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Economy and Resource Efficiency in the Asia-Pacific Region

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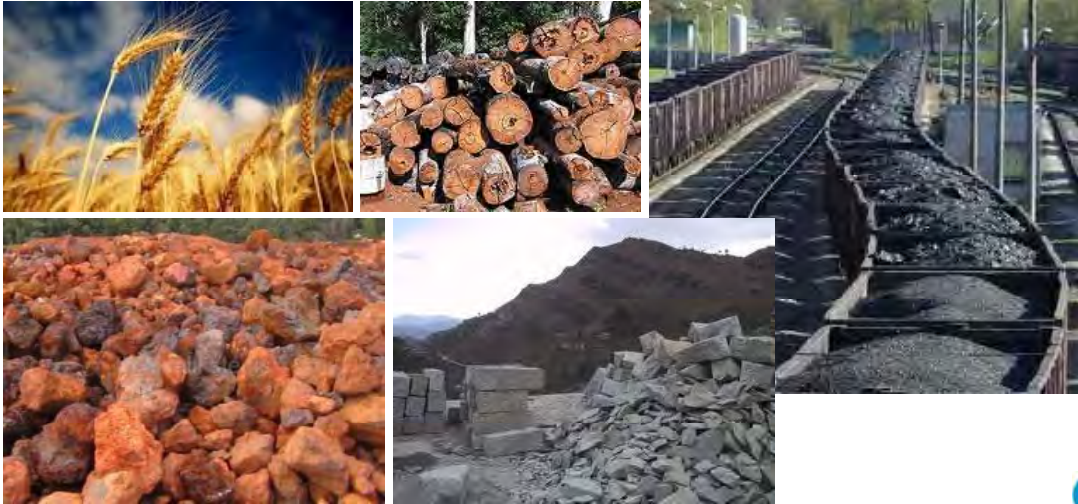


Regional characteristics of Asia-Pacific

- Most populous world region
- Economically very dynamic over the last three decades
- Came at a cost – environment, resources, waste and emissions, climate change
- Great inequalities in income and standard of living
- Twin objectives - raising standards of living (alleviate poverty) and environmental integrity

Important questions for Asia and the Pacific

- Are there enough resources at affordable prices to underpin economic development and prosperity?
- Can economic development be harmonised with environmental goals



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Transition from agrarian to industrial societies

- Sustainability of the region needs to address the industrial transformation since the 1950s
- From traditional to modern society
- Material, energy, waste and emissions grow 5-fold
- New social metabolism is a condition of modernity

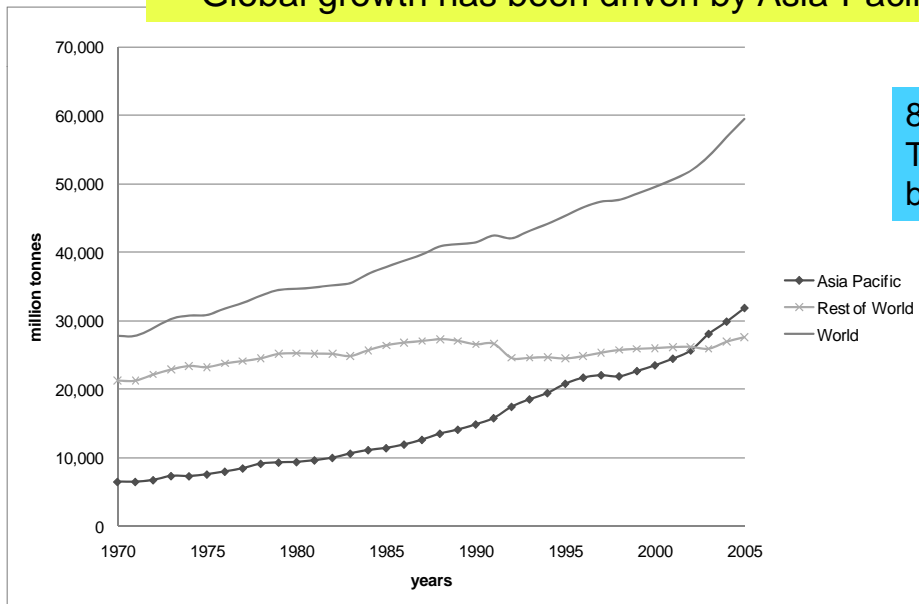


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Asia-Pacific has become the largest user of natural resources globally

- Global material use doubled since 1970
- Asia and the Pacific overtook rest of the world in 2002
- Global growth has been driven by Asia-Pacific

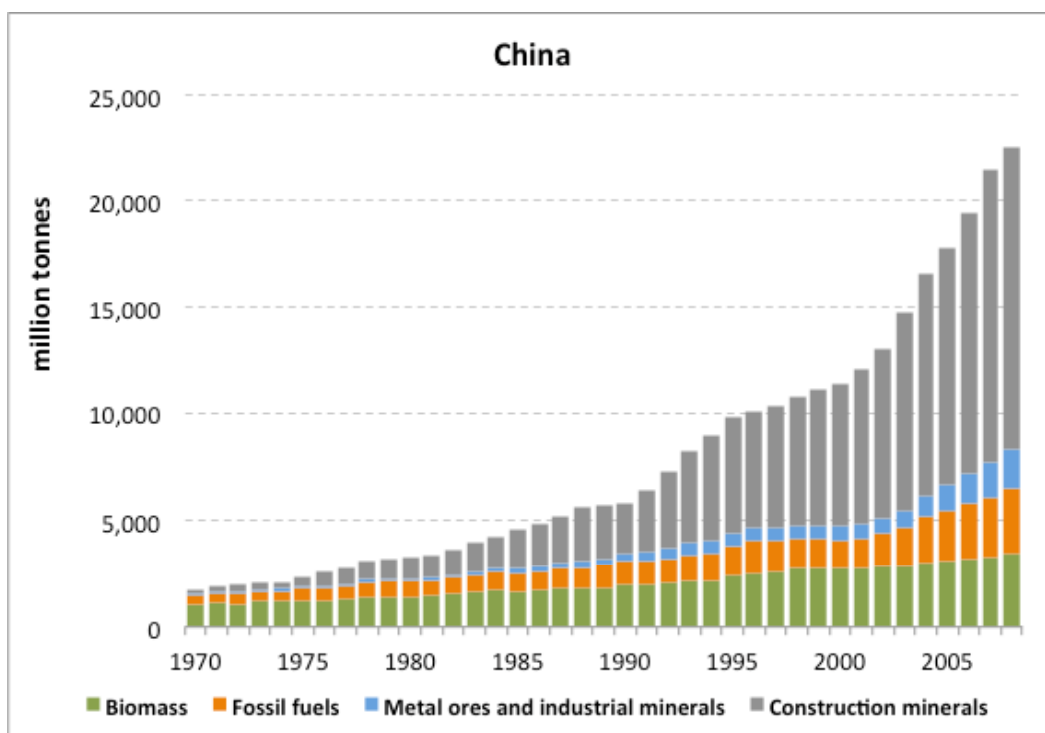


80 billion
Tonnes
by 2050?

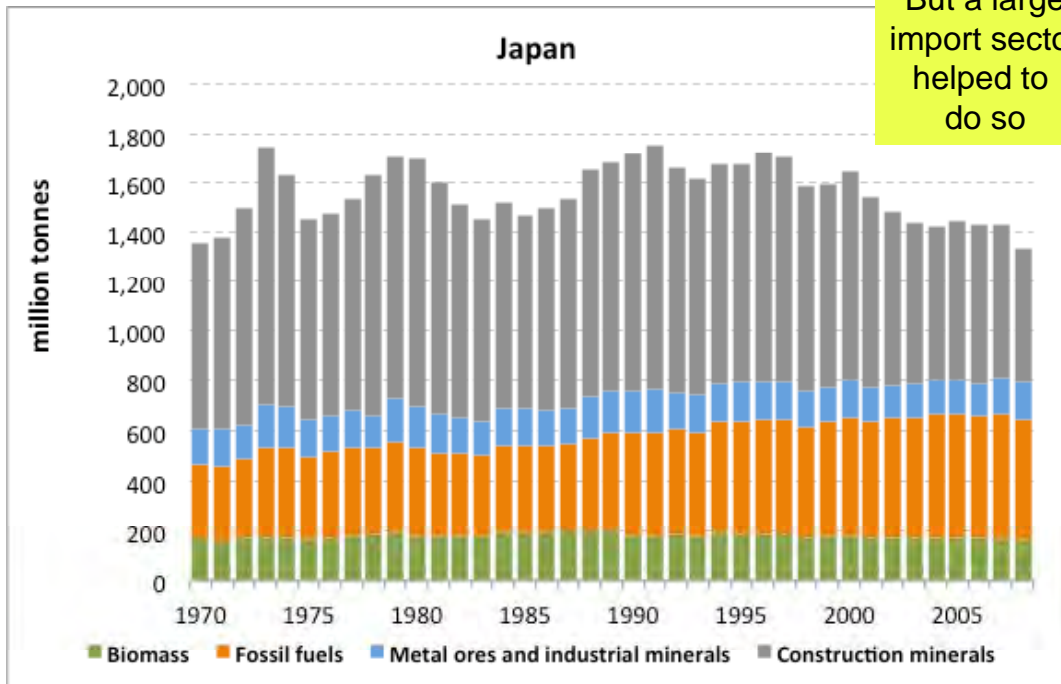
Source: Schandl and West, 2010



China's material use: from 2 to 18 billion tonnes



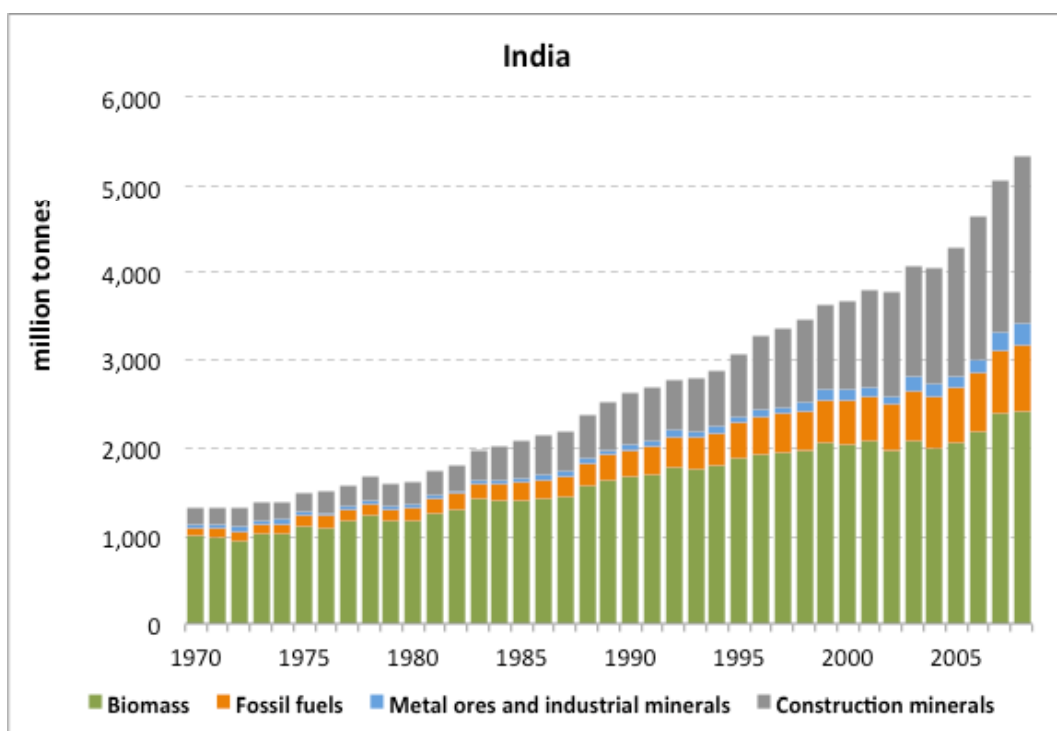
Japan: one of the very few countries globally that has reduced the use of natural resources



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India: Another growing giant

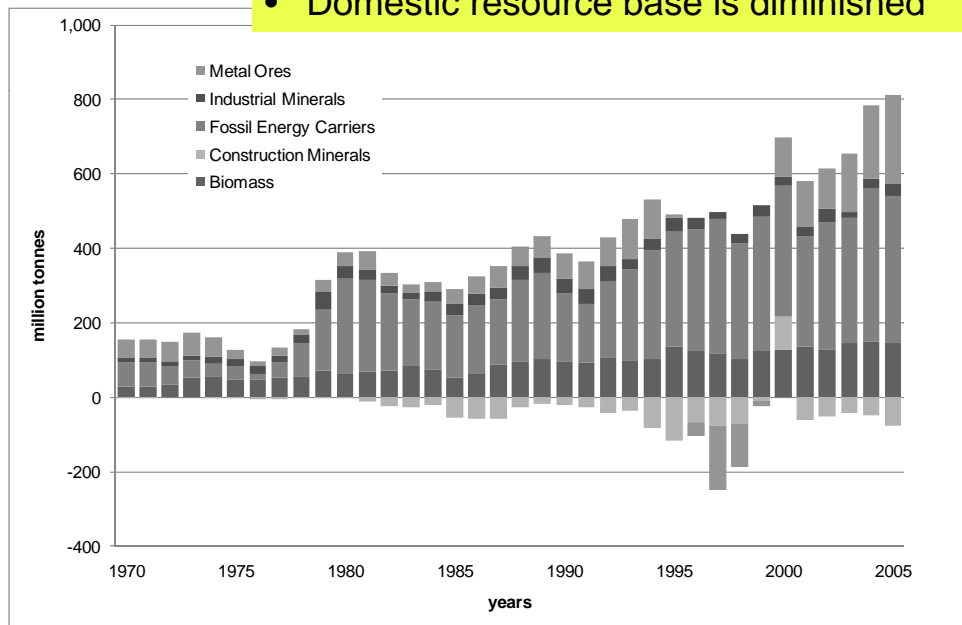


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A net importer of resources

- Many resources are sourced from abroad
- Imports are growing fastest
- Domestic resource base is diminished



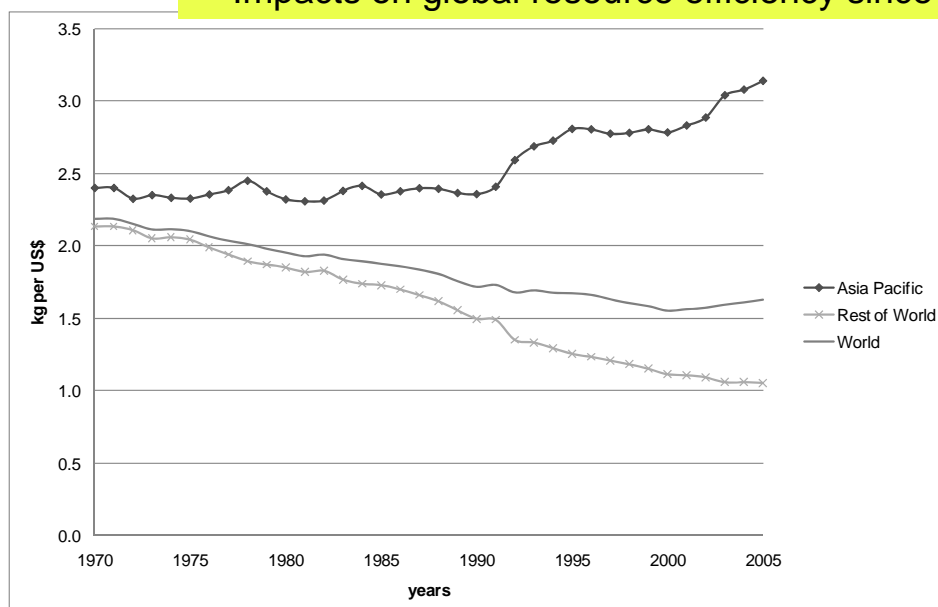
Source: Schandl and West, 2010

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Resource efficiency is decreasing

- Asia and the Pacific becomes less efficient
- Impacts on global resource efficiency since about 2000

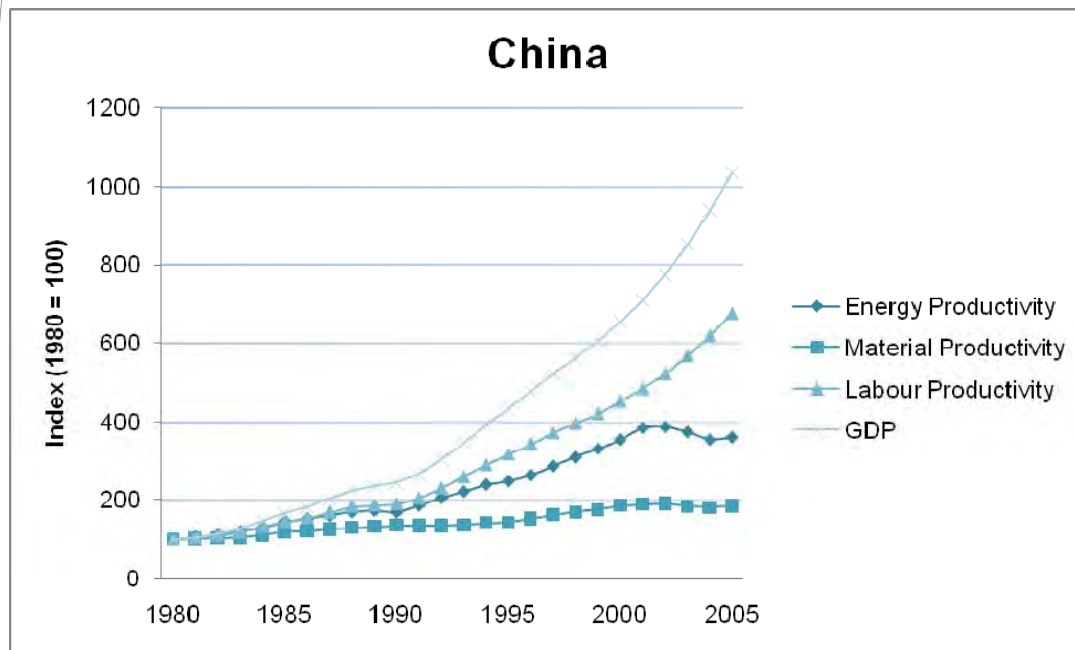


Source: Schandl and West, 2010

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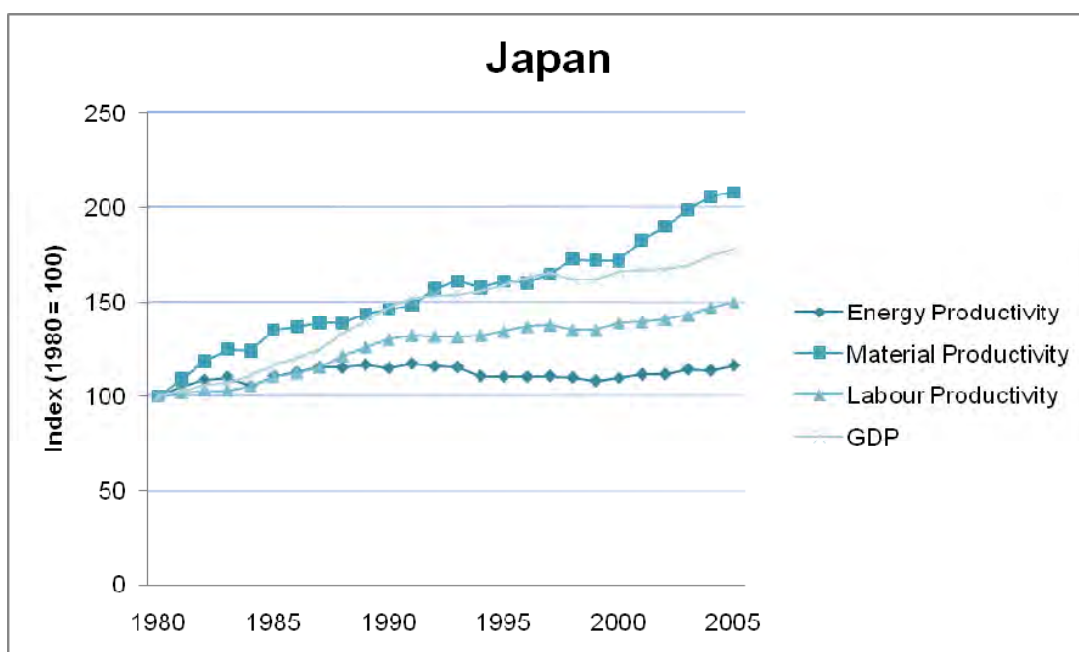
China: labor productivity grew at the cost of resource productivity



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Japan: resource productivity grows faster than GDP



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Consumption has been the main driver

All Asia Pacific	Resource use		Population	Consumption	Technology
	ΔI (%)	ΔI (billion tonnes)	$\log \Delta P$ (%)	$\log \Delta A$ (%)	$\log \Delta T$ (%)
1975-1985	50.1%	3.8	44%	72%	-16%
1985-1995	81.4%	9.4	30%	65%	5%
1995-2005	52.9%	11.1	29%	88%	-18%

North East Asia (inc. China, Japan)	Resource use		Population	Consumption	Technology
	ΔI (%)	ΔI (billion tonnes)	$\log \Delta P$ (%)	$\log \Delta A$ (%)	$\log \Delta T$ (%)
1975-1985	63.2%	2.5	27%	59%	14%
1985-1995	91.4%	6.0	19%	45%	36%
1995-2005	61.1%	7.7	15%	45%	40%

South Asia (inc. India)	Resource use		Population	Consumption	Technology
	ΔI (%)	ΔI (billion tonnes)	$\log \Delta P$ (%)	$\log \Delta A$ (%)	$\log \Delta T$ (%)
1975-1985	40.6%	0.9	67%	33%	-1%
1985-1995	47.0%	1.4	51%	69%	-19%
1995-2005	43.5%	1.9	48%	109%	-56%

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Outlook

Green Economy
Sustainable Consumption
and Production

		Business as usual	Resource Efficiency	Systems Innovation
Materials	2010-30	↑	→	
	2030-50	↑	↗	↘
Energy	2010-30	↑	→	
	2030-50	↑	↗	↘
Emissions	2010-30	↑	→	
	2030-50	↑	↗	↘
Waste	2010-30	↑	→	
	2030-50	↑	↗	↘
GDP	2010-30	↗	↗	?
	2030-50	↗	↗	?
Unemployment	2010-30	→	↗	?
	2030-50	→	→	?

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A compelling case for a Green Economy

- Many countries have become net importers of natural resources and depend on affordable resources from global markets
- Sustainable resource use will be instrumental for the region to ensure socio-economic development in a world in which resources are more constrained and the absorptive capacity of ecosystems is decreasing rapidly
- Many countries have started to institute policies that may guide sustainable resource use, SCP and Green Economy – most notably Japan, China and South Korea

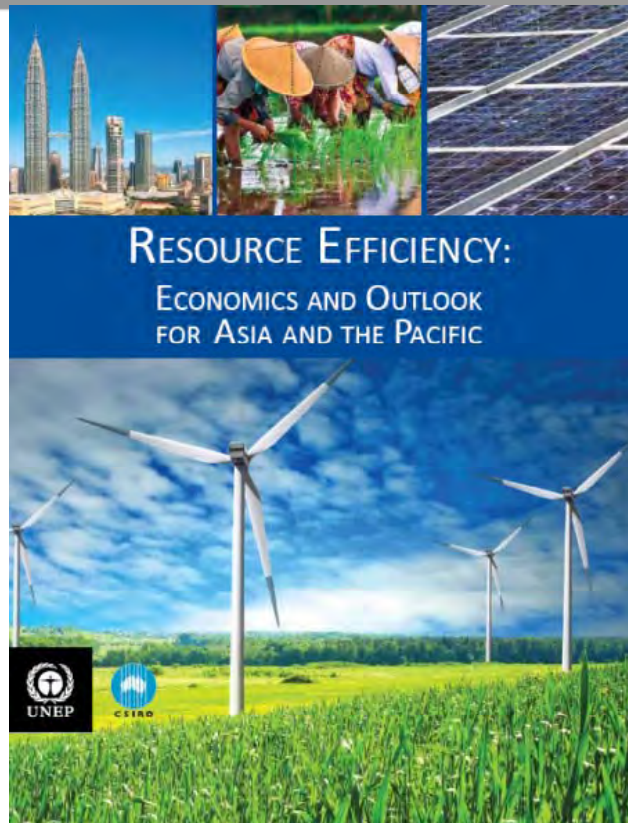


A visible hand may be required

- Business-as-usual would see resource use increase by a factor of three to five
- Resource Efficiency will be necessary but not sufficient
- Challenge for public policy to achieve a sustainability transition enabled by resource efficiency and systems innovation
- This will not occur spontaneously but will require well designed policies
- Environmental data and indicators will help broaden the compass for decision making to enable well-informed policy decisions



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Is this too big a problem?

- A major policy challenge
- Fundamental change needed
- Issues are complex and often contested
- Social structures and institutions well intentioned but ill-prepared for guiding such change
- Is there an alternative?





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Thank you

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