

# The need to address upstream drivers of resource use

Magnus Bengtsson

Manager

Waste Management and Resource Efficiency  
Institute for Global Environmental Strategies

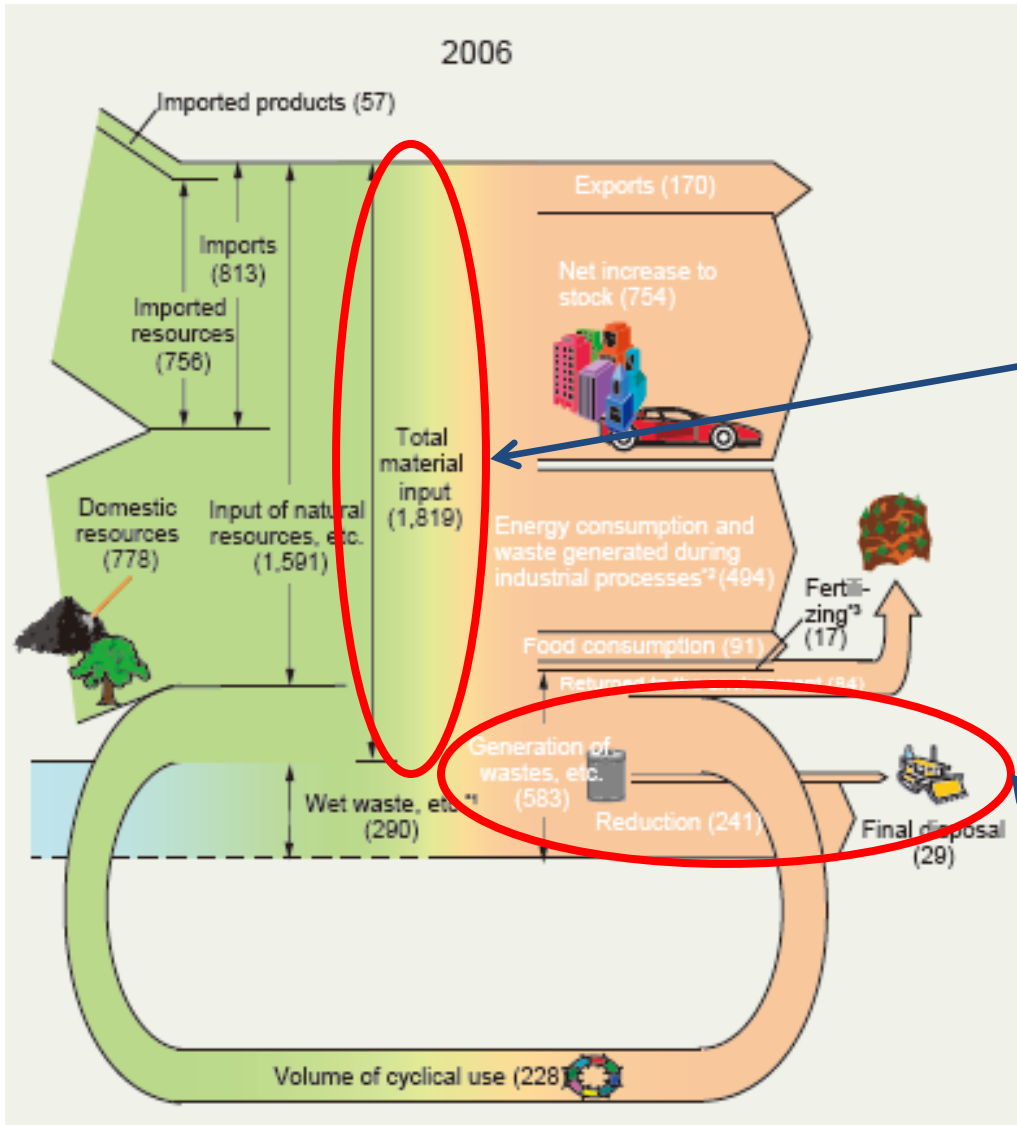


# Starting points for my thinking on the 3Rs

- Discussions on the 3Rs need to be placed in a wider context of **Sustainable Development and Resource Productivity**
- The 3Rs are not ends in themselves but means towards the overarching objective of **Sustainable Resource Management**
- To solve resource problems effectively we need to:
  - ask what is the cause of those problems, and
  - devise policies to address those causes



# Need to Focus on the Right Things

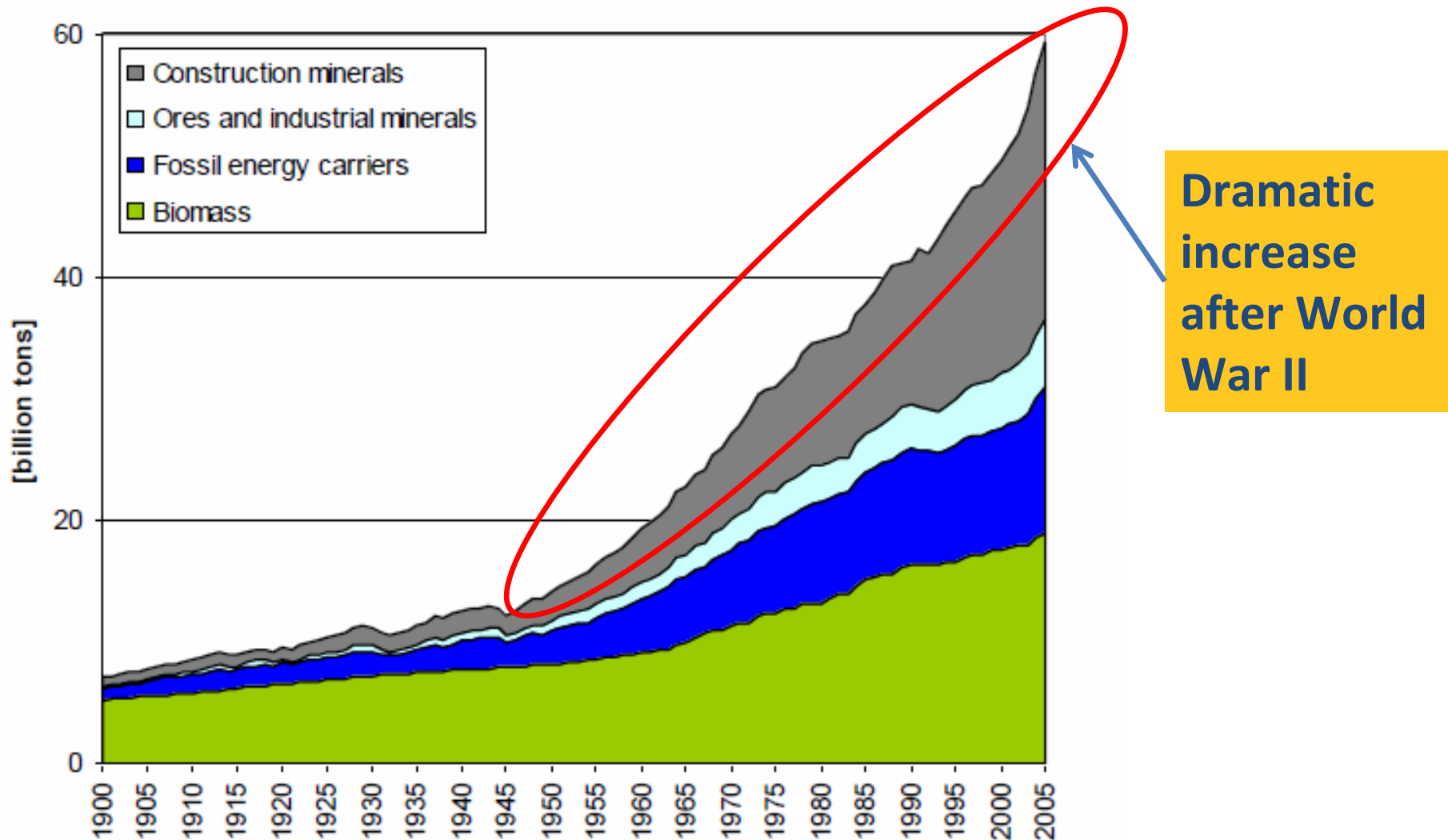


Need to look at the resources that enter our economies and how those resources are used in Production and Consumption systems

Cannot solve the resource productivity problems by looking at the waste stream

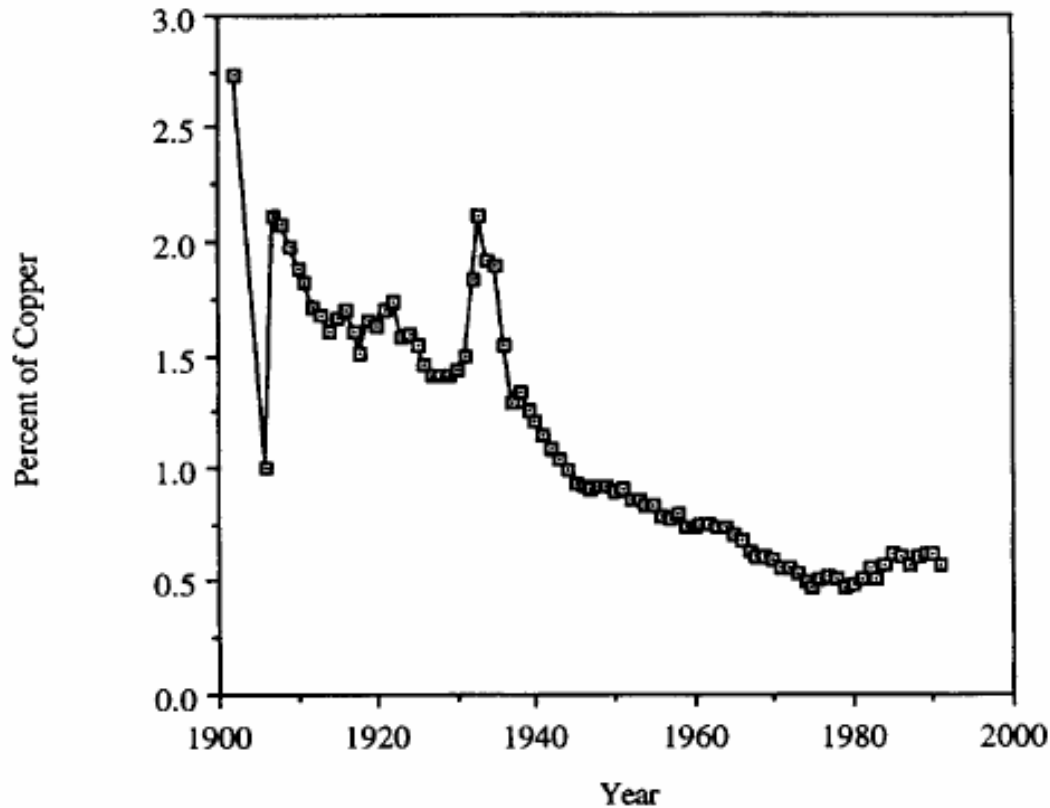
Material flows in Japan. Source: MOEJ

# Global Consumption of Natural Resources, 1900-2005



Source: Marina Fischer-Kowalski 2009

# Resource Depletion Generates Increasing Environmental Impacts



Average grades of copper ore mined in the US, 1900-1990

Source: Matthias Ruth 1995

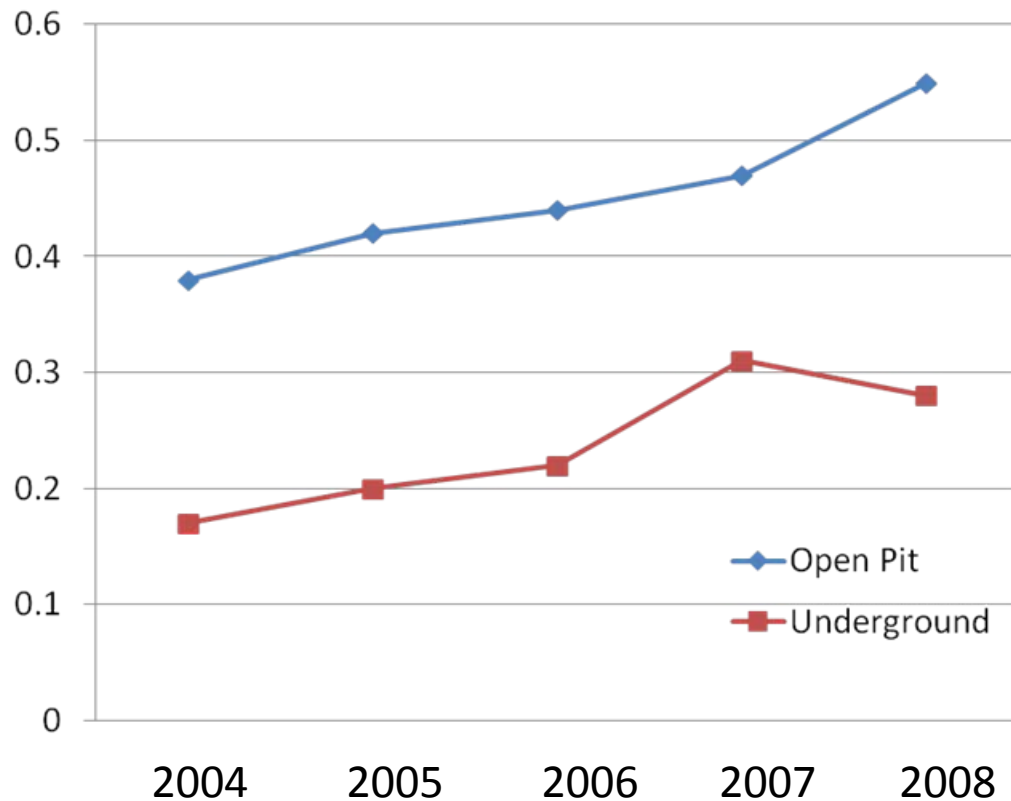


## Increasing Environmental Impact per ton of Material:

- Higher energy use
- Higher GHG emissions
- Increasing amounts of mining waste

# Increasing Greenhouse Gas Emissions from Resource Extraction

Ton CO<sub>2</sub>eq/ton copper ore



Source: Chilean Copper Commission 2009

Decreasing ore grades and deeper mines

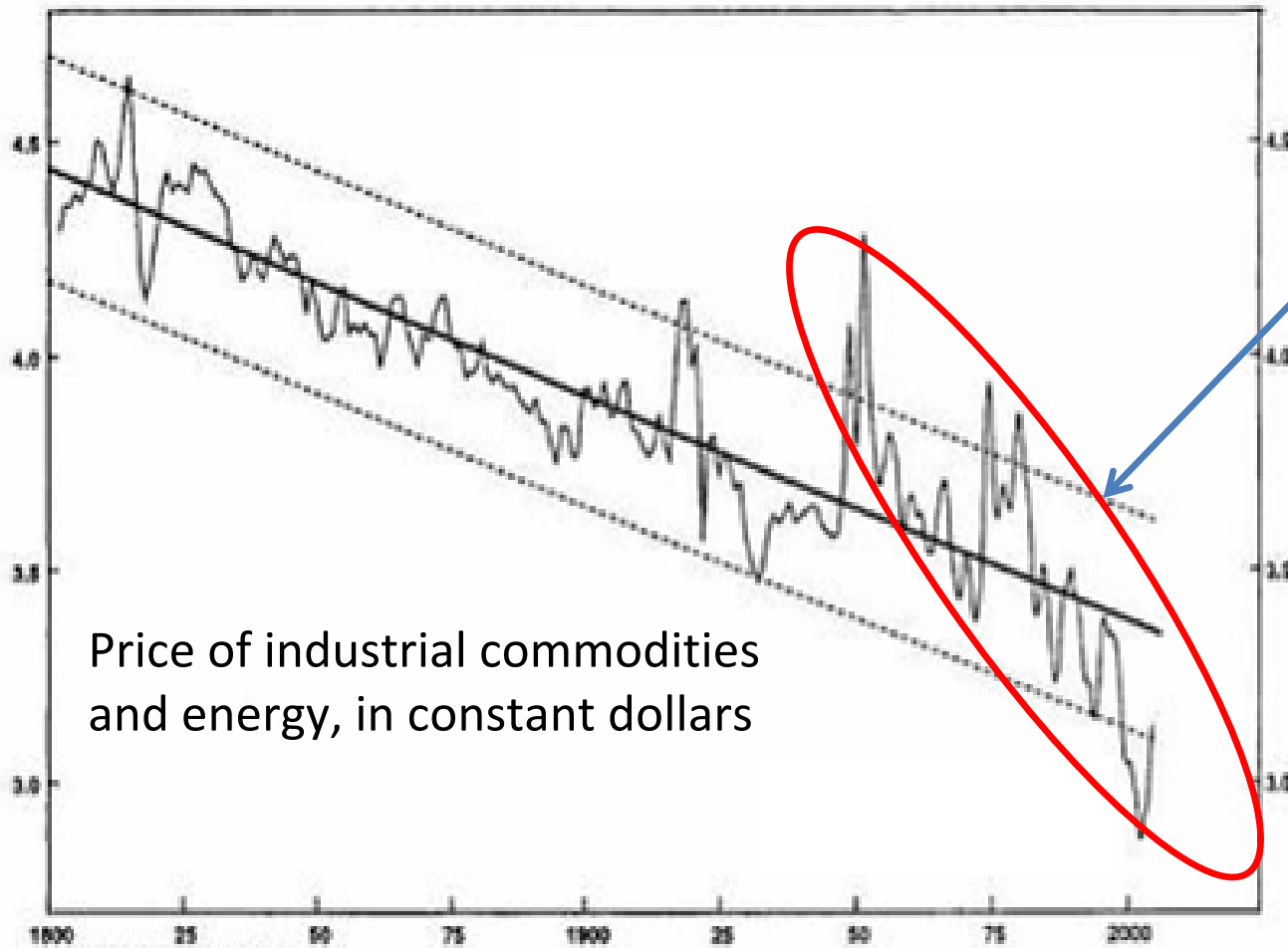


Increasing energy use per ton of copper



Increasing GHG emissions

# Price of Natural Resources, 1800-2004



Price of industrial commodities and energy, in constant dollars

Sharp Decline after World War II

The increasing environmental impacts of resource extraction is **NOT** reflected in resource prices

Source: Ernst Ulrich von Weizsäcker 2009

**Resource productivity will not improve significantly as long as resources are cheap**

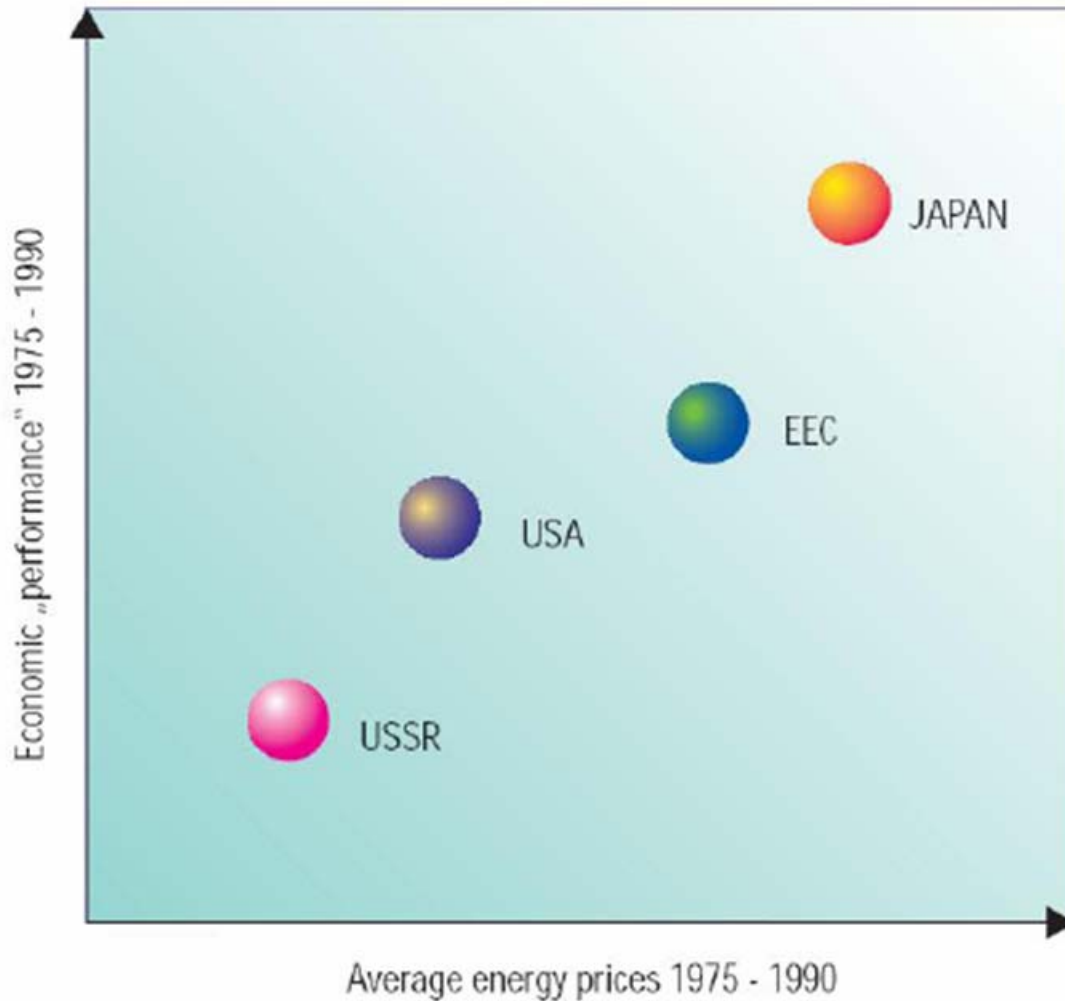
**Proper resource pricing is one of the keys to strategic promotion of the 3Rs**

**Therefore, we need to:**

- Remove subsidies to fossil energy and other resources
  - Extraction of natural resources is one of the most heavily subsidised sectors world-wide (EEA 2005)
- Internalise environmental impacts over the whole life-cycles



# Cheap Resources are NOT Good for Development



High resource prices are **not** in conflict with development and competitiveness

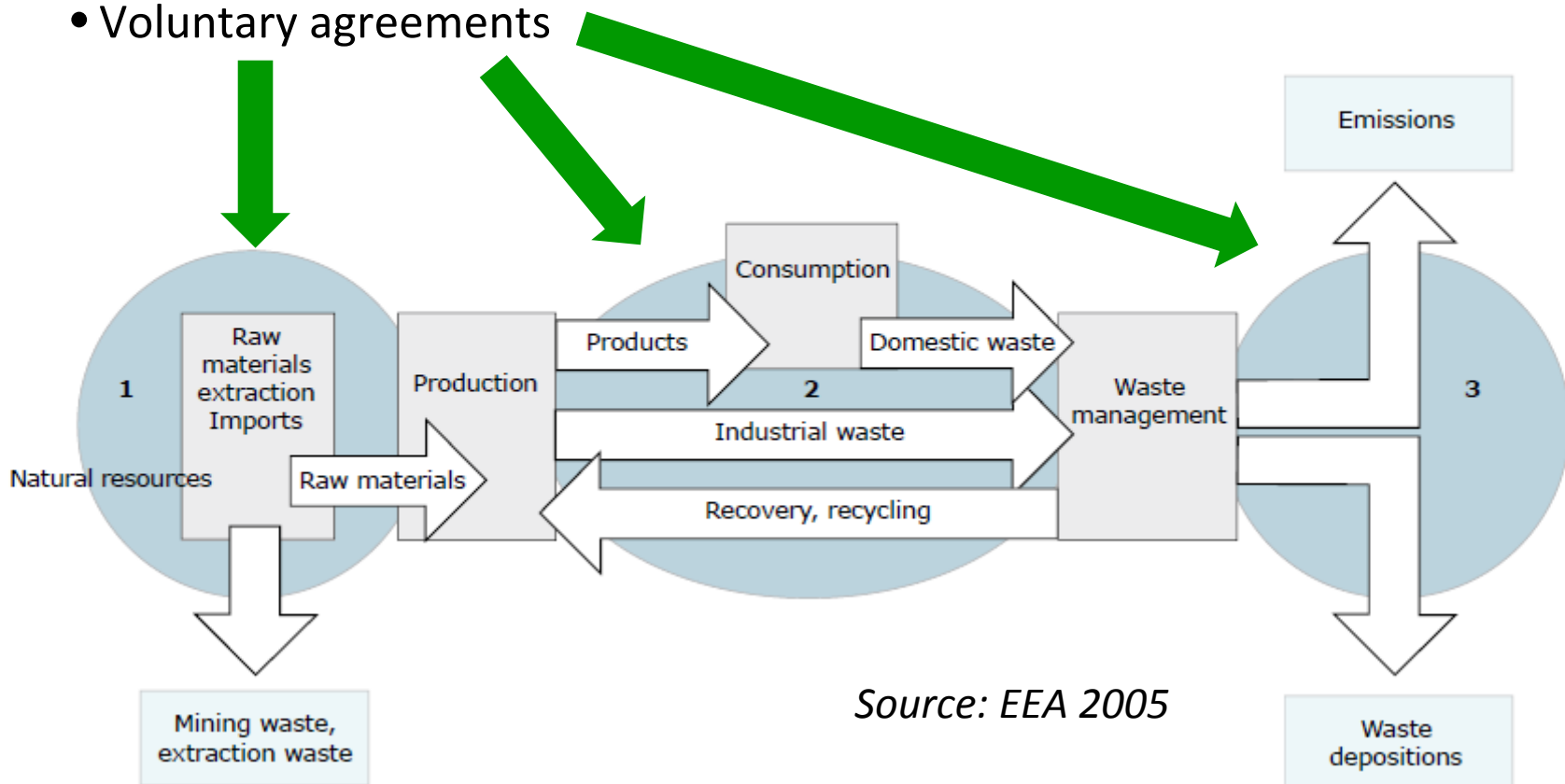


Source: Ernst Ulrich von Weizsäcker 2009

# Policy Intervention Points for Sustainable Resource Management

## Policy Tools

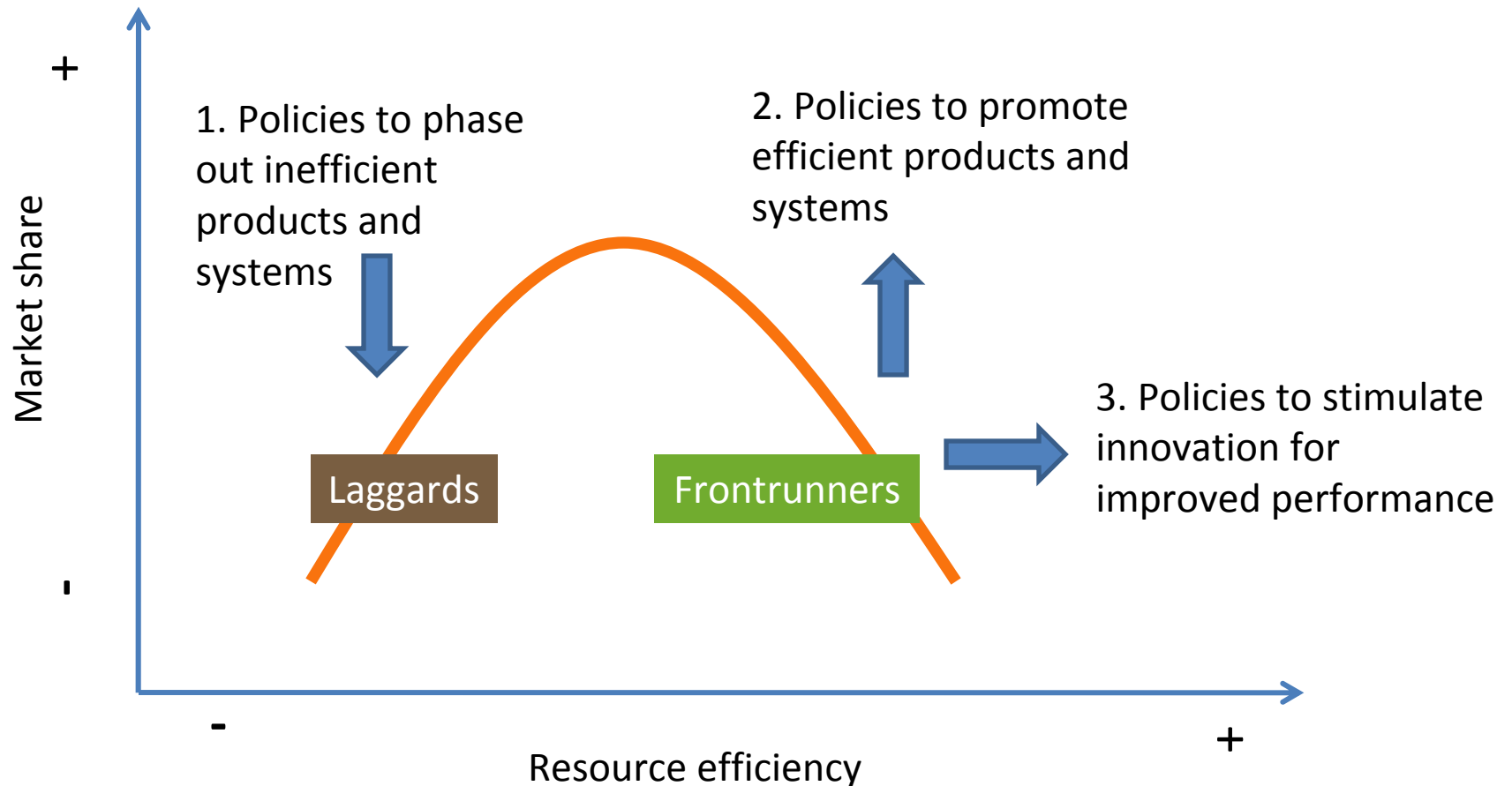
- Regulations
- Economic tools
- Information-based tools
- Voluntary agreements



Source: EEA 2005

# Policy packages to generate both push and pull

— Products or systems currently on the market or in use



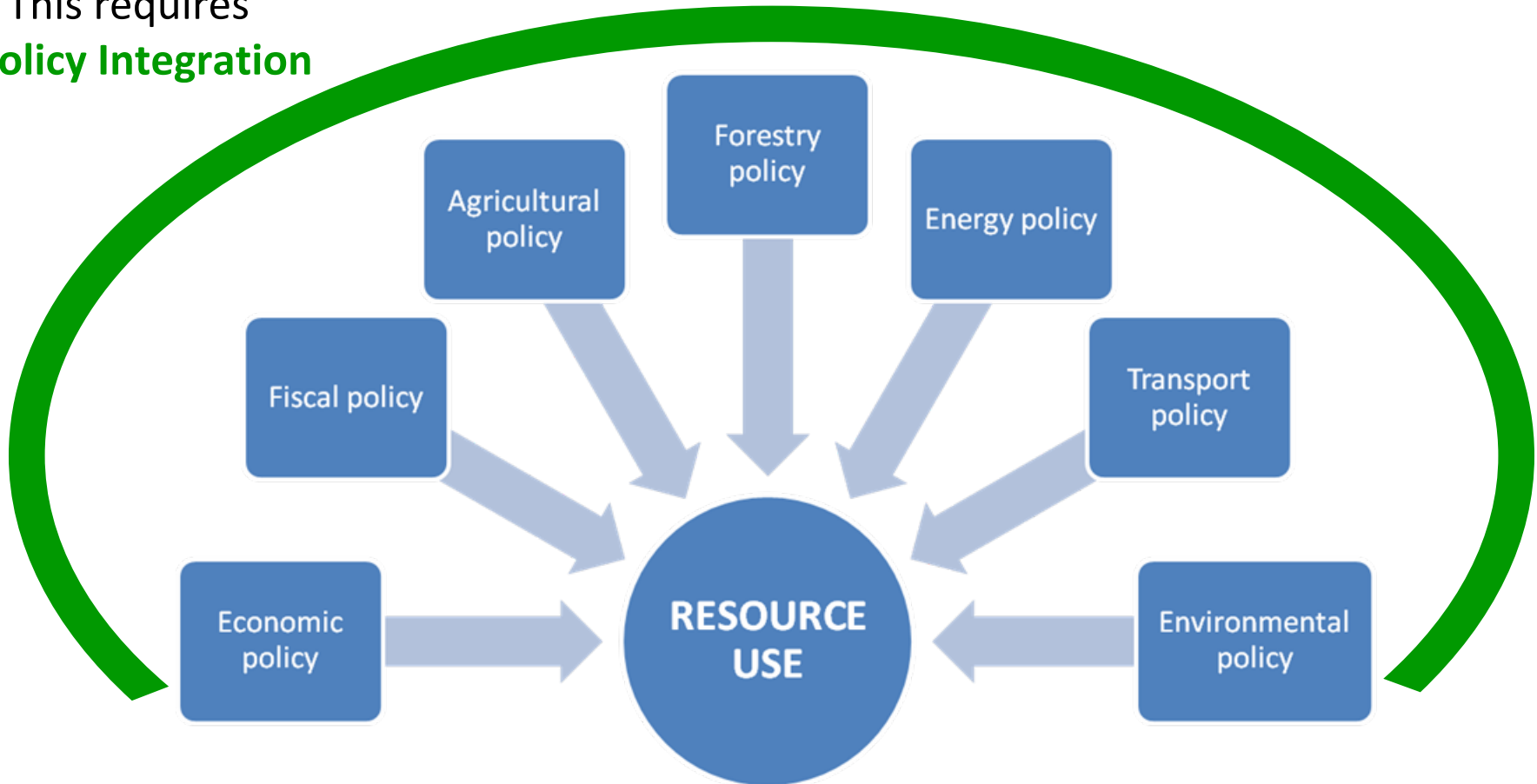
## Comprehensive Policy Frameworks needed

- Targeting resource flows at all life-cycle stages
- Combining different kinds of policy tools
- This requires

### Policy Integration

## Achieving Policy Integration

- Support from the highest political level
- Cross-ministerial strategy development and planning



# Expectations on the Regional 3R Forum

- ◆ Focus on how Sustainable Resource Management can be achieved through the 3Rs, not on Waste Collection and Disposal
- ◆ Practical orientation and an emphasis on implementation
- ◆ A long-term perspective, taking inter-generational justice seriously
- ◆ Life-cycle thinking, looking at resources from a cradle-to-cradle perspective
- ◆ Integrated approaches involving all relevant ministries and stakeholder groups
- ◆ Open and frank sharing of experiences, both success stories and difficulties

# THANK YOU FOR YOUR KIND ATTENTION

More details on the 3R-related work of IGES can be found at:

[www.iges.or.jp/en/wmr](http://www.iges.or.jp/en/wmr)

Please feel free to contact me at:

[bengtsson@iges.or.jp](mailto:bengtsson@iges.or.jp)

