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

NEAEF

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1. Why Demand-side and Technology-oriented approach is relevant

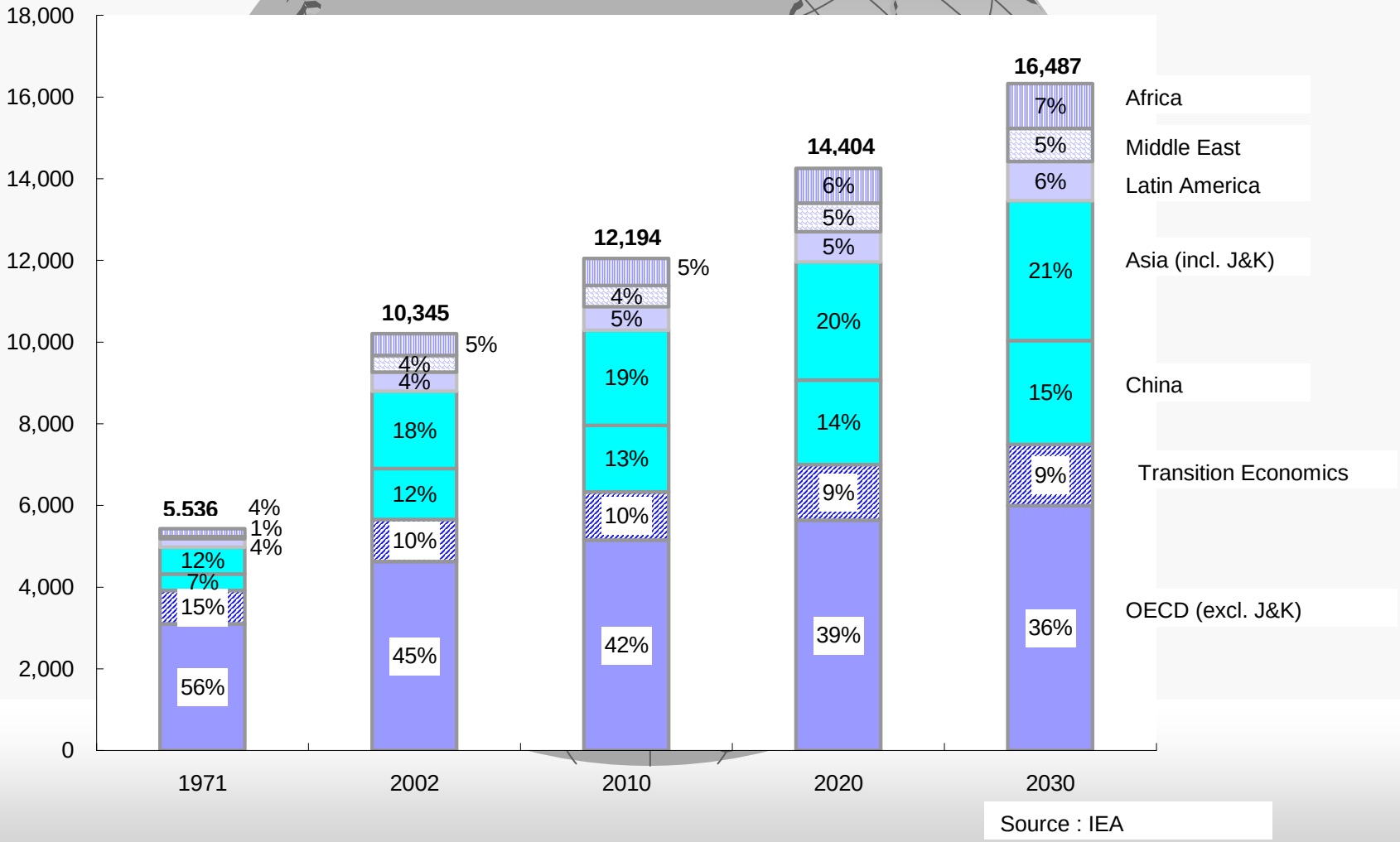
2. Energy Efficiency Policy Recommendation

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.

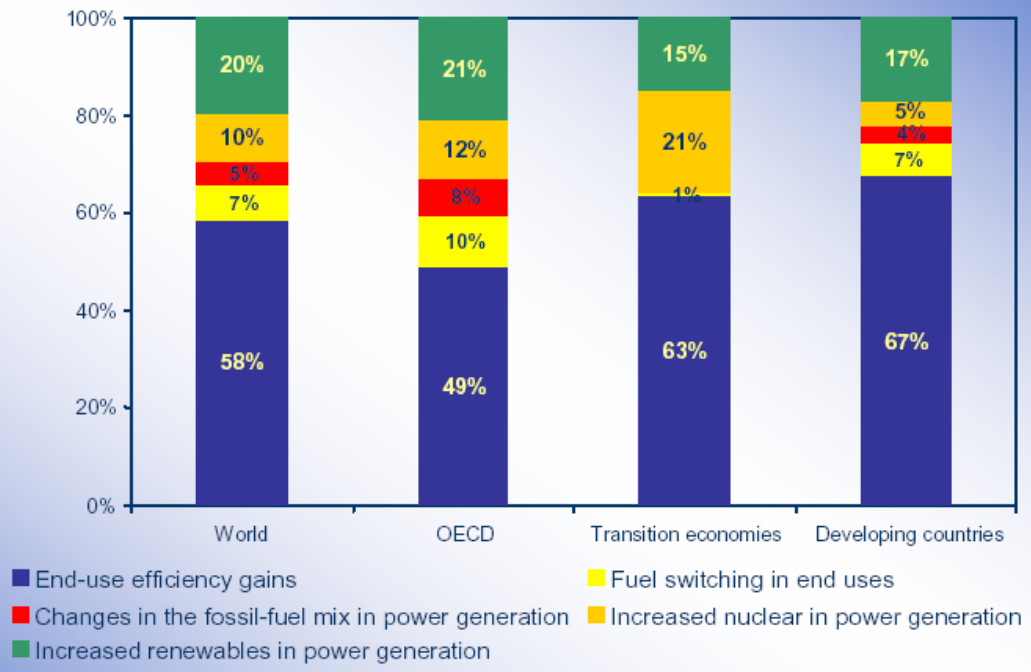
Oil demand by regions

		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



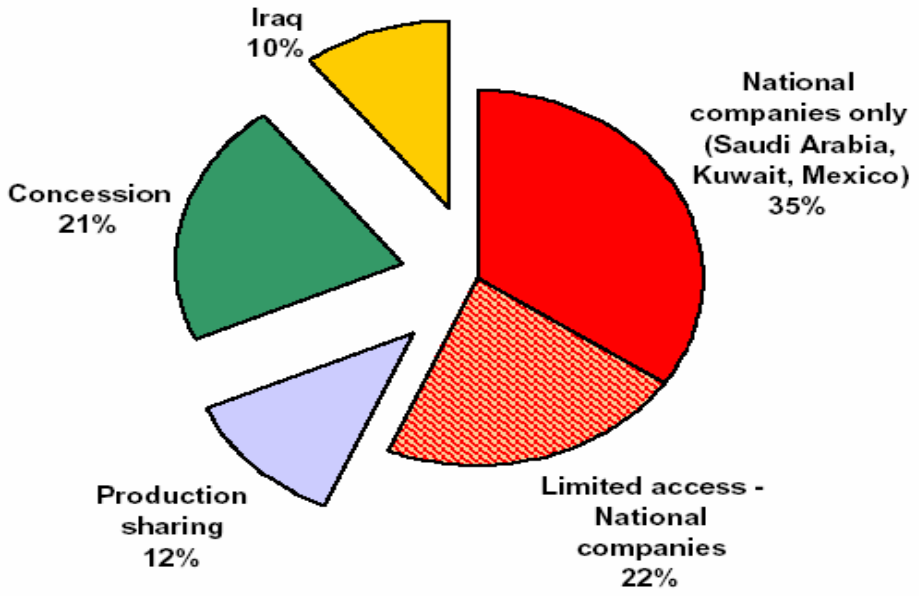
IEA Alternative Scenario

Source : IEA

Oil Production Becoming Difficult

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

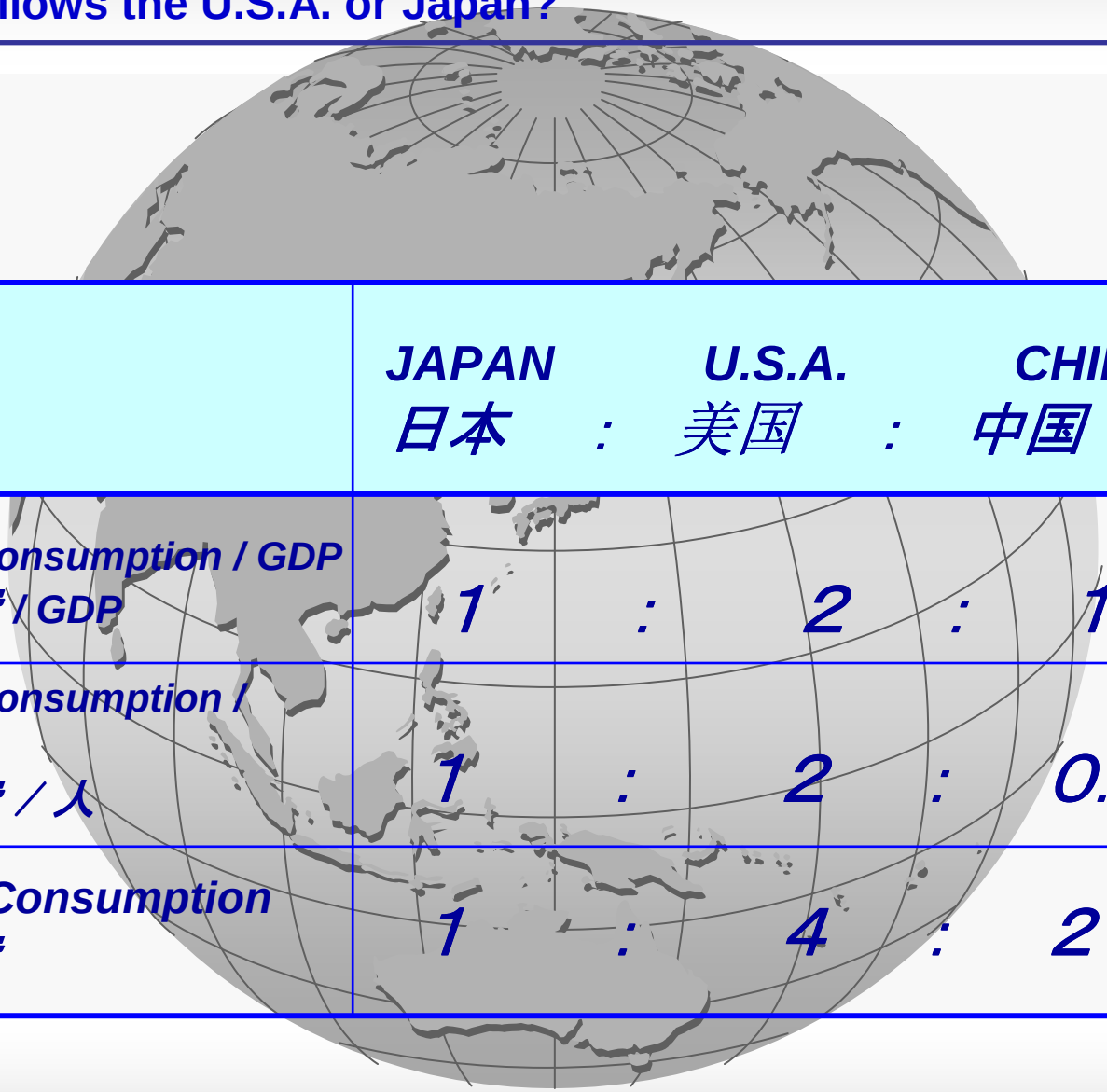
Access to Oil Reserves



1,032 billion barrels

Source : IEA

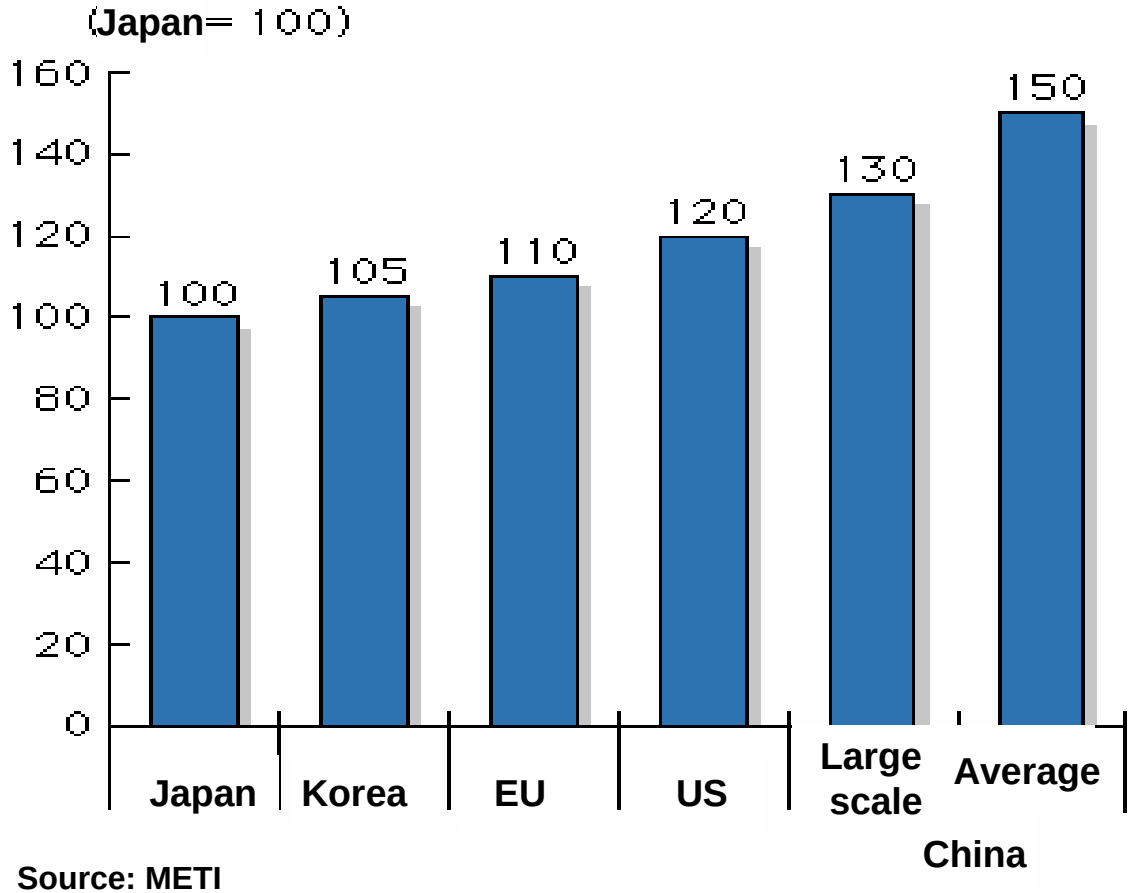
China Follows the U.S.A. or Japan?



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

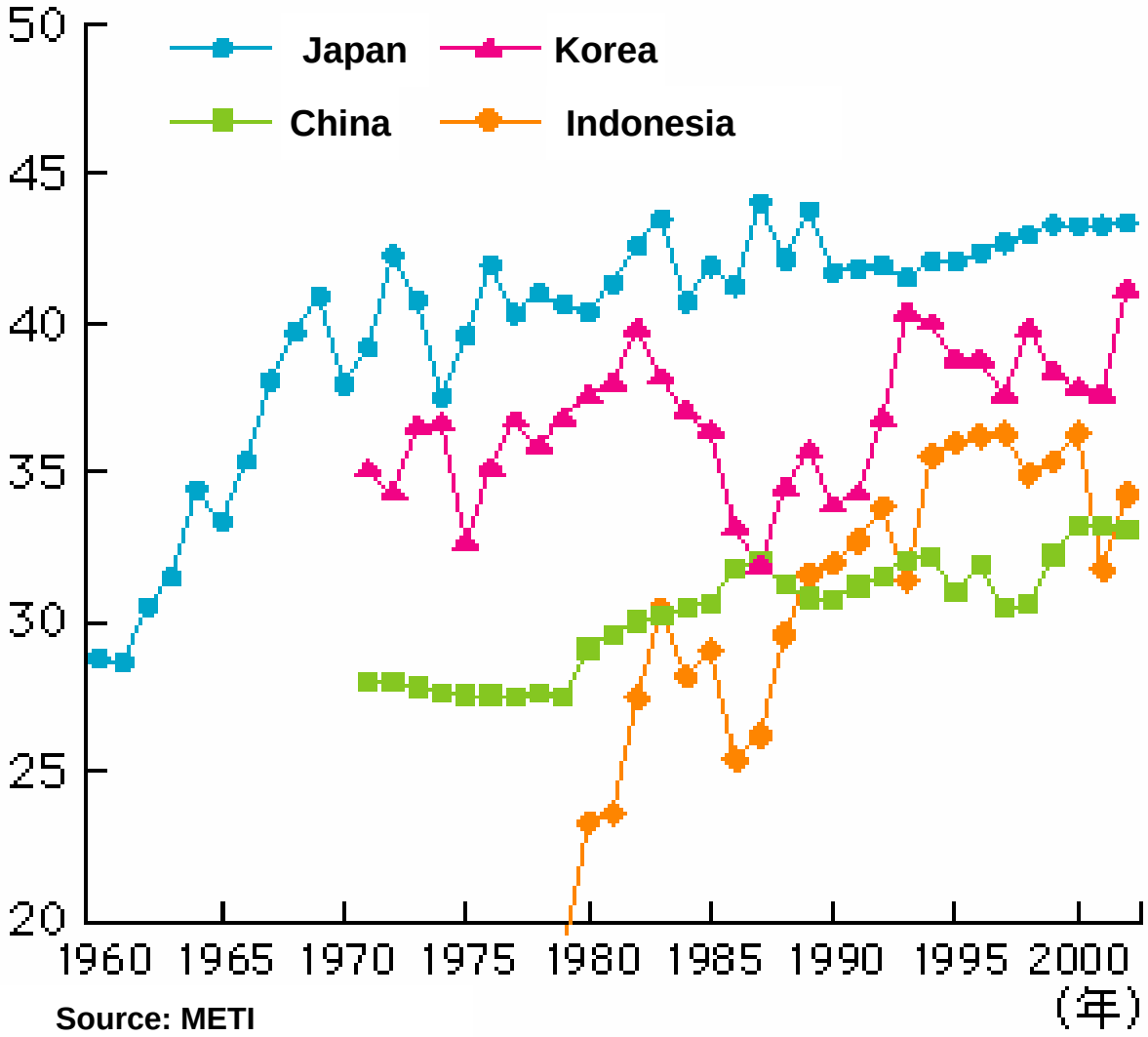
Asian way modeling after Japan: energy, economy and environment integrated

Energy intensity of integrated steel mill



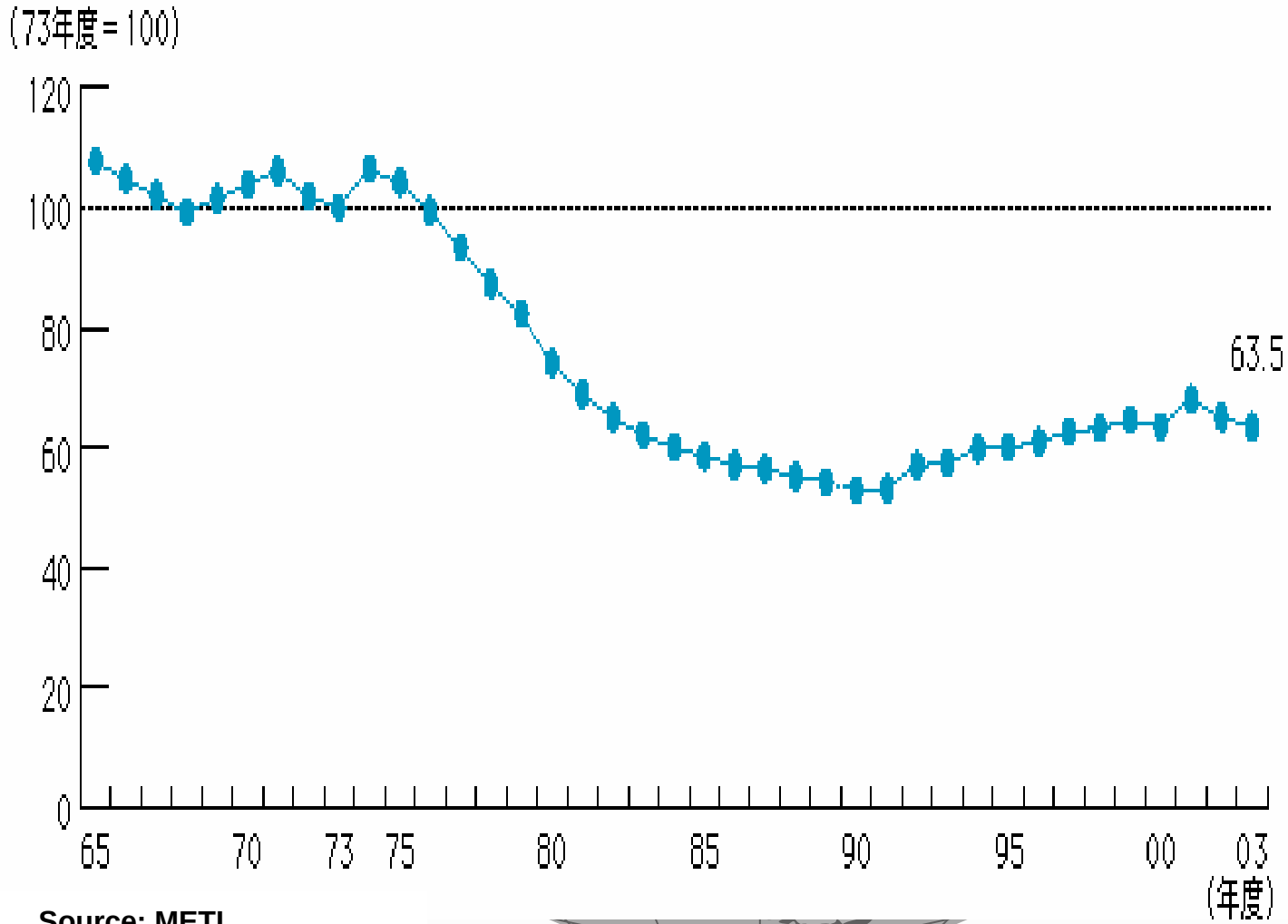
Source: METI

Thermal power efficiency



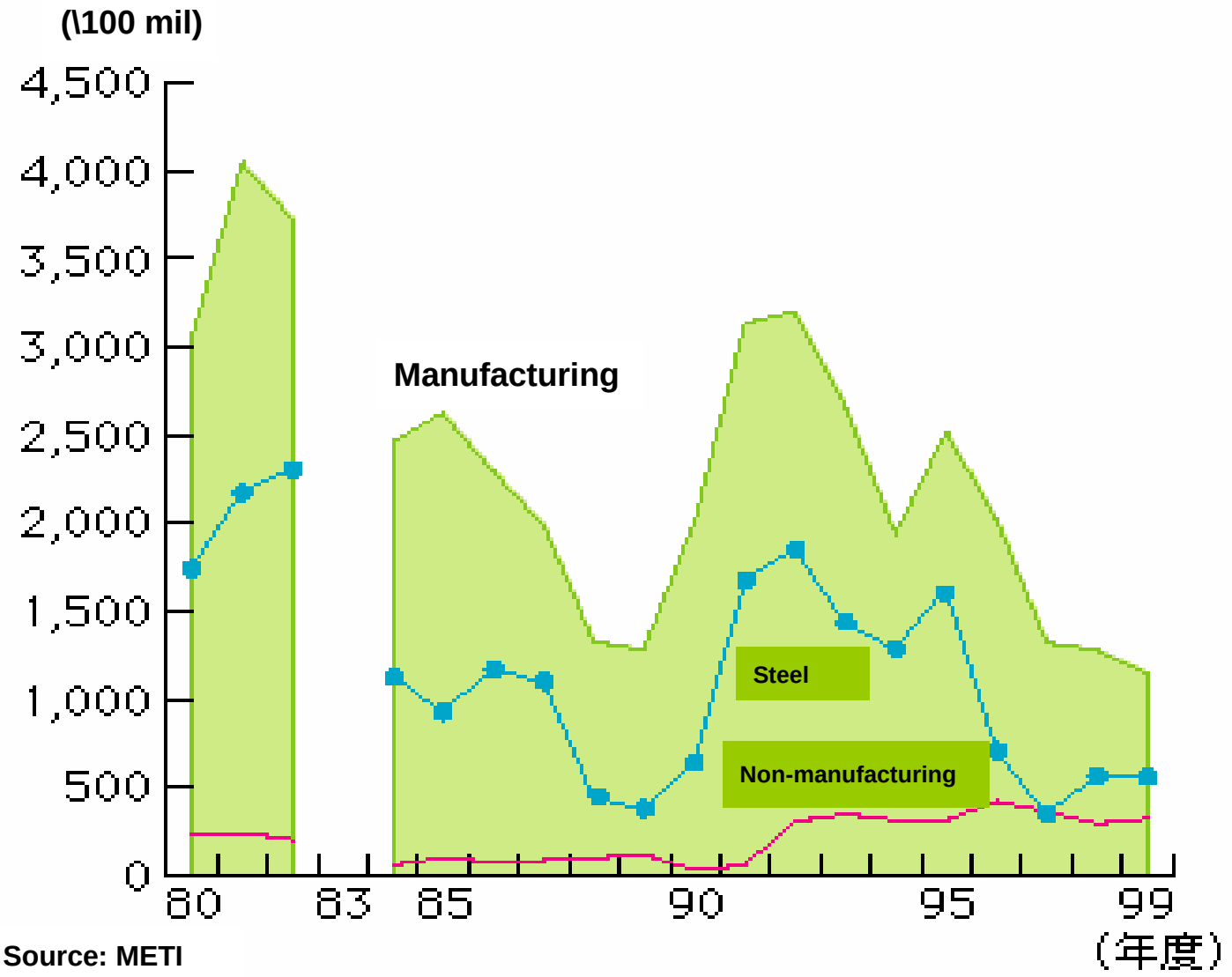
Source: METI

Energy intensity of Japanese manufacturing industry



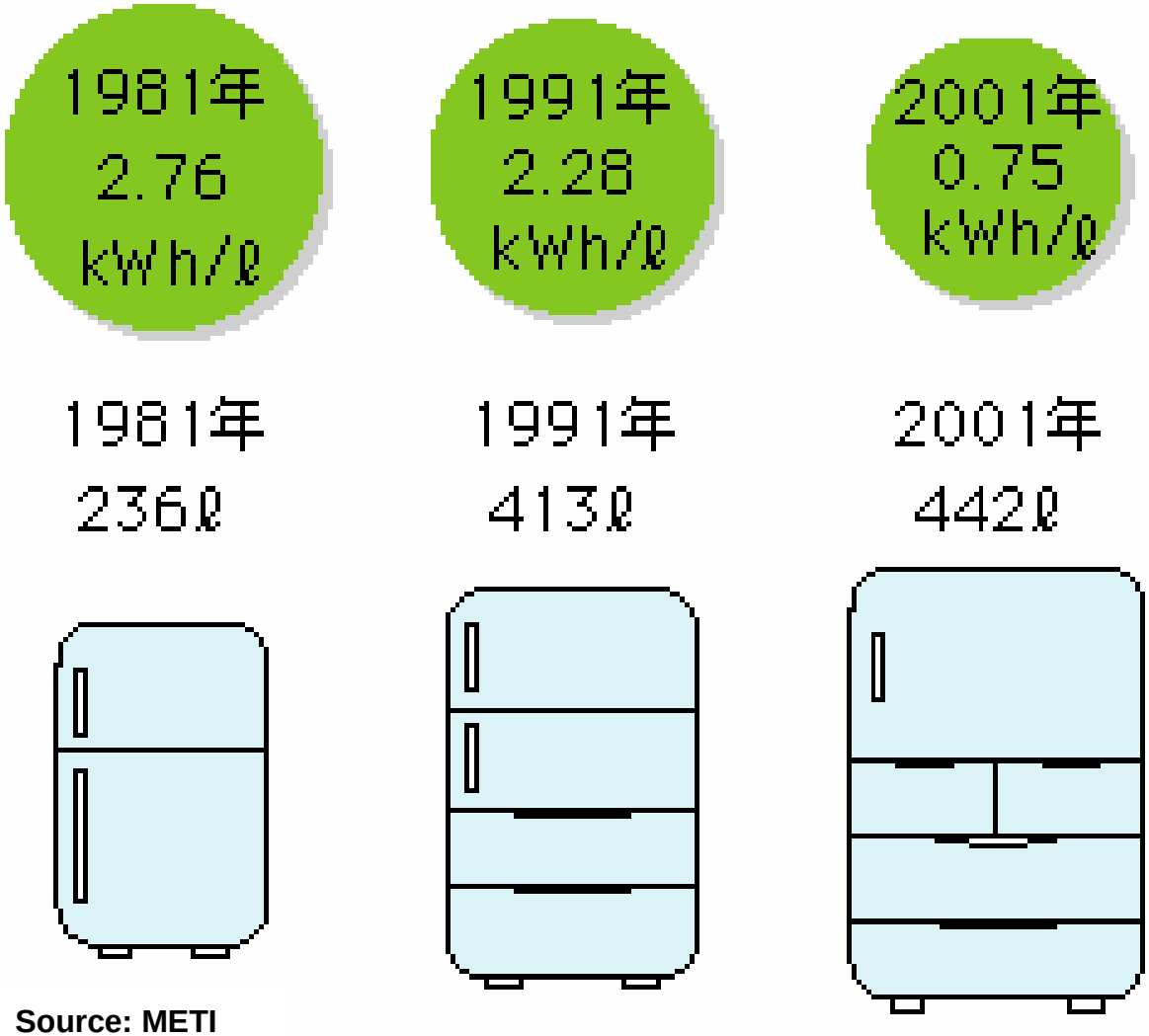
Source: METI

Energy efficiency investment of Japanese manufacturing industry



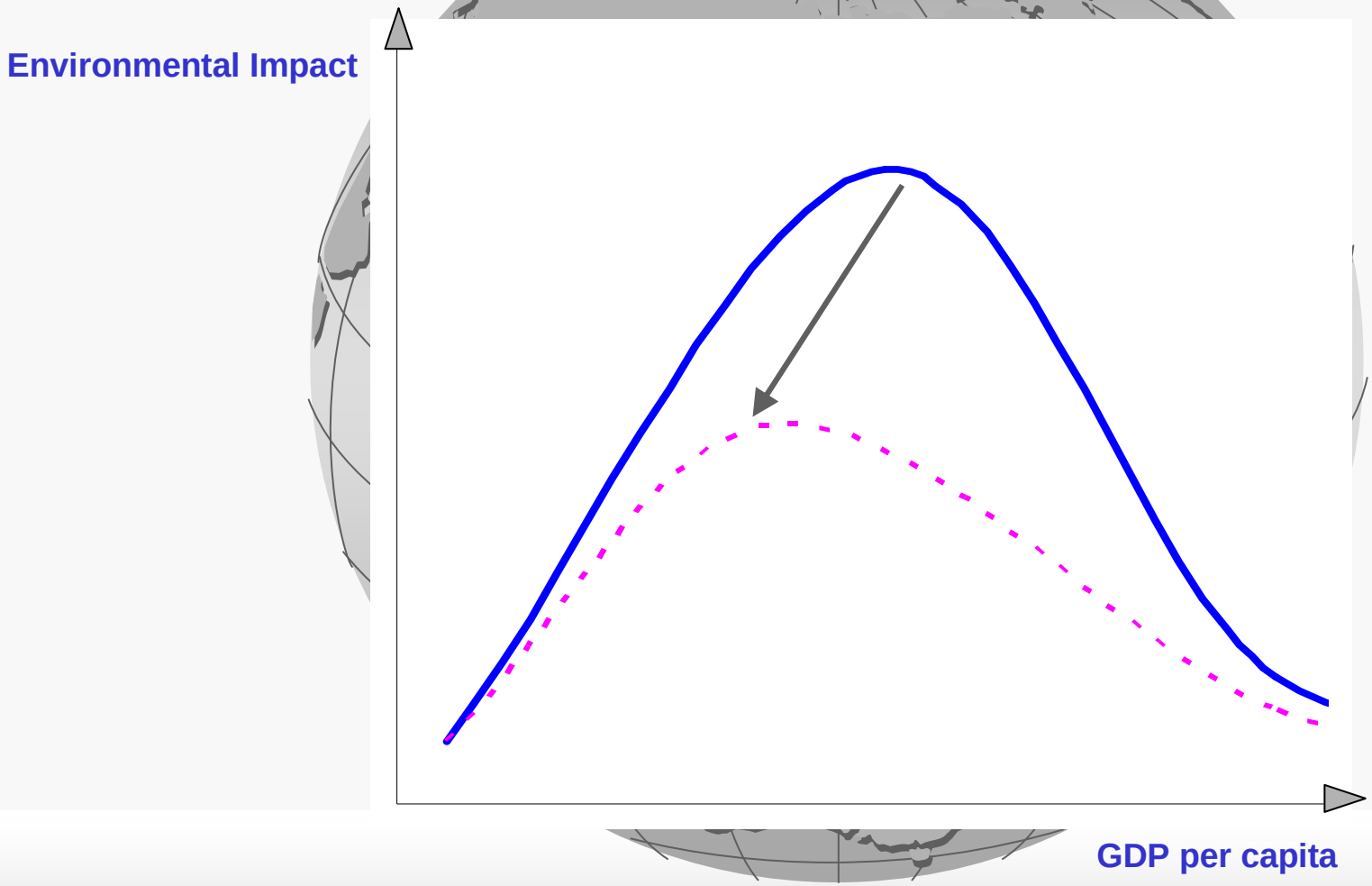
Source: METI

Energy efficiency of refrigerator



Source: METI

Environmental Kuznetz curve should be challenged in Asia



2. Energy Efficiency Policy Recommendation

Japan & Korea

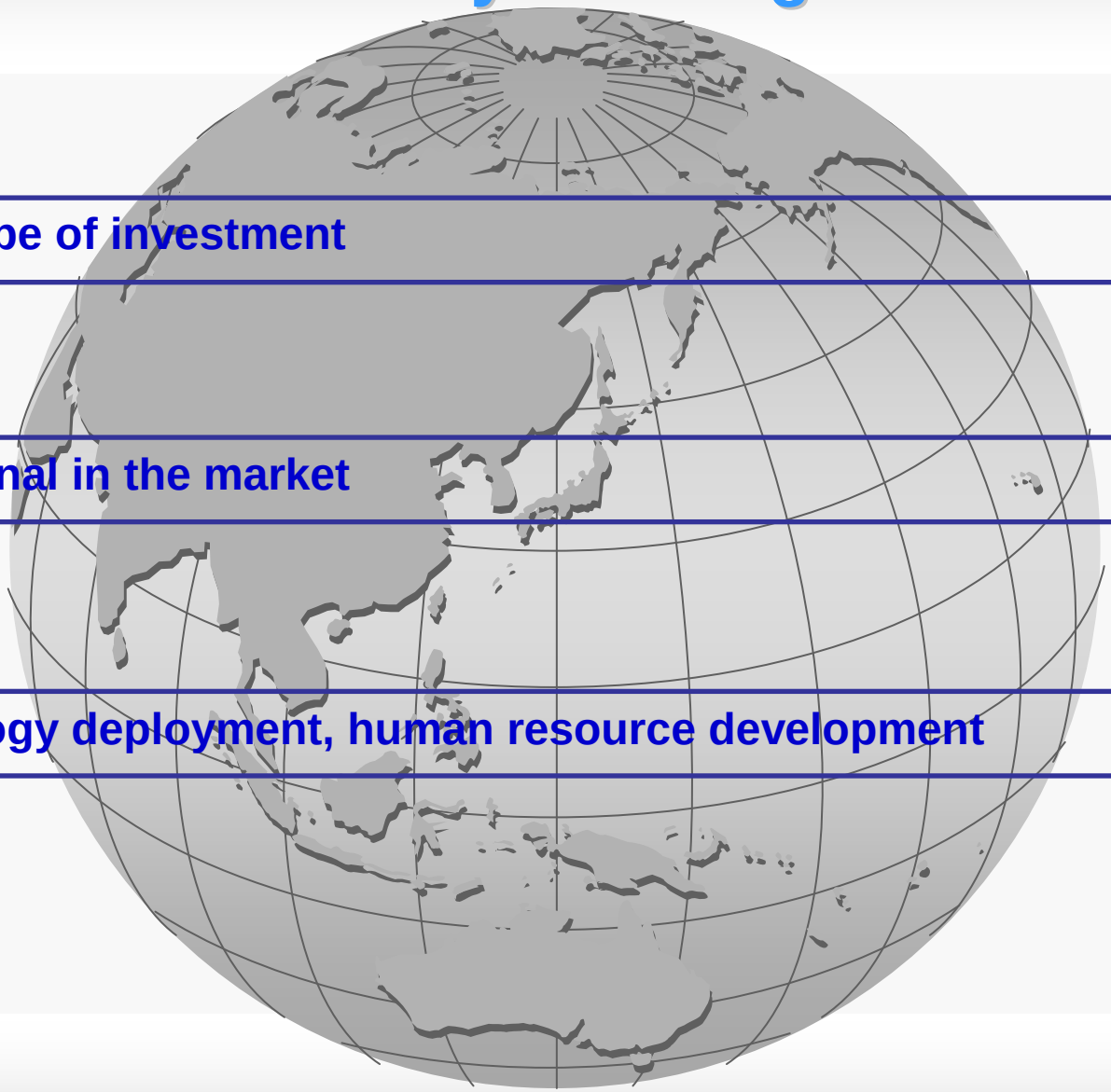
- Extended Top Runner Programme & similar
- Expansion of high-speed rail
- Increased government support for nuclear power
- Top Runner efficiency standards for appliances

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

IEA Alternative Scenario

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**