# Trends in Resource Consumption in the Asia Pacific:

## Introducing the REEO Report

Magnus Bengtsson, IGES
Heinz Schandl, CSIRO
James West, CSIRO

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# Outline

1. The REEO Study
2. Selected Findings for Asia and the Pacific
3. Selected Findings for Indonesia

# PART 1
## The REEO Study

# Resource Efficiency: Economics and Outlook for Asia and the Pacific (REEO)

- A UNEP initiative
- Conducted by CSIRO (Australia) in collaboration with Chinese Academy of Sciences, TERI (India) and IGES (Japan)
- Scope:
  - The history, current condition and future of natural resource use in Asia and the Pacific
  - Materials and waste
  - Energy and emissions
  - Water and Land
  - Resource Efficiency
  - Modeling future resource use scenarios
  - Policies to guide sustainable use of natural resources in Asia and the Pacific countries and the region

# One of the Outcomes: A Unique Database

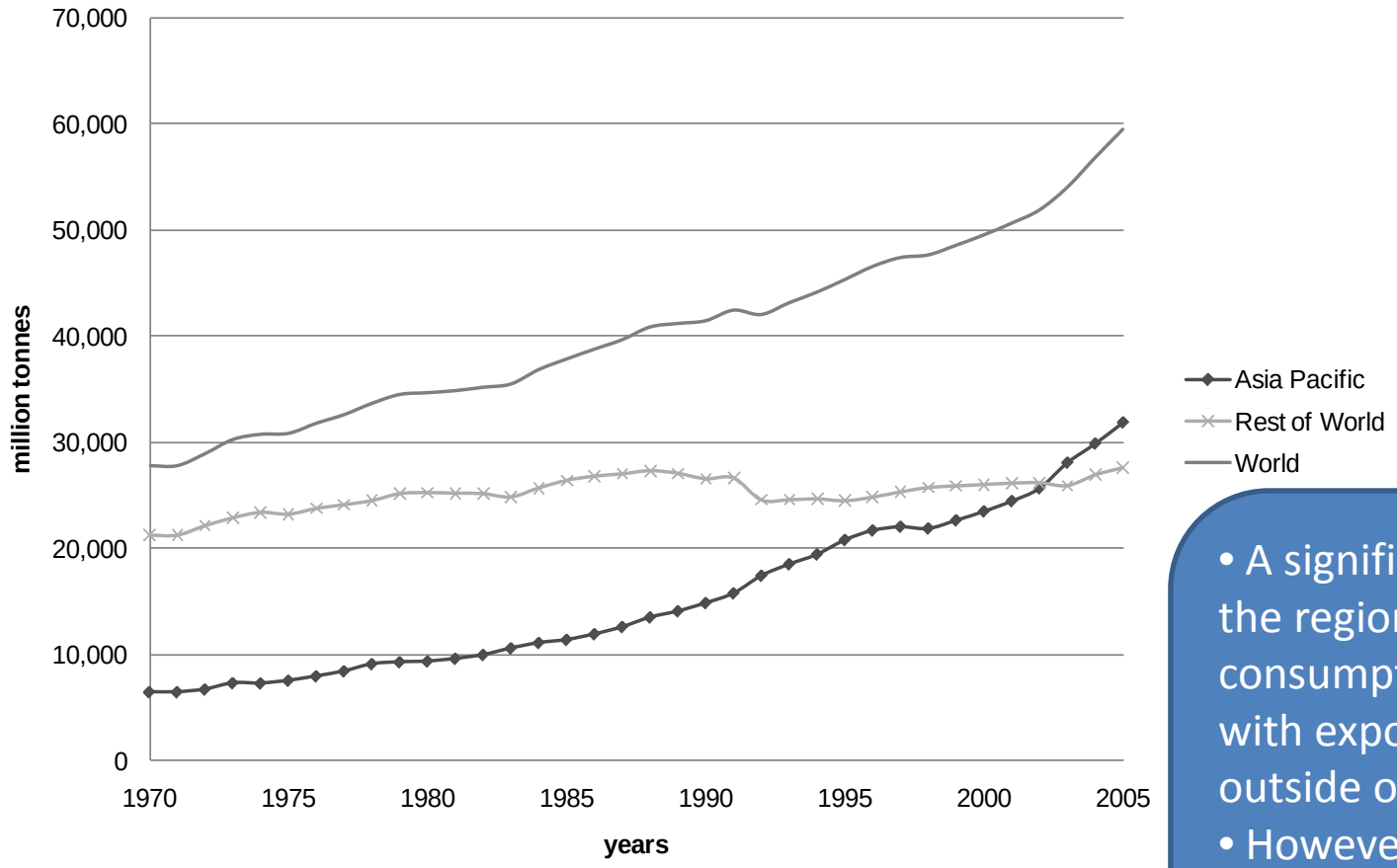
- Comprehensive data on material flows for 1970 – 2005
- Most Asian and Pacific countries covered
- Data presented for biomass, fossil fuels, metal ores and industrial minerals, and construction minerals
- The data covers domestic extraction, physical trade balance (imports minus exports, measured in tonnes), and domestic material consumption
- The dataset was endorsed by ADB, UNESCAP and UNEP
- Sources and methodologies as well as the full dataset are available at

**www.csiro.au/AsiaPacificMaterialFlows**

# PART 2

# Selected Findings for Asia and the Pacific

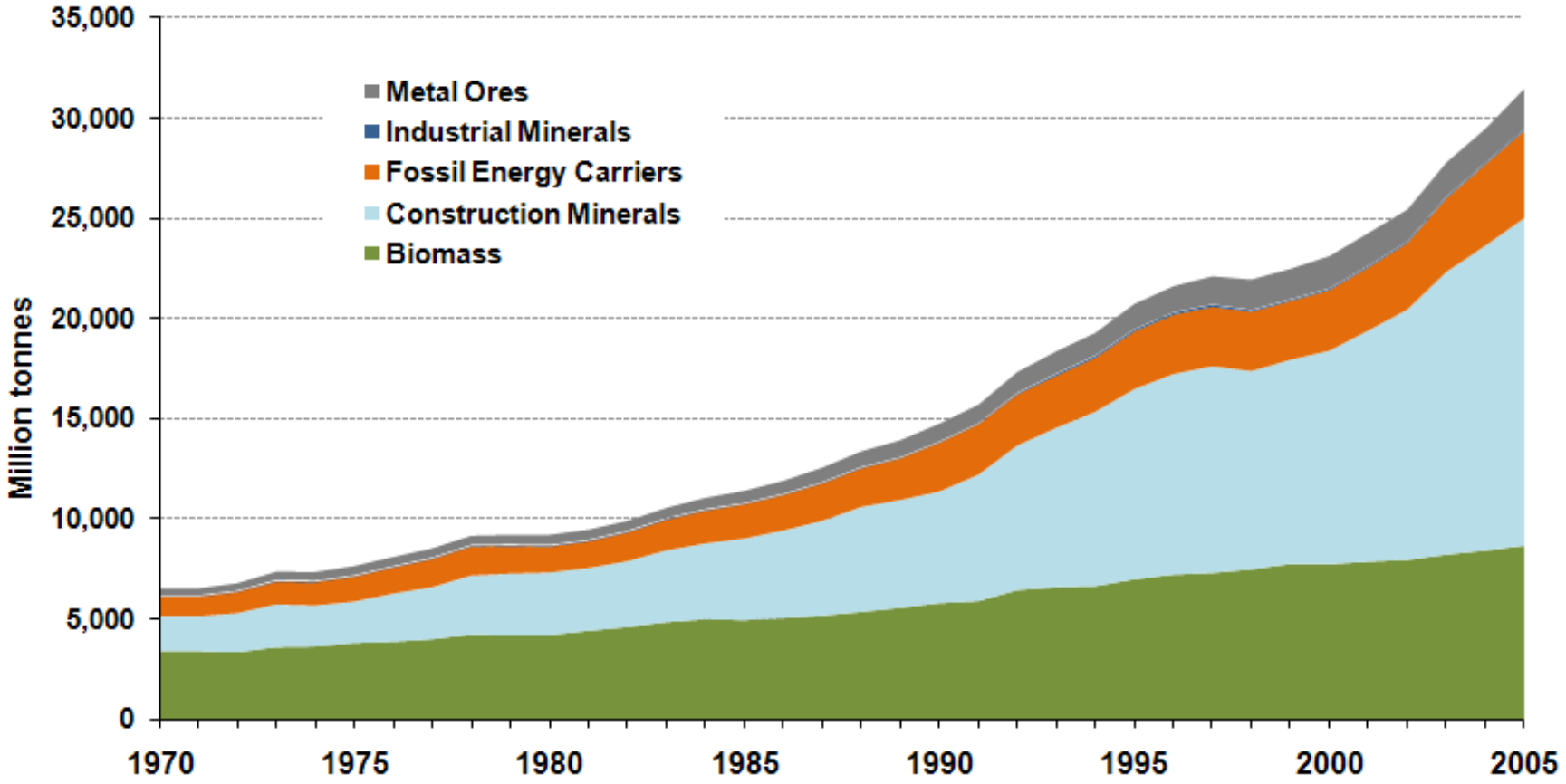
# At the beginning of the 21st century Asia-Pacific become the world's largest resource user




Domestic Material Consumption (DMC) in Asia-Pacific, the world and the rest of the world, 1970 -2005, million tonnes

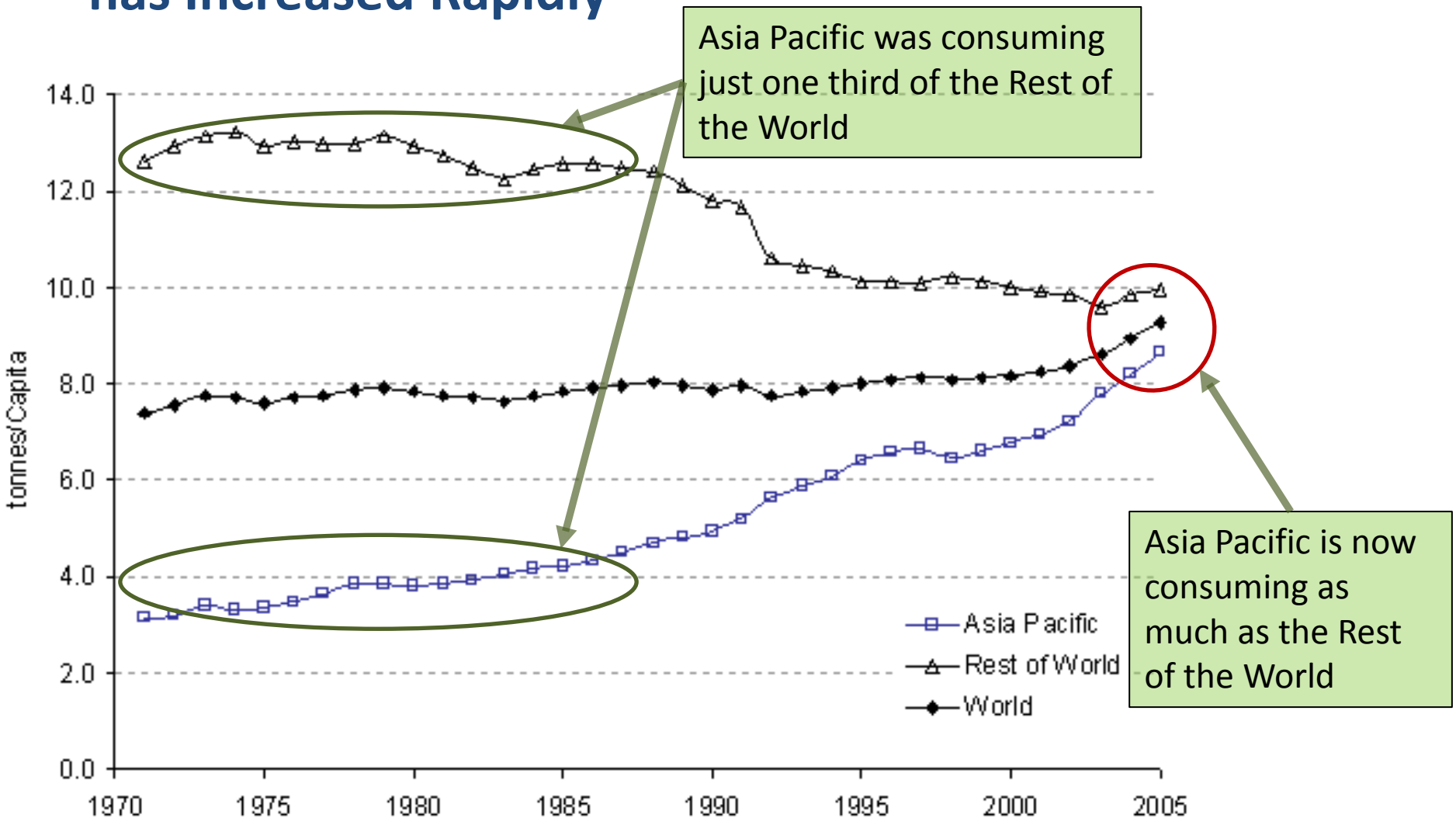
- A significant share of the region's resource consumption is related with export to countries outside of the region
- However, most of the resources are used for end-consumption in the region

# A doubling of the use of biomass – a six time increase in the use of non-renewable resources



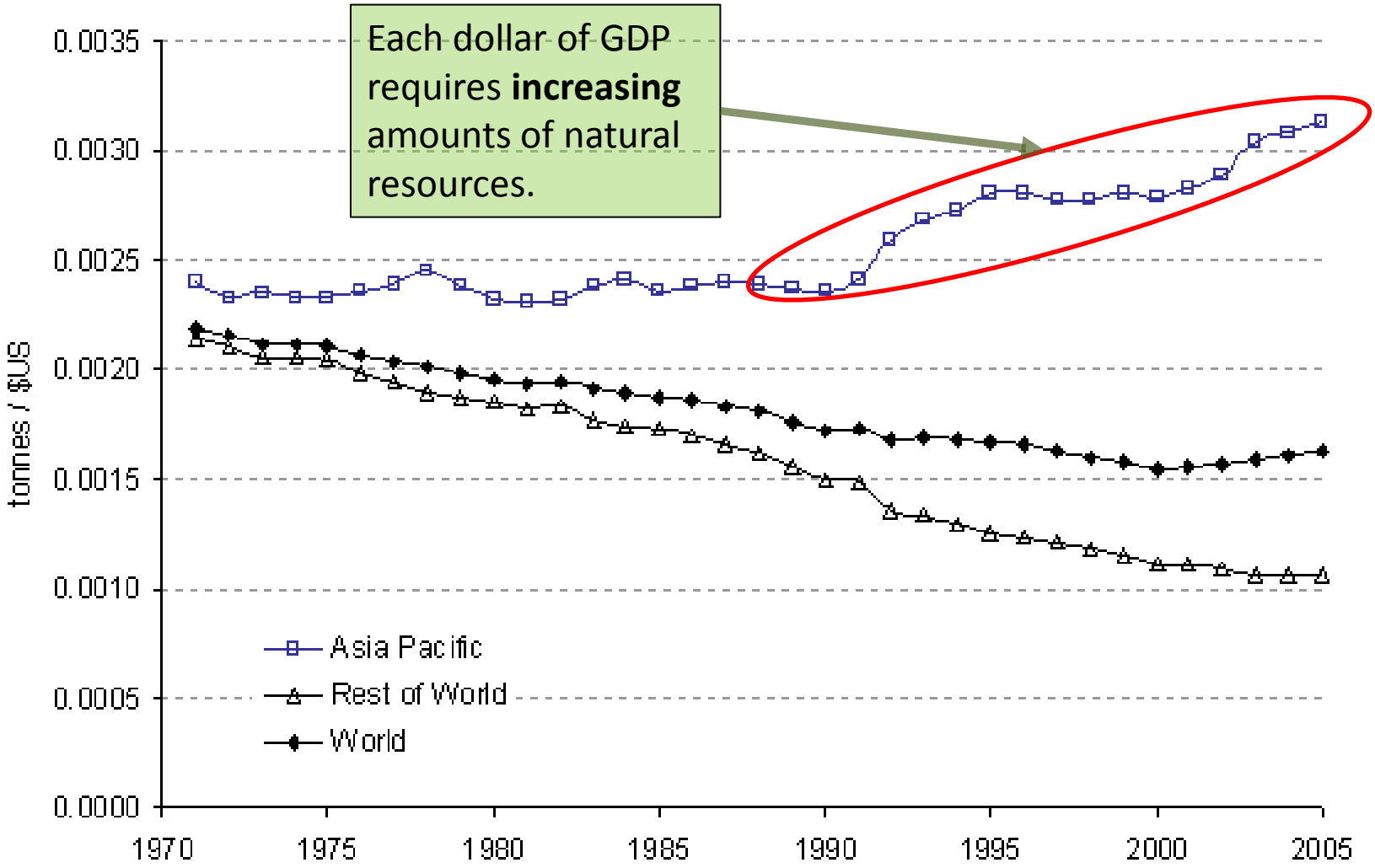

Domestic Material Consumption (DMC) in Asia-Pacific, 1970 -2005, million tonnes

# Per Capita Resource Consumption in Asia Pacific has Increased Rapidly



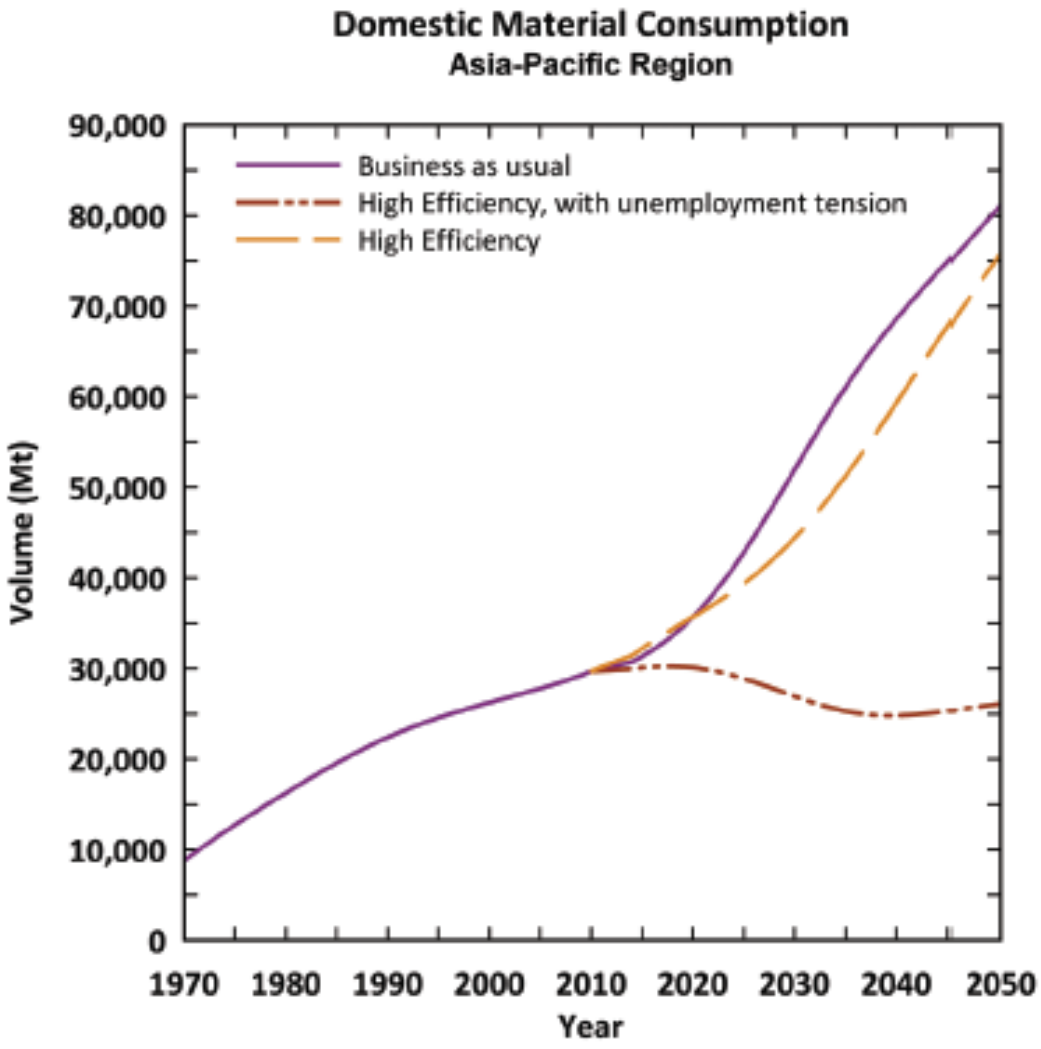

Per Capita Resource Use for the Asia-Pacific, Rest of World and World, for the years 1971 – 2005.
(Total Domestic Material Consumption)

# No Sign of Decoupling in the Region




Material Intensity for the Asia-Pacific, Rest of World and World, for the years 1971 – 2005.
(Materials are Total Domestic Material Consumption, dollars are constant year 2000 $US, exchange rate based)

# Possible Future Scenarios

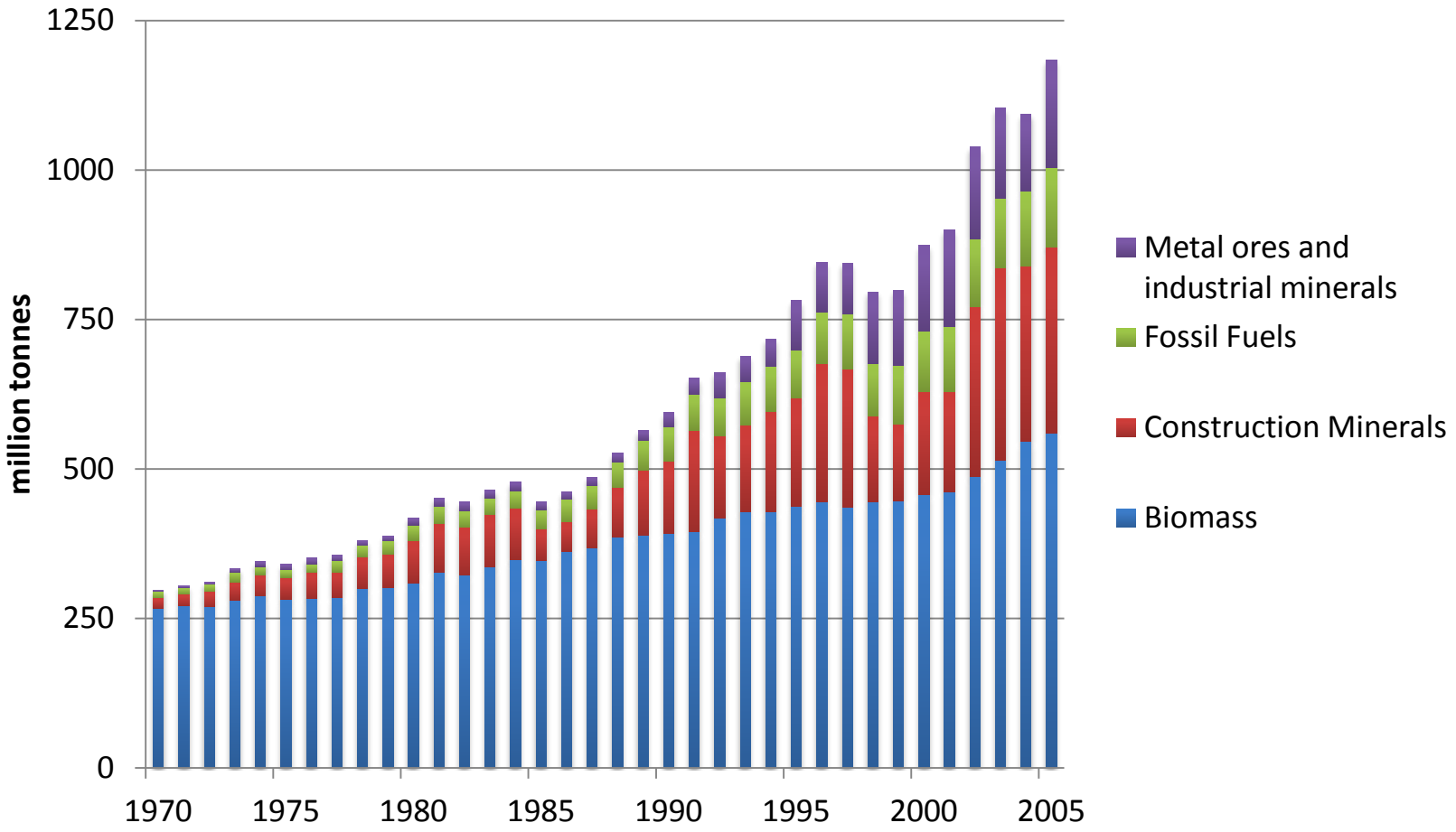



**The REEO scenario modeling suggests that:**

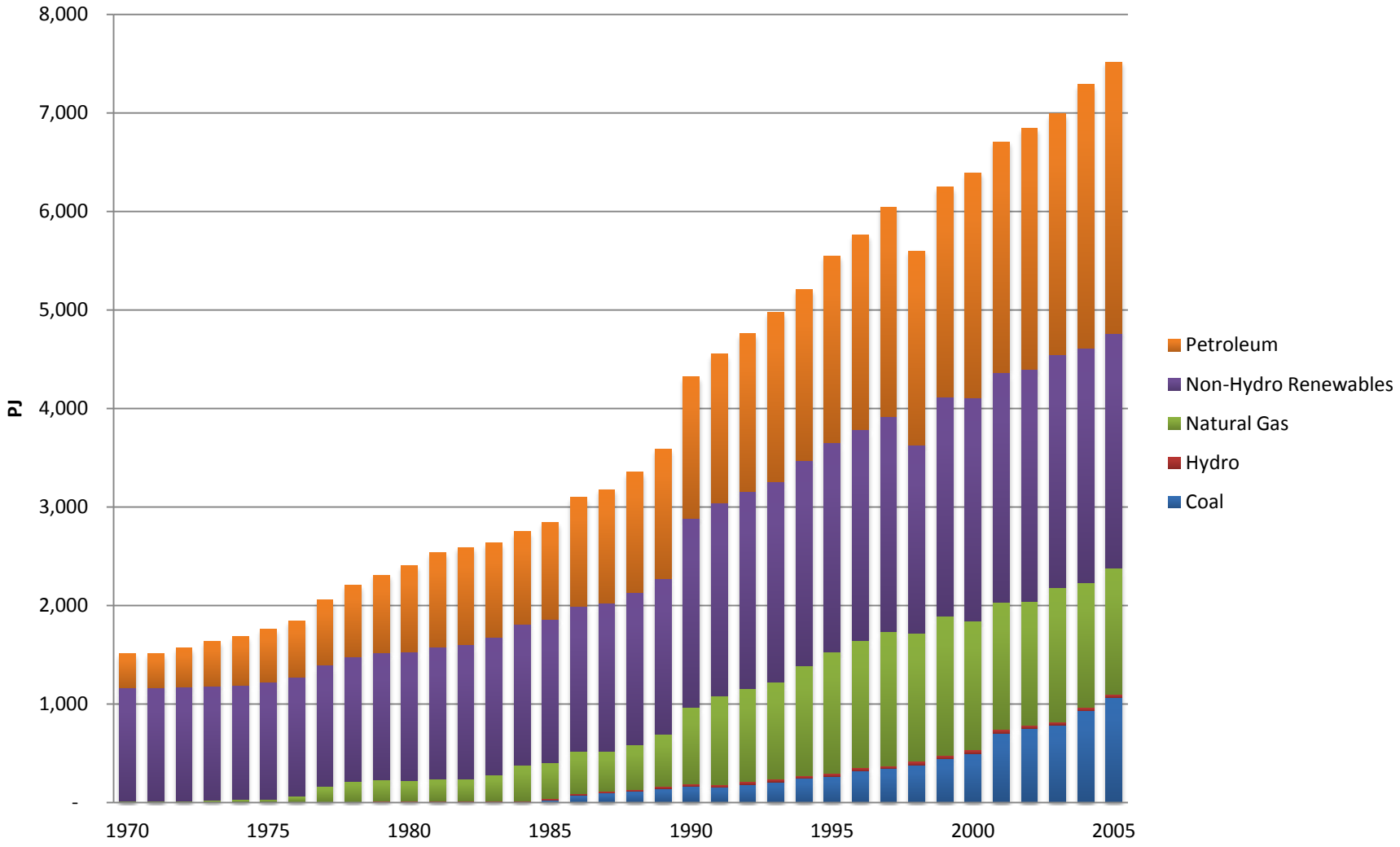
- Resource consumption would triple until 2050 under a business-as-usual scenario
- Even with efficiency improvements of 50% in key economic sectors, resource consumption would still increase drastically
- Large changes in how we live, eat, work and move around are needed

# PART 3
# Selected Findings for Indonesia

# Domestic Material Consumption (DMC) for Indonesia, 1970 – 2005, million tonnes



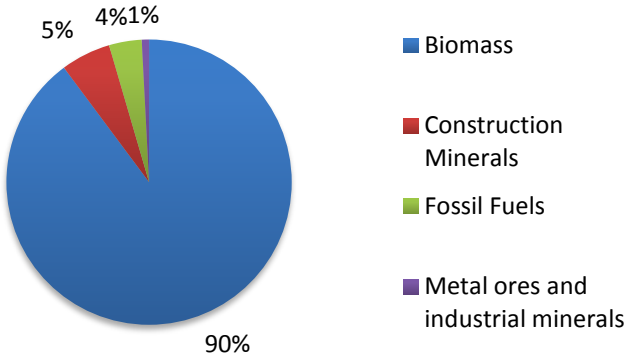
# Total Primary Energy Supply (TPES) for Indonesia, 1970 – 2005, Peta Joule



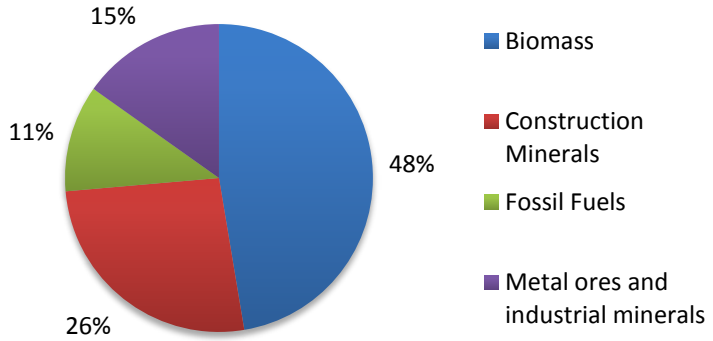
# Transitioning from an agricultural to an industrial society – from biomass and renewable energy to fossil fuels and construction minerals

## Domestic Material Consumption (DMC)

### 1970

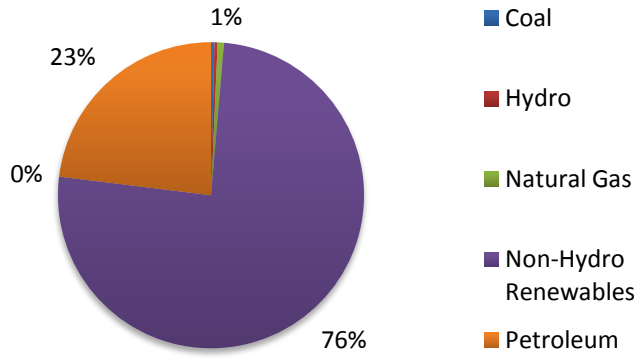



### 2005

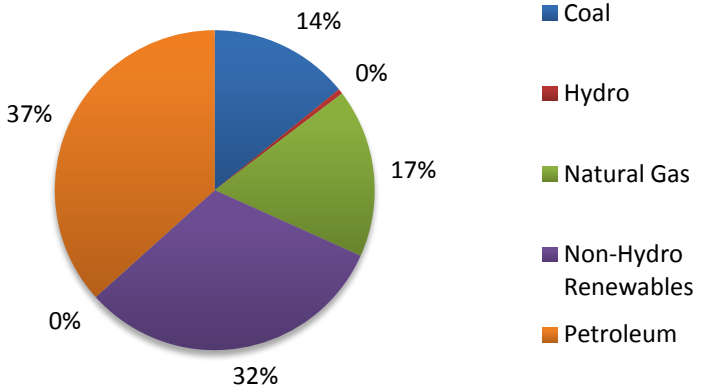



## Total Primary Energy Supply (TPES)

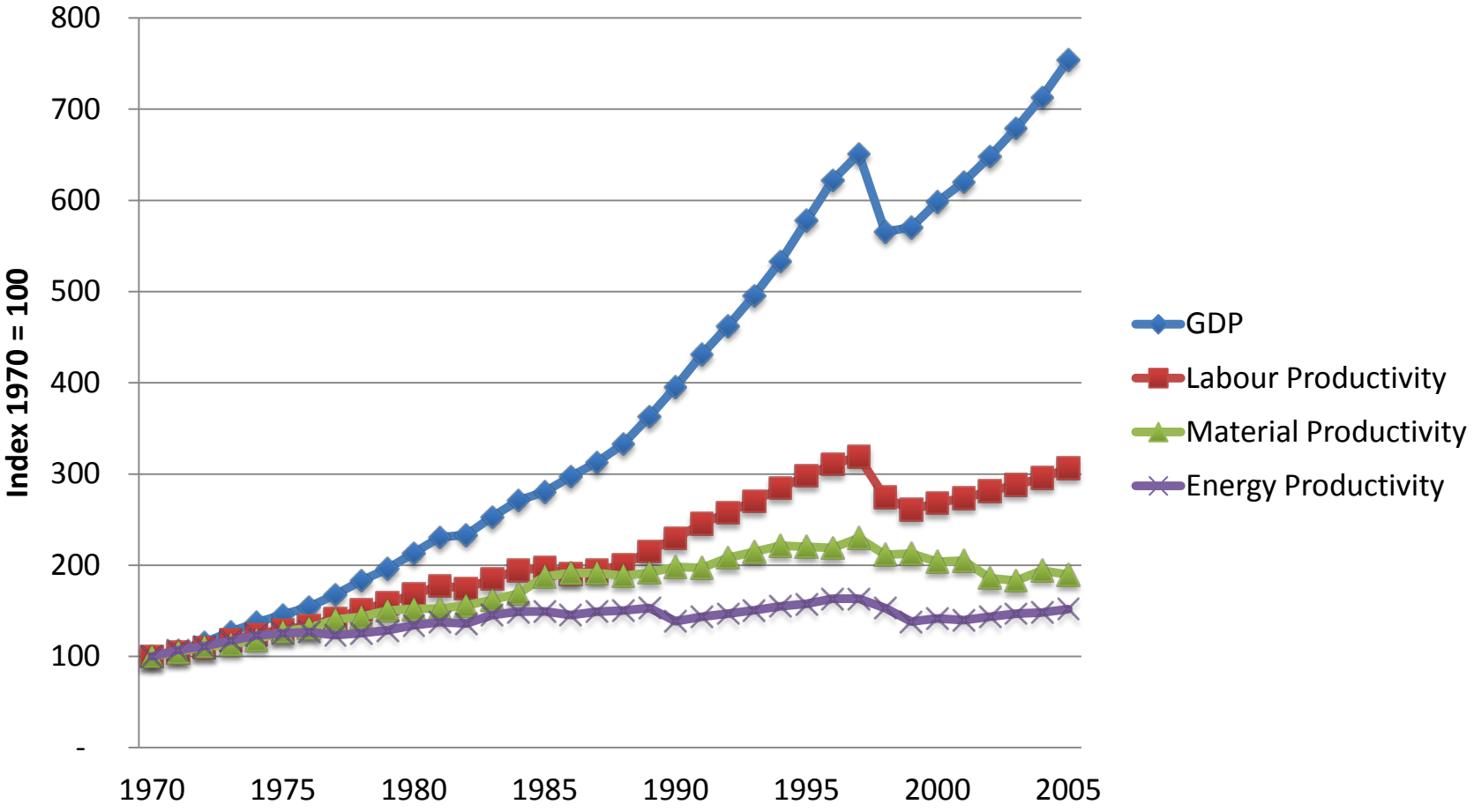
### 1970




### 2005

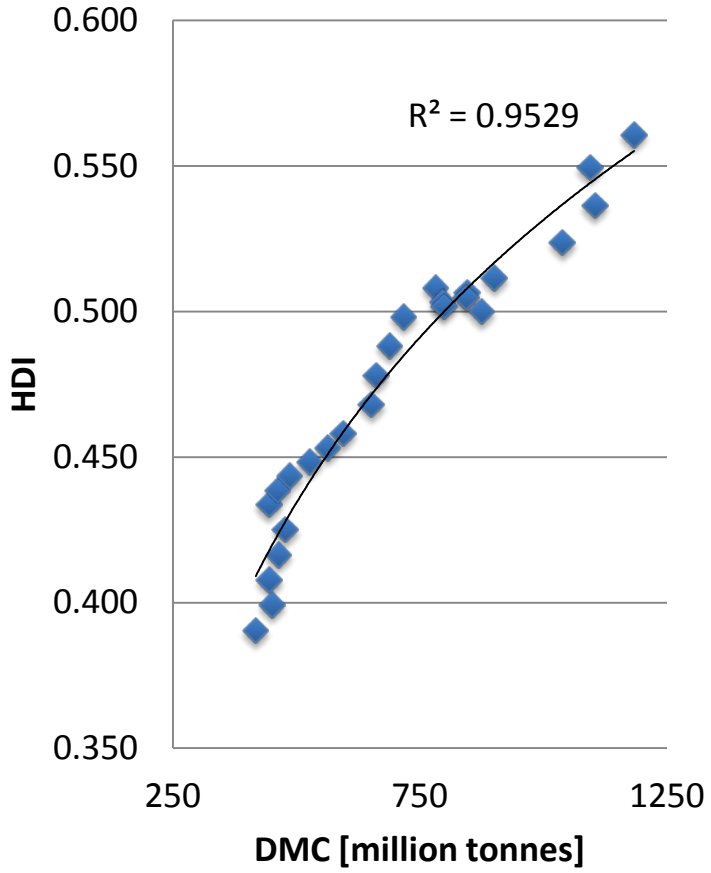


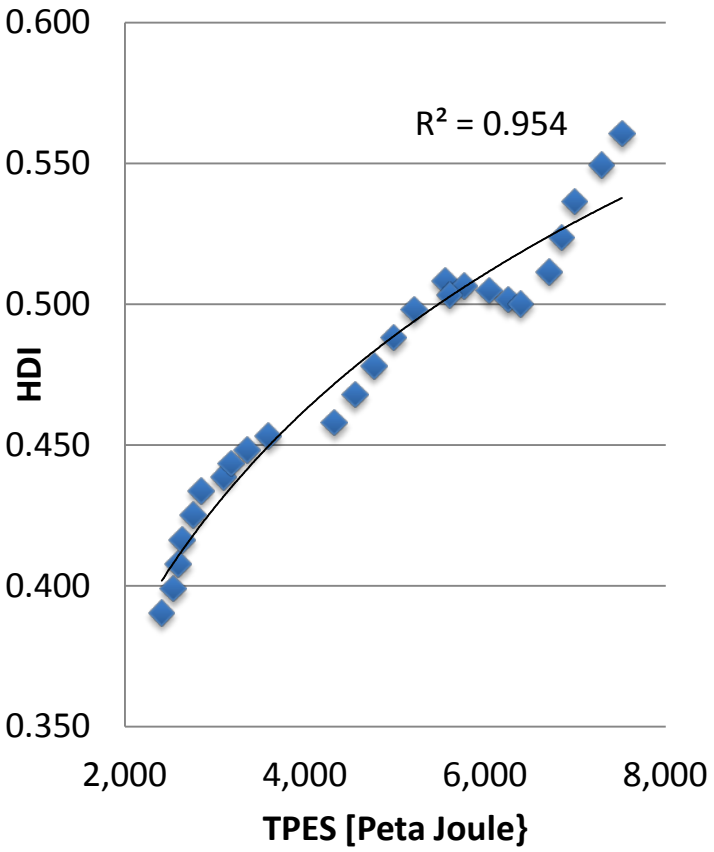
# Evolution of GDP and factor productivities for Indonesia, 1970 – 2005, indexed




Labour Productivity has improved but Material and Energy Productivity are lagging behind

# Material and Energy Cost of Human Development in Indonesia, 1980 - 2005




Human development requires increasing amounts of resources and energy. **Education and literacy** improvements require few resources., increases in **life expectancy** more resources, increases in **GDP/capita** requires large resource inputs

# Summing up

- The region is rapidly transforming from agricultural to industrial, with **soaring resource use**
- Stabilised resource use and reduced environmental damage require **drastic changes** in the way society produces and consumes – the lifestyles and globalised production patterns of **industrialised countries are not viable models** to follow
- The needs for **food, housing, water, energy and transportation** have to be met in much smarter ways than now.
- Such changes require **structural changes**
  - Values and mindsets
  - Business models
  - Balance between paid work and leisure time
  - Political priorities and ways of delivering human wellbeing, for example less emphasis on GDP
  - Stronger and more integrated policies addressing whole value chains from a life-cycle perspective.

# Thank you for your attention
# Terima kasih

**Magnus Bengtsson, bengtsson@iges.or.jp**