resources
  - Political and economic implications of absolute reductions
  - Anticipating unintended consequences/rebounds
  - Implications for developing economies
- **Policy/Technical briefs/pubs**
  - Assessment of current scientific knowledge
  - Synthesis of messages for policy makers
  - Policy frameworks for reductions
  - Questions for research...

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**Next steps II - Project consortium**

**Members...**
- Global Research Forum for SCP
- Institute for Global Environmental strategies Japan
- World Resources Forum
- Tellus Institute
- SERI
- Clark University

**Work packages**
- Indicators
- Case studies
- Policy and governance
- Economic system, culture
- Modelling

You’re warmly invited!

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**Some “good” news**

**By design:** water consumption in Australia

**By force:** Unexpected Events

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Thank you

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