

***“How to Solve Energy Security
Problem in Asia:
Demand-side and Technology-oriented
Approach”***

NEAEF

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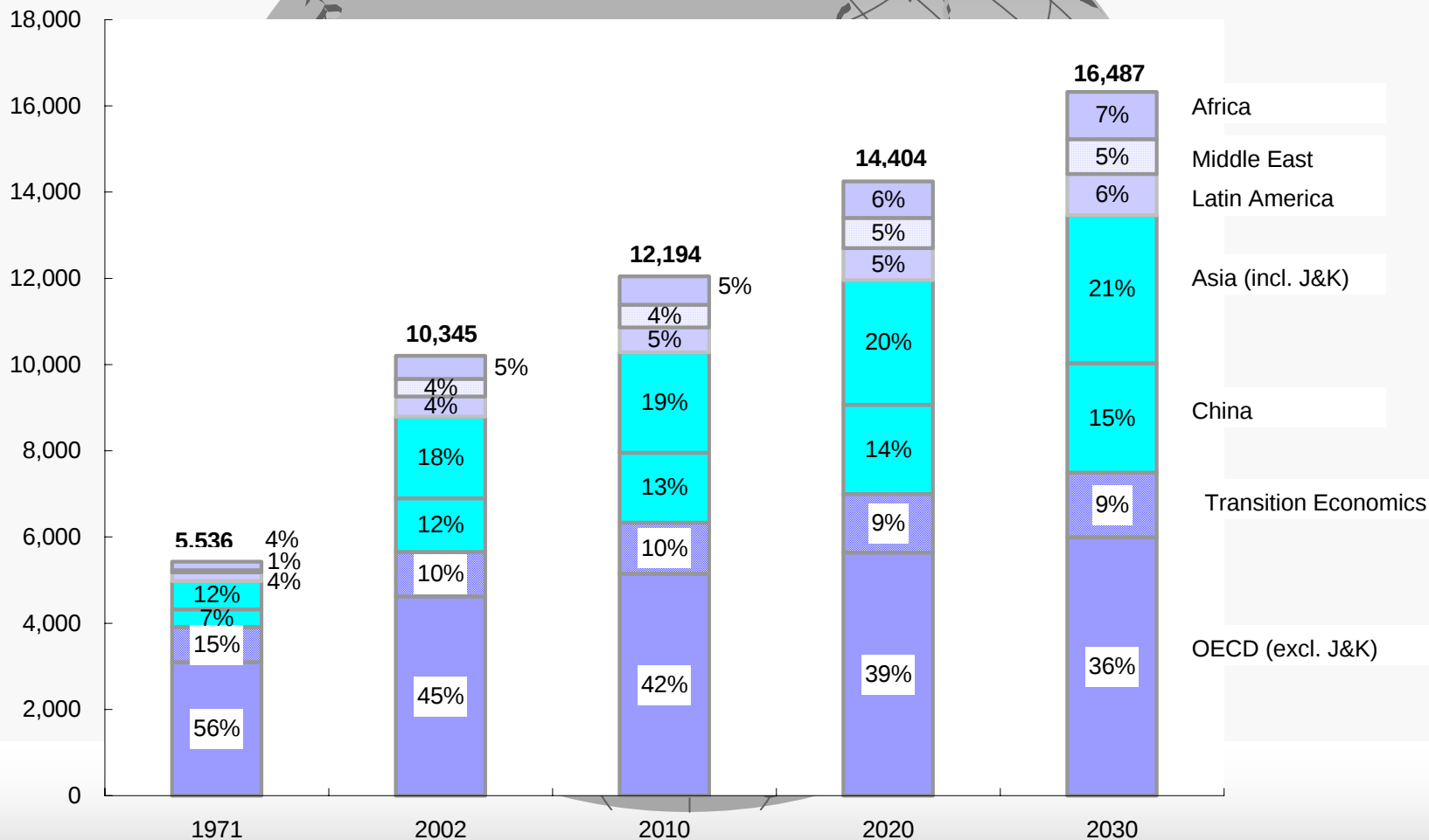
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- 1. Why Demand-side and Technology-oriented approach is relevant**
 - 2. Energy Efficiency Policy Recommendation**
 - 3. Policy Challenge**
 - 4. Japanese Experience of Energy Conservation**

1. Why demand-side and technology-oriented approach is relevant?

Asia is fastest growing economy, biggest demand region in the world.



Source : IEA

Asia is consuming region rather than supply region.

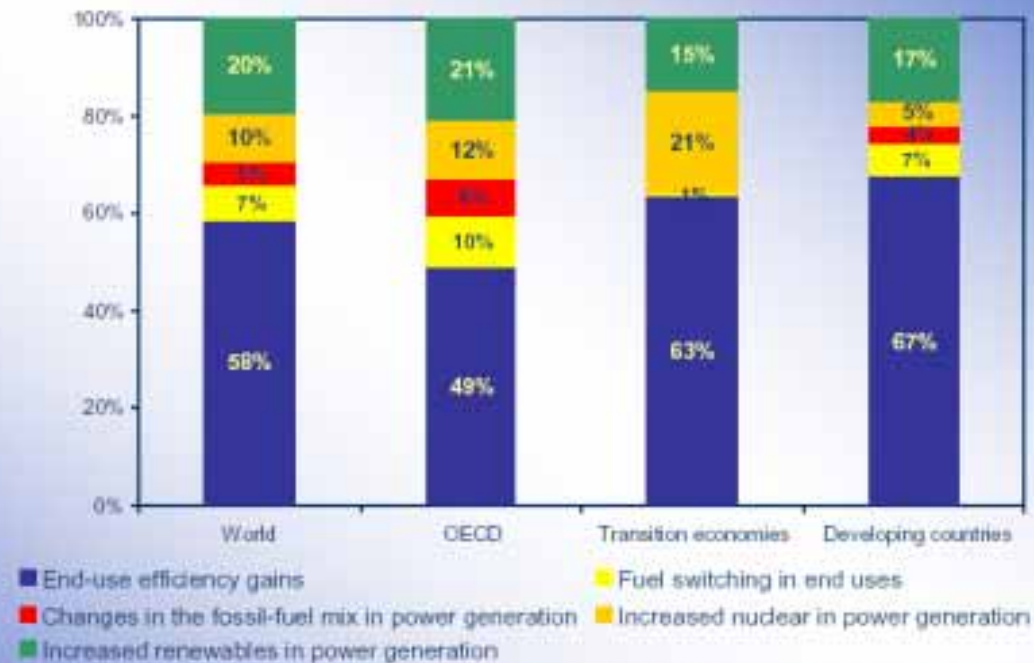
Oil demand by regions

		North America	Europe	Asia
2002年	Demand (mtoe)	1,079	689	1,004
	Import dependence(%)	36	54	62
2030年	Demand (mtoe)	1,478	794	1,900
	Import dependence(%)	55	86	83

Source : IEA

Own efforts can easily curb 1 mbd demand, while difficult to increase supply capacity by 1 mbd of oil

End-use efficiency contribute most to CO2 reduction

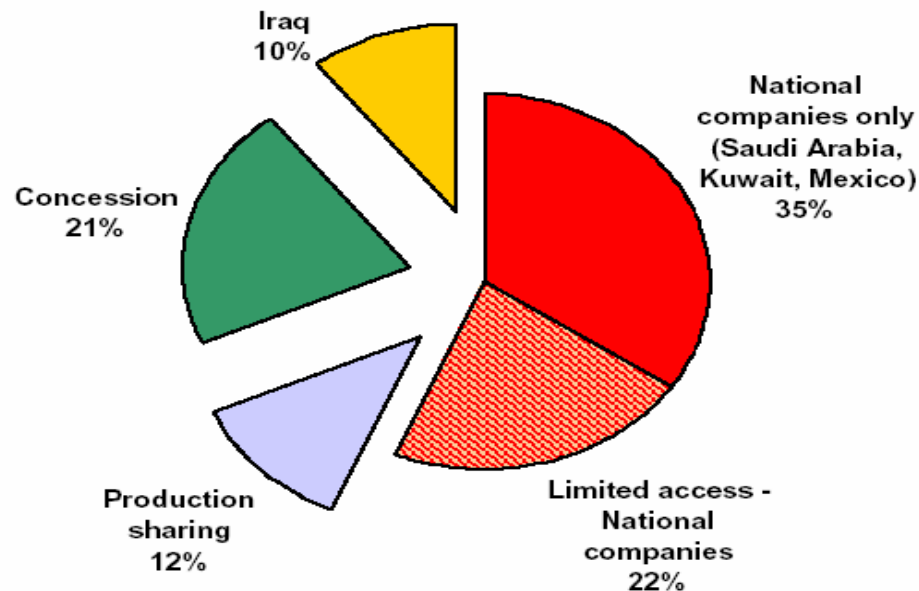


IEA Alternative Scenario

Oil Production Becoming Difficult

- Deep sea, land-locked area
- Politically and Socially difficult area
- Not open for foreign investment

Access to Oil Reserves



1,032 billion barrels

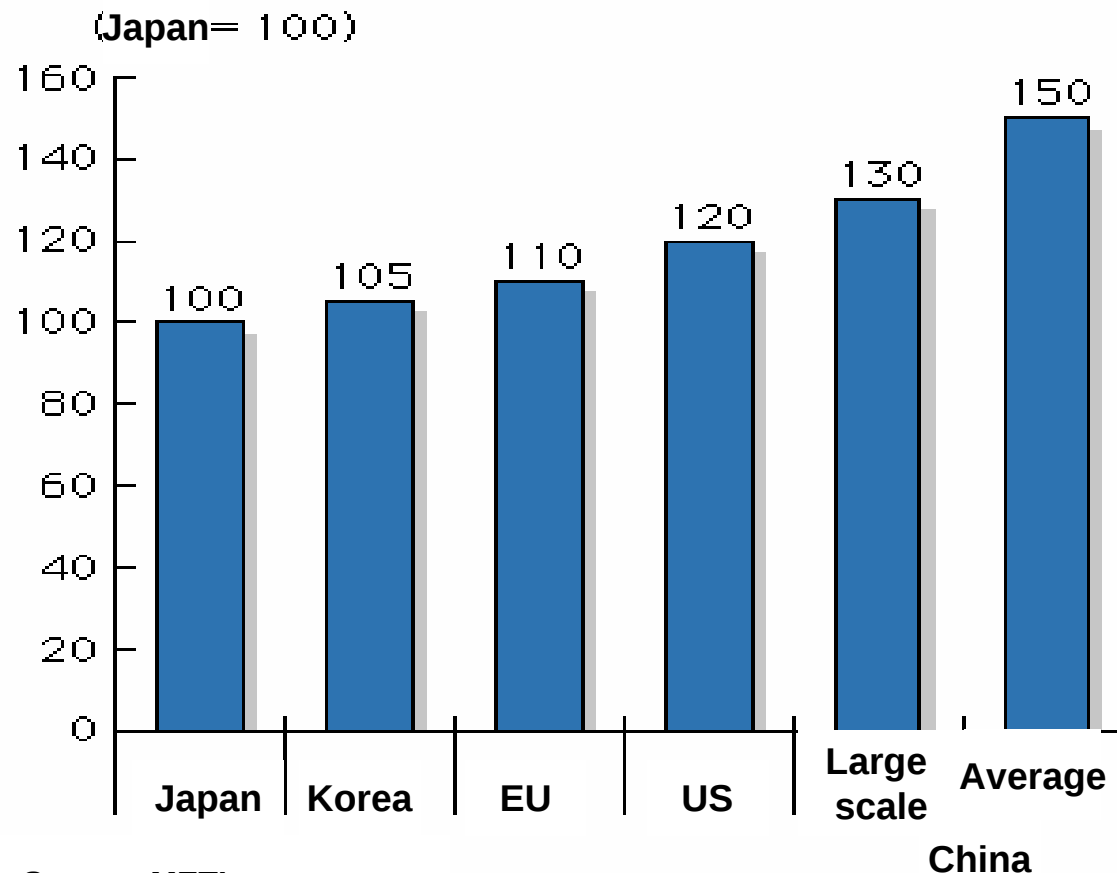
Source : IEA

China Follows the U.S.A. or Japan?

	JAPAN 日本	U.S.A. 美国	CHINA 中国
Energy Consumption / GDP 能源消費 / GDP	1	2	10
Energy Consumption / Capital 能源消費 / 人	1	2	0.2
Energy Consumption 能源消費	1	4	2

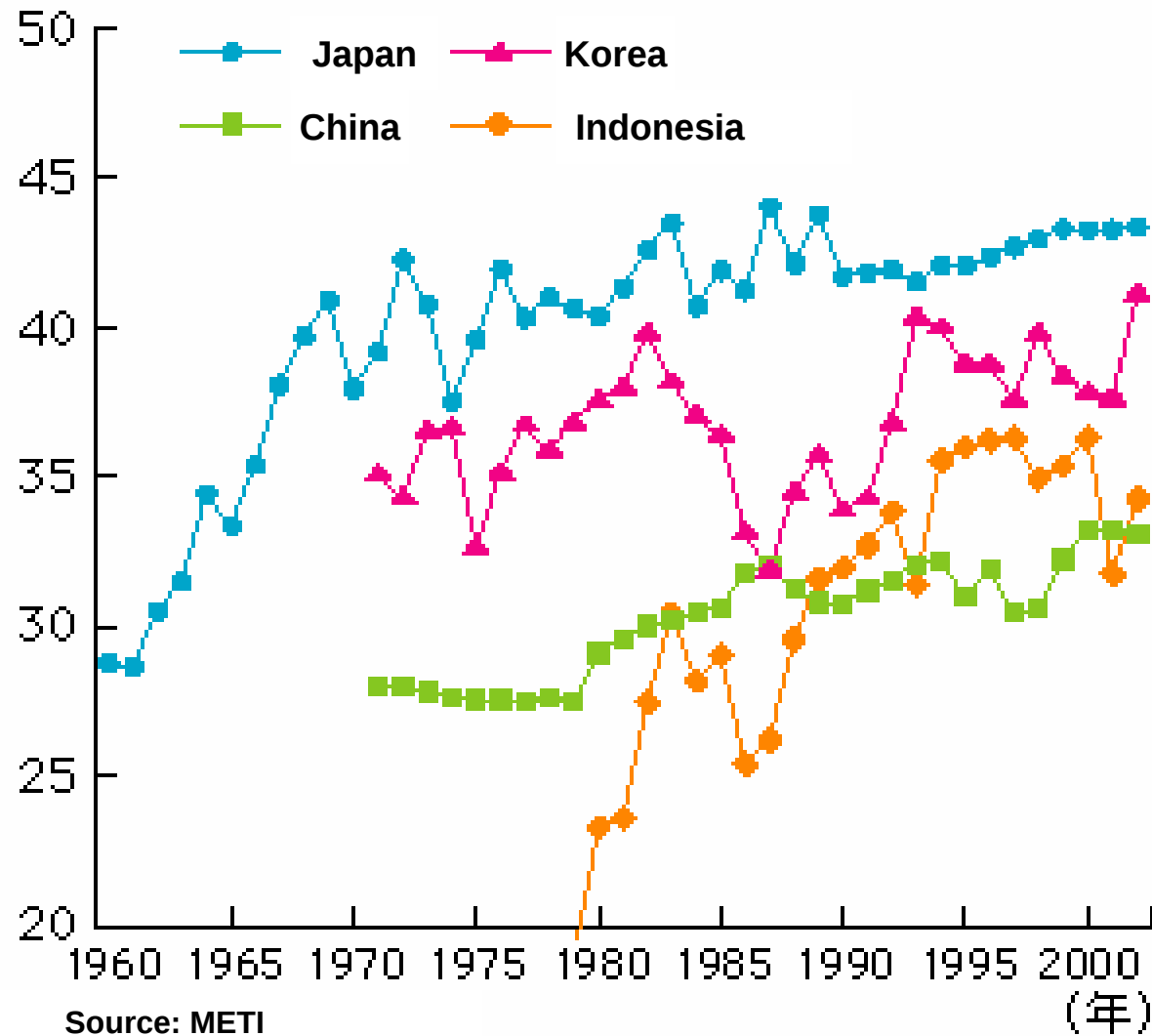
Asian way modeling after Japan: energy, economy and environment integrated

Energy intensity of integrated steel mill



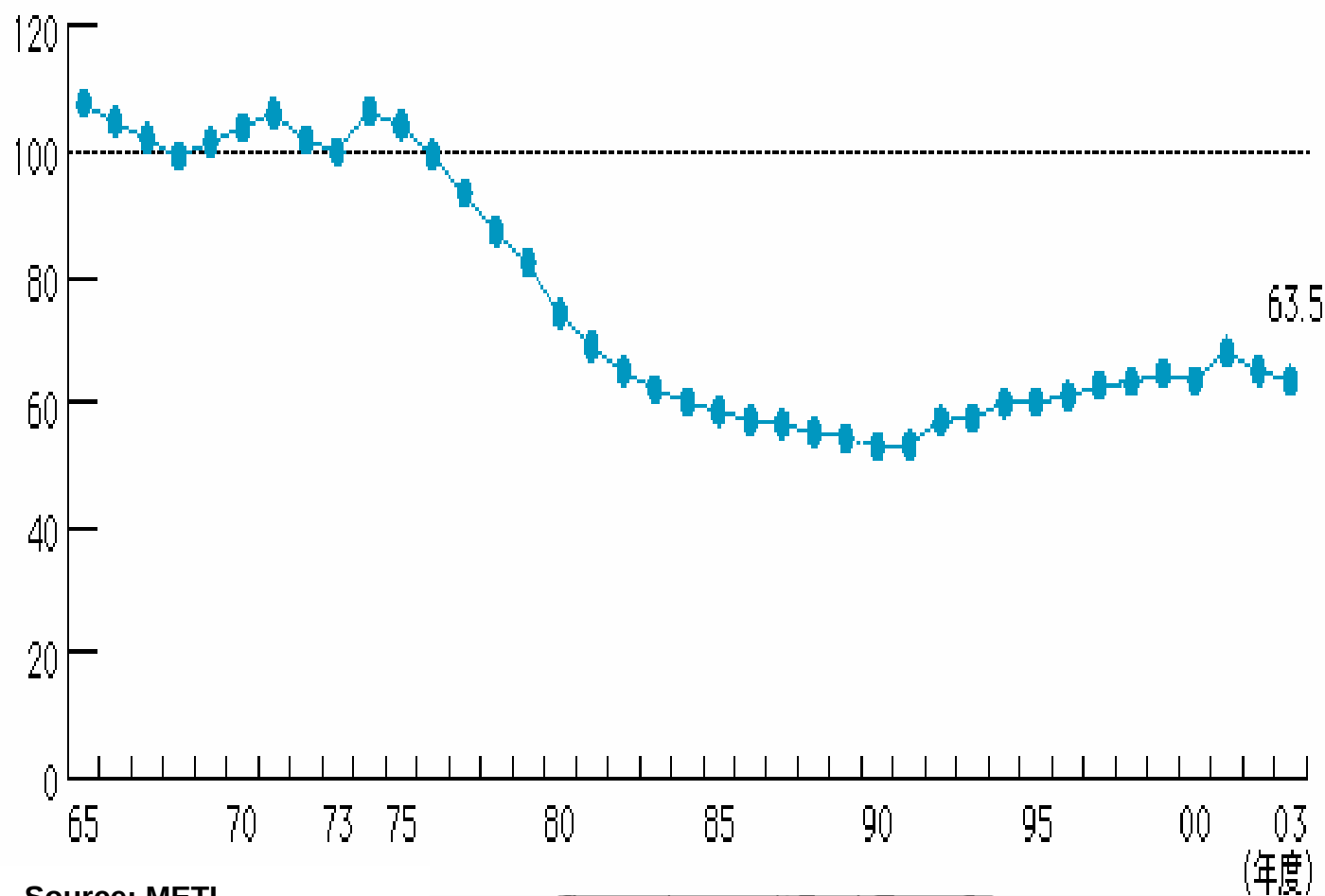
Source: METI

Thermal power efficiency



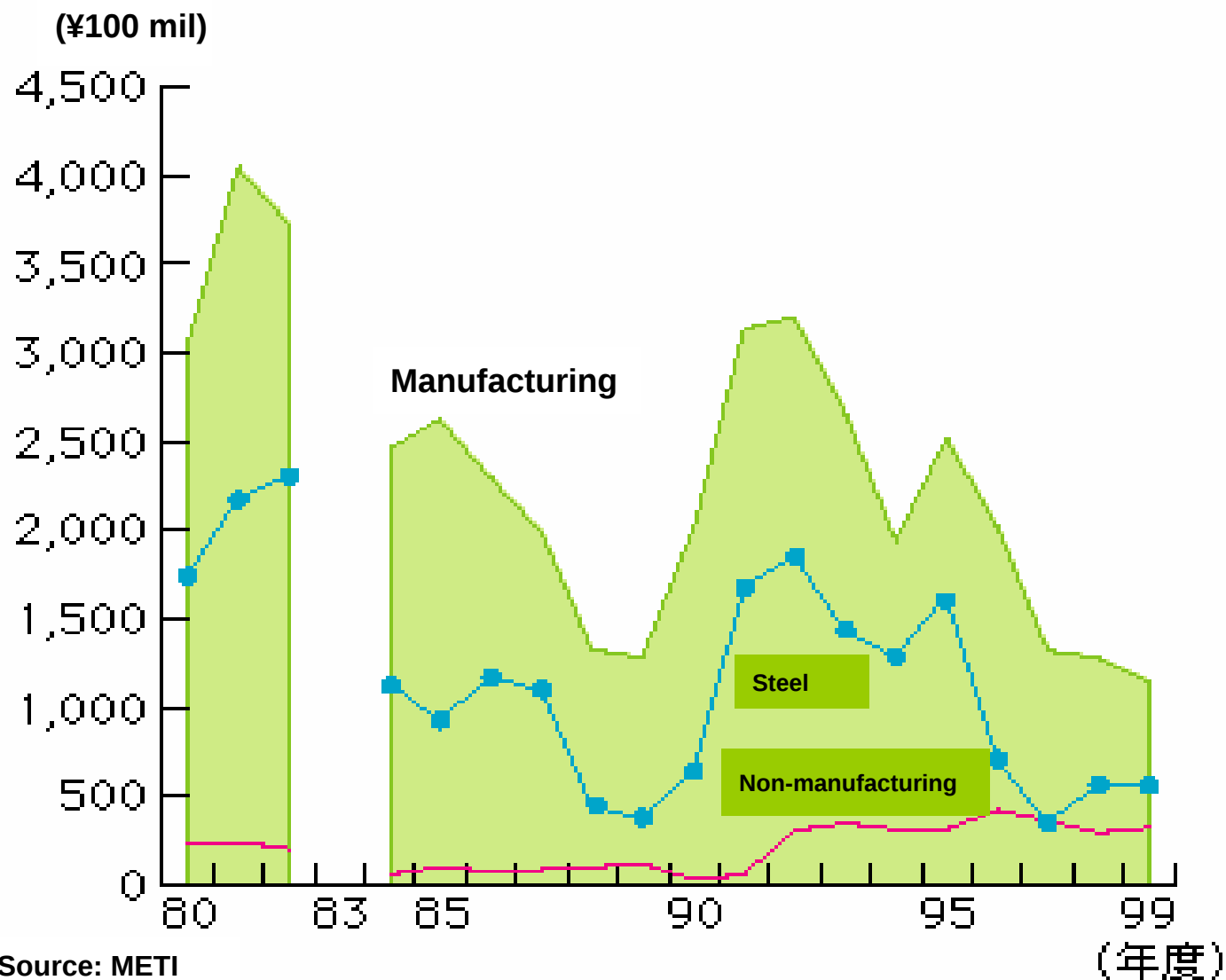
Energy intensity of Japanese manufacturing industry

(73年度 = 100)



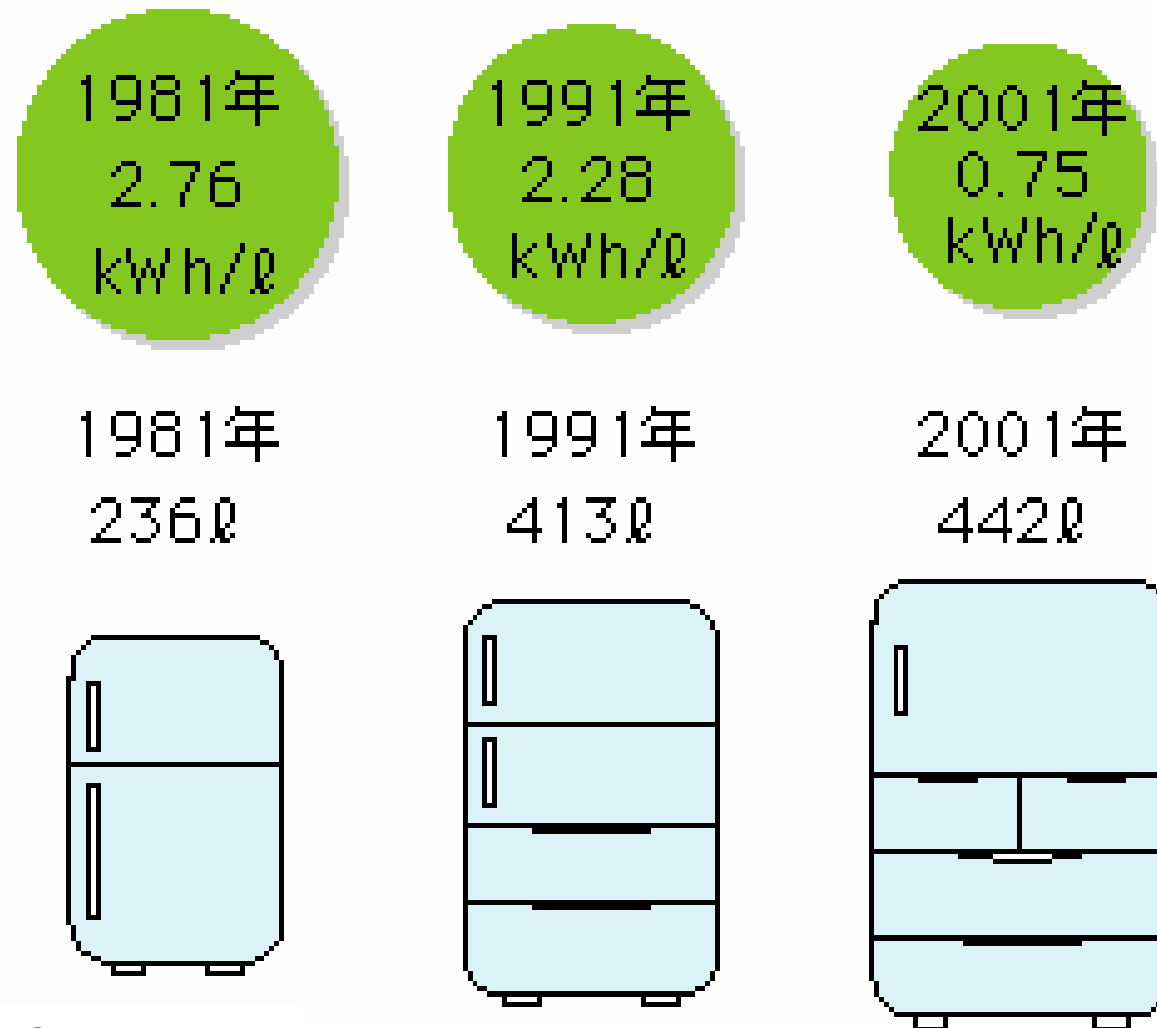
Source: METI

Energy efficiency investment of Japanese manufacturing industry



Source: METI

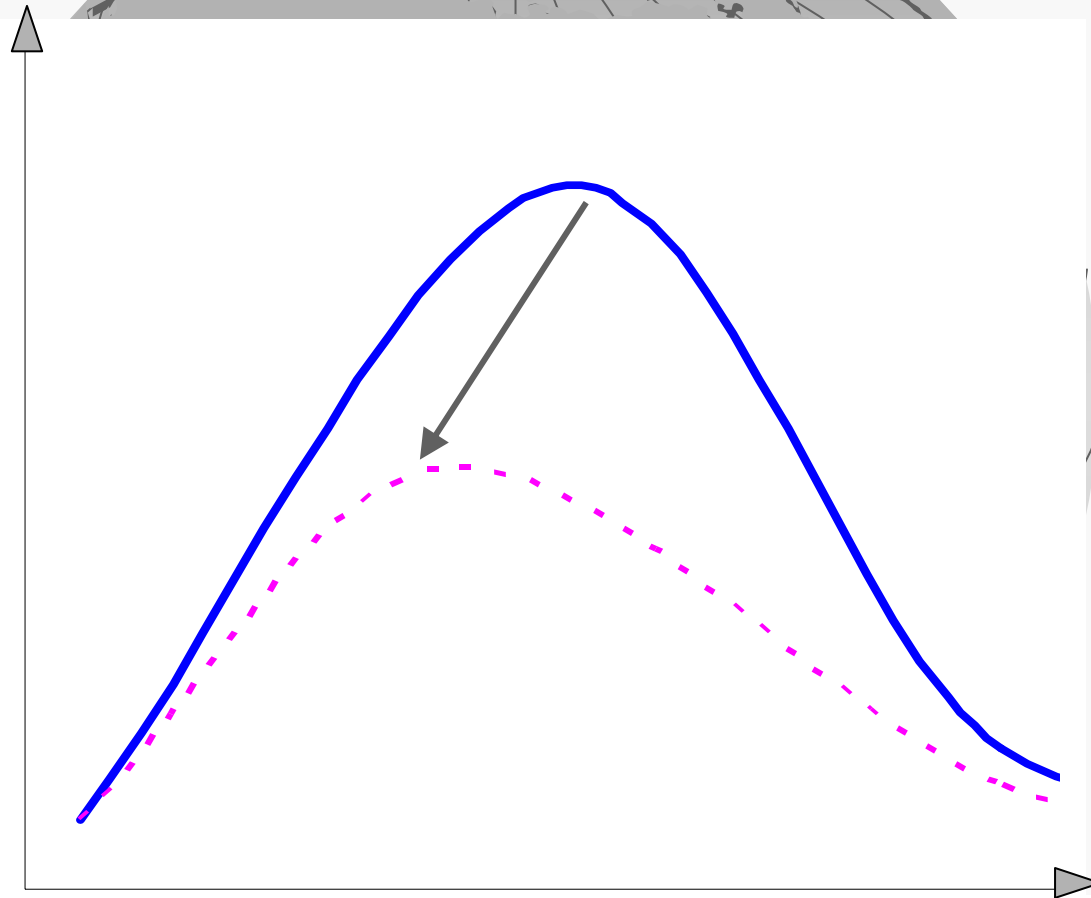
Energy efficiency of refrigerator



Source: METI

Environmental Kuznetz curve should be challenged in Asia

Environmental Impact



GDP per capita

2. Energy Efficiency Policy Recommendation

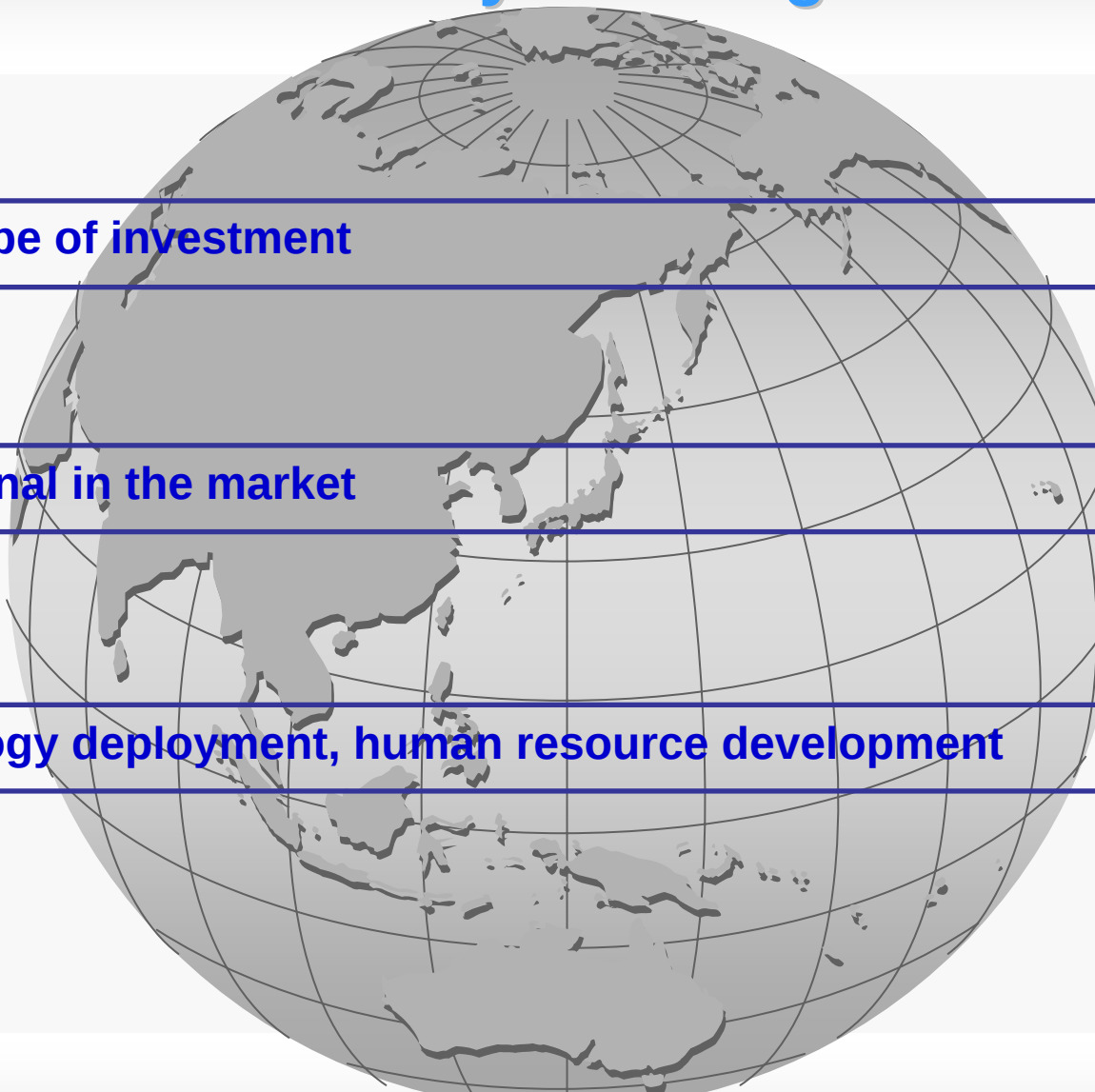
Japan & Korea

- **Extended Top Runner Programme & similar**
- **Expansion of high-speed rail**
- **Increased government support for nuclear power**
- **Top Runner efficiency standards for appliances**

China

- **Tighter vehicle-fuel efficiency standards**
- **Expanded support for more efficient and cleaner coal-fired plants**
- **Expanded government support for gas-fired plants**
- **Tighter efficiency standards for appliances and equipment in the residential and commercial sectors**

3. Policy challenge



- Proper type of investment

- Price signal in the market

- Technology deployment, human resource development

4. Japanese Experience of Energy Conservation

1. Strong Policy Commitment

- Law (regulation & Promotion)
- Incentives (subsidy, tax credit, soft loan)

2. Industry / Corporate Level Efforts

- Energy Management
- TQM (Kaizen)
- Investment & Innovation in manufacturing process

3. Public Level Efforts

- Education

