

Japan's Energy Security Policy and Resource Diplomacy

Energy and Security in Northeast Asia: Towards a Northeast Asian Energy Cooperation Council

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Tatsujiro Suzuki

Senior Research Fellow, Institute of Energy Economics, Japan
Visiting Professor, The University of Tokyo,

tatsu@pp.u-tokyo.ac.jp

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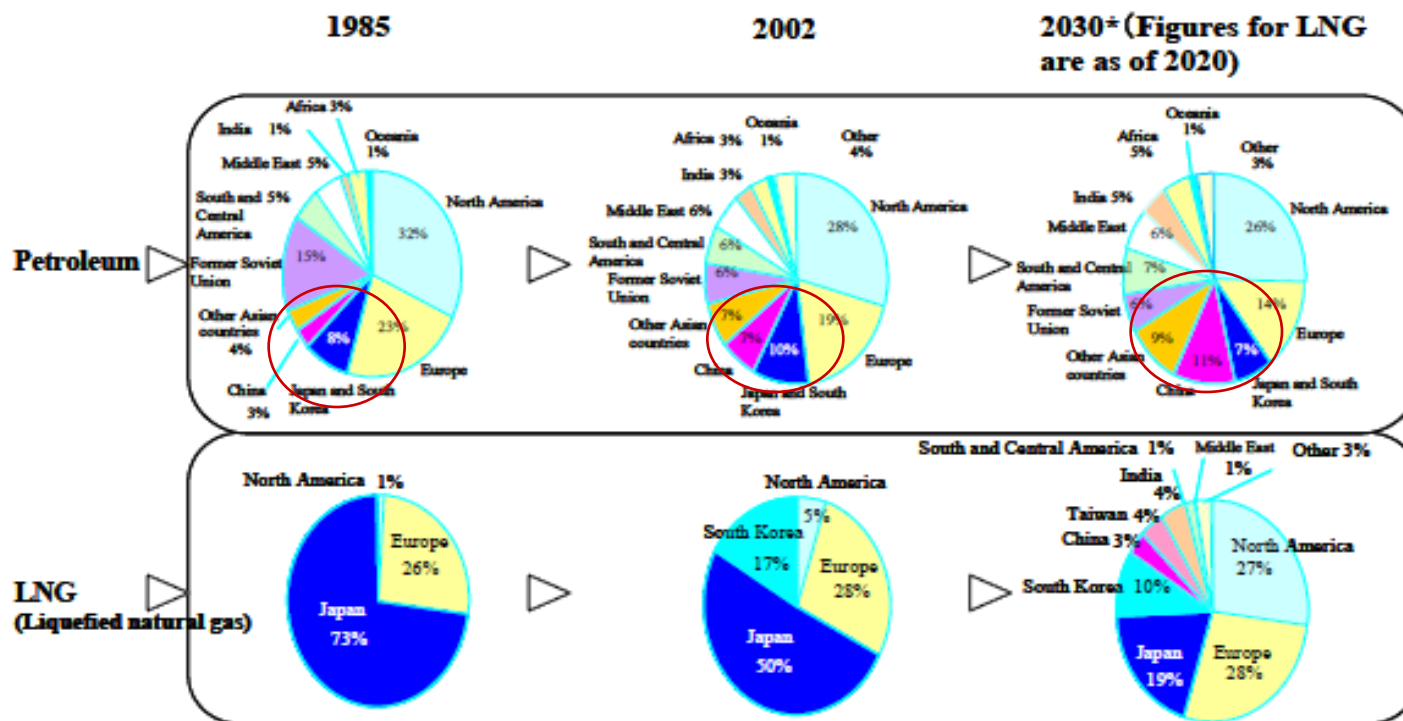
- Japan's New National Energy Strategy
 - Concept of "Comprehensive Energy Security"
 - Aggressive Targets by 2030
 - New Resource Diplomacy
- Self-development strategy of oil
 - Past experiences
 - New initiatives and prospects
- Conclusion

Japan's New Energy Strategy (2006)

- Responding to emerging global and regional energy security risks
 - Concern over “politicization” of global oil market
 - Diversified energy security risk
 - Applying “comprehensive energy security” approach
- Set numerical targets for key policy goals by 2030
 - Increasing share of “Self-Development” oil resource
 - Maintain and accelerate nuclear power program
- Emphasis on Regional (Asian) energy security approach
 - Sharing common interests
 - Cooperation on energy efficiency improvements

Changing Background (1)

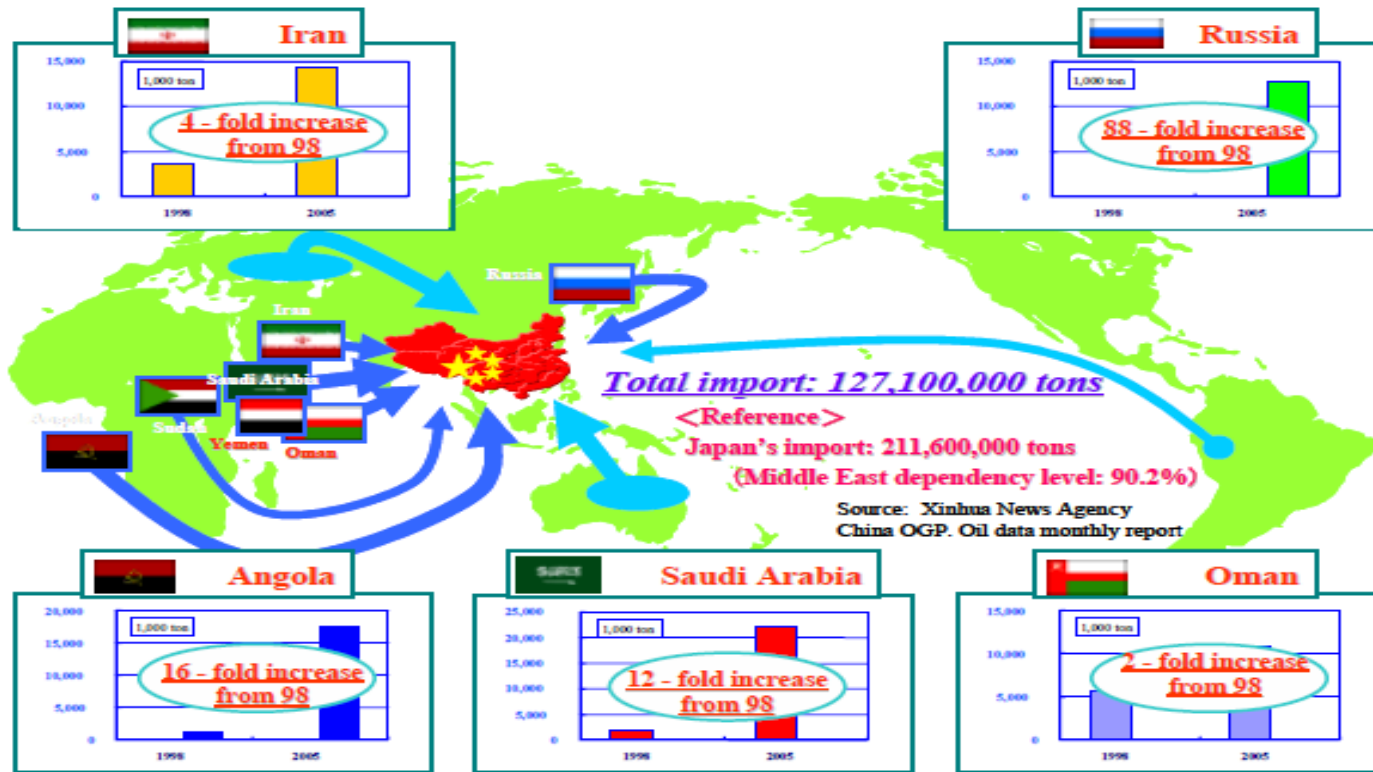
Figure 8: Positioning of our country in the international energy market



(Source) IEA OMR2005.6, IEA WEO2004

Changing Background (2)

Figure 3: Changes in oil imports to China

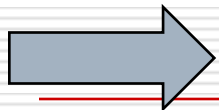


Source: New National Energy Strategy (May 2006)

<http://www.enecho.meti.go.jp/english/data/newnationalenergystrategy2006.pdf>

Diversified Risk of Energy Security

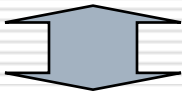
- Tighter energy supply/demand balance
 - structural changes in demand side (ex. demand increase in China, India)
 - structural changes in supply side (ex. restrictions on foreign investment)
 - debates over international regime/framework (ex. non-proliferation)
 - changing market conditions (ex. liberalization)
- Market Disturbing Risk
 - natural disasters
 - accidents, terrorism
- Risk elements to amplify market disturbance
 - weakened industry infrastructure (ex. power transmission lines)
 - deteriorating market capability to respond crisis (ex. less excess capacity, panic behaviors)



More diversified, unknown risk elements are emerging

“Comprehensive Energy Strategy”

- Realizing the state-of-the-art energy supply-demand structure
 - Energy conservation Frontrunner Plan
 - Transport Energy for the Next Generation Plan
 - New Energy Innovation Plan
 - Nuclear Power Nation Plan
- Comprehensive Strengthening of Resource Diplomacy and, Energy and Environment Cooperation
 - Comprehensive Strategy for Securing Resources
 - Asia Energy and Environment Cooperation Strategy
- Enhancement of emergency response measures



Best strategy to respond to “unknown risk”--Diversification

Diversity is Important

Primary Energy Supply (2003)

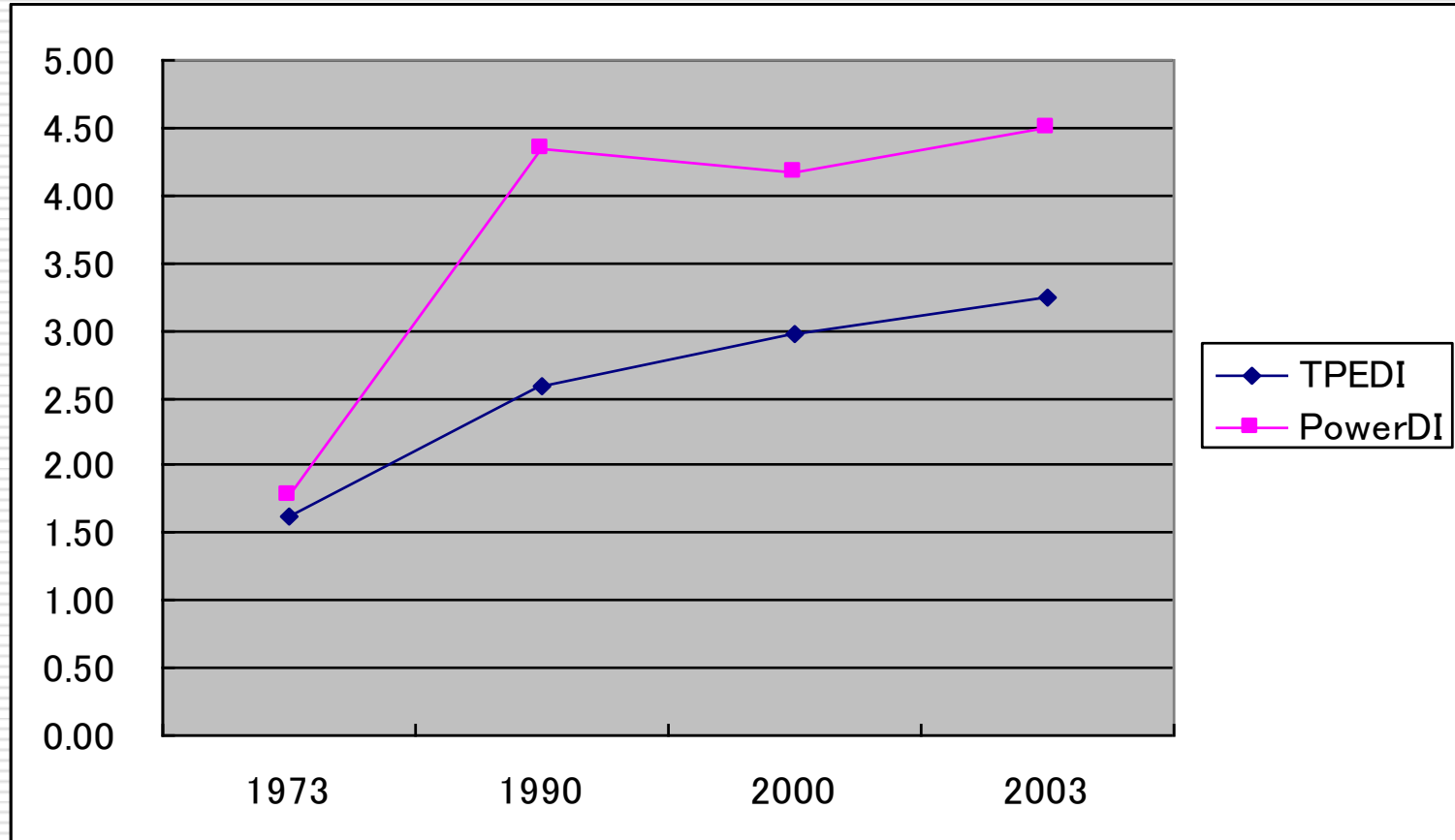
	Oil	Coal	Natural Gas	Nuclear	Hydro&others	Diversification Index
USA	0.404	0.233	0.228	0.09	0.045	3.58
Germany	0.374	0.245	0.228	0.124	0.039	3.72
France	0.336	0.053	0.145	0.423	0.043	3.15
UK	0.351	0.165	0.37	0.1	0.014	3.36
Japan	0.479	0.208	0.137	0.121	0.037	3.25

Power Source(2003)

	Oil	Coal	Natural Gas	Nuclear	Hydro&others	Diversification Index
USA	0.034	0.504	0.165	0.194	0.093	3.04
Germany	0.01	0.529	0.098	0.278	0.087	2.67
France	0.015	0.053	0.031	0.785	0.116	1.58
UK	0.018	0.354	0.375	0.224	0.029	3.15
Japan	0.132	0.282	0.243	0.231	0.112	4.51

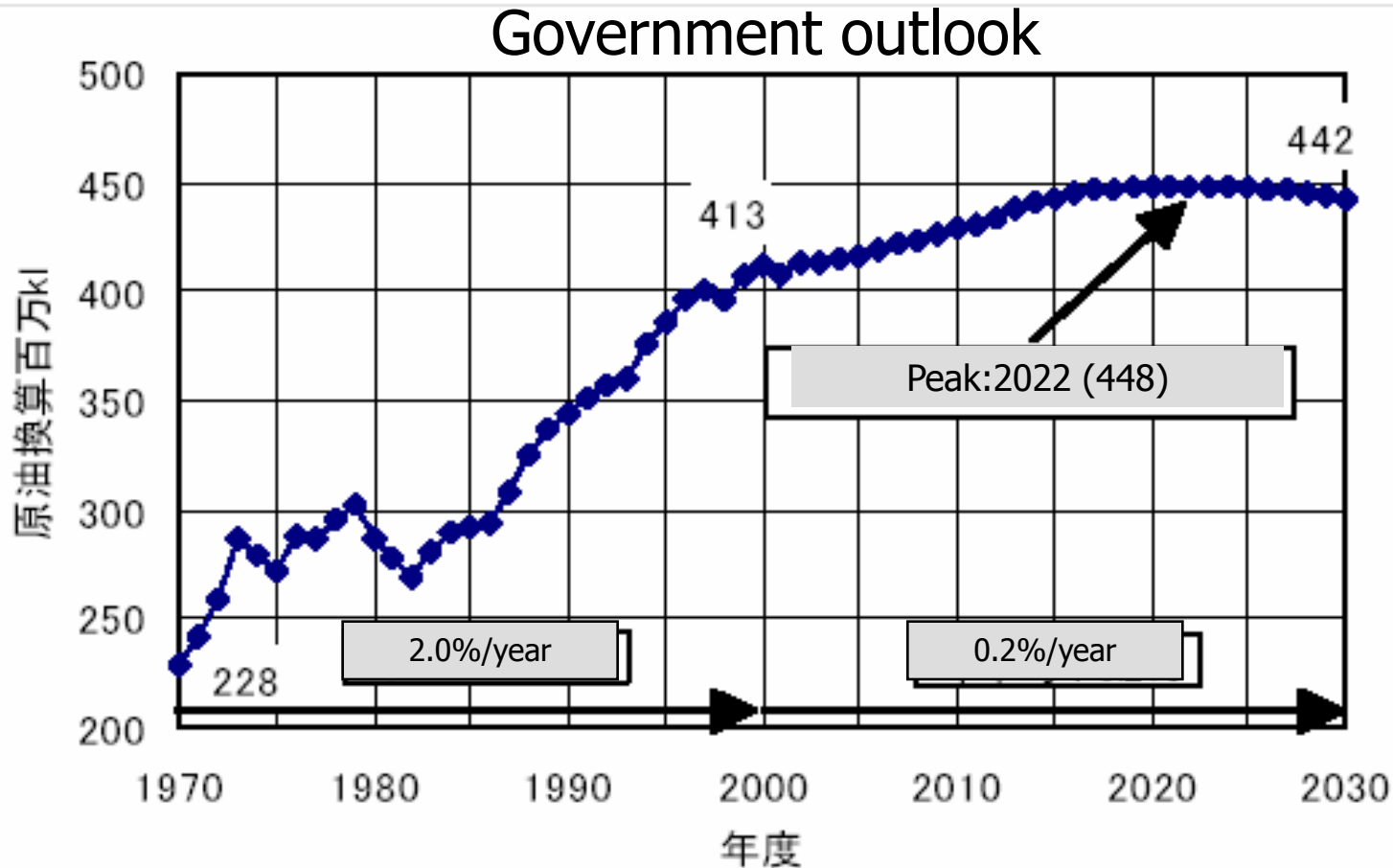
Source: IEA/OECD Energy Balance

Japan's Diversity is Improving



Final Energy Consumption Will Peak Out by ~2020

mil. kl of crude oil equivalent



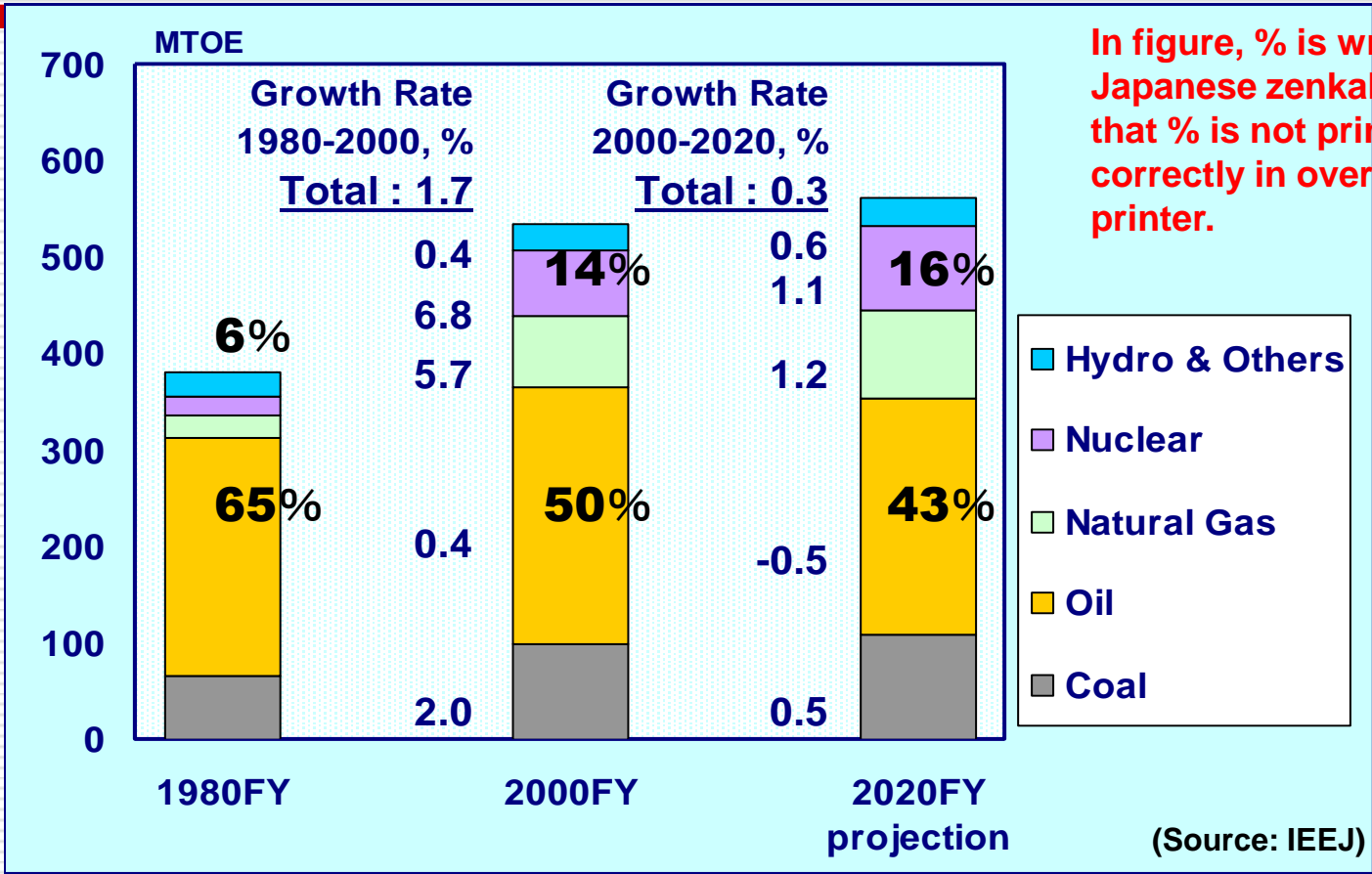
Source: METI (2004.2)

Primary Energy Demand Forecast by Fuel

: oil consumption and its share will likely to decline

(Attention)

In figure, % is written by Japanese zenkaku so that % is not printed correctly in overseas printer.



Refer to :<http://eneken.ieej.or.jp/en/data/pdf/175.pdf>, <http://eneken.ieej.or.jp/en/data/pdf/176.pdf>

Source; Y. Yamashita, S. Suehiro, "Japan's Long-Term Energy Supply and Demand Outlook", June 2004. The Institute of Energy Economics, Japan.

Aggressive Goals of New Energy Strategies

(1) Target of energy conservation

At least another **30%** improvement of efficiency will be attained by 2030.

(2) Target of reducing oil dependence

The ratio will be reduced from current **50%** to be lower than **40%** by 2030.

(3) Target of reducing oil dependence in the transport sector

The percentage will be reduced from 100% to around **80%** by 2030.

(4) Target on nuclear power generation.

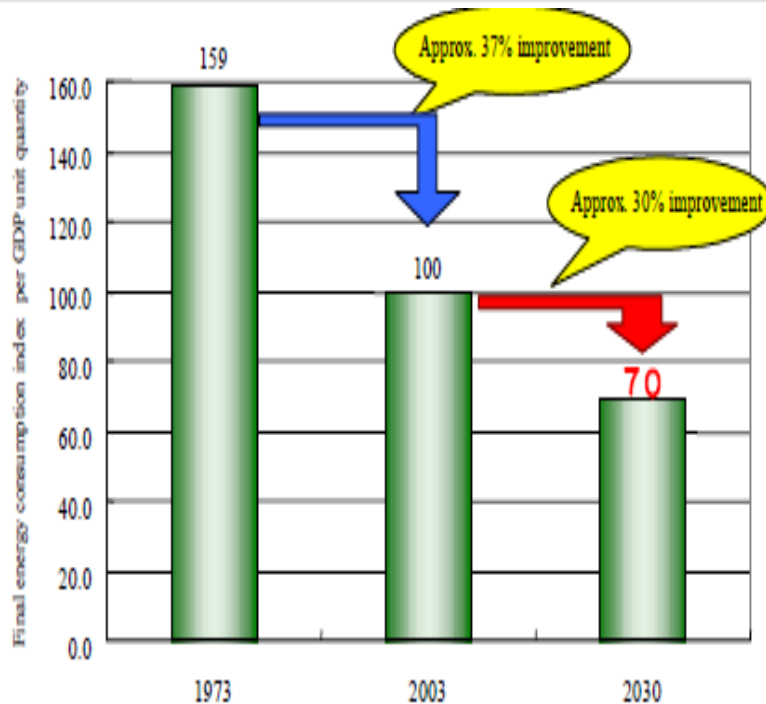
The ratio of nuclear power to all power production will be maintained or increased at the level of **30 to 40% or more up to 2030 or later.**

(5) Target of overseas natural resources self-development

Self-developed oil import ratio will be increased from current 18% to **~40%** by 2030.

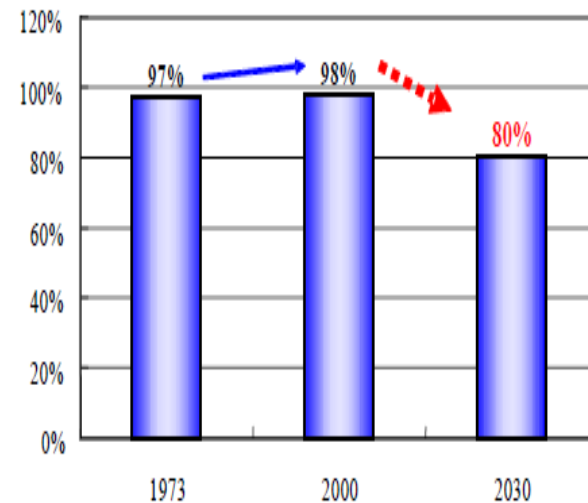
Source; New National Energy Strategy (May 2006)

Energy Strategy Goals (1)



Energy Efficiency Targets

Figure 16: Oil dependency in our country's transport sector and the target value



Oil Dependency targets in transport sector

Energy Strategy Goals (2)

Figure 19: Our country's nuclear power generation ratio and target value

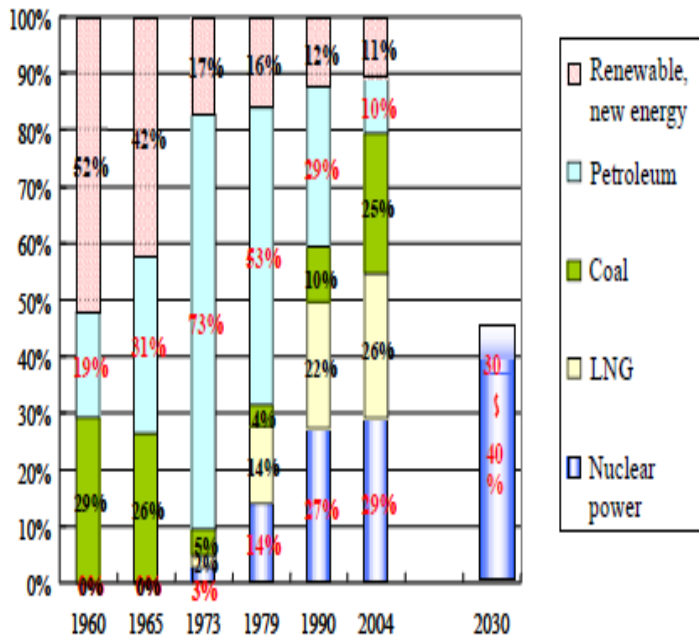
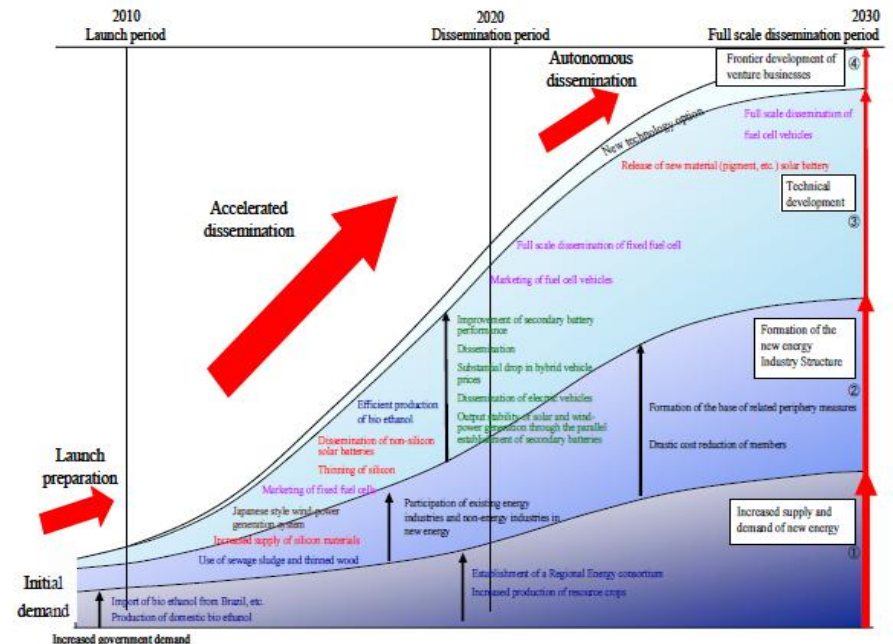


Figure 18: Expansion of the introduction of new energy



Target Share of Nuclear Power

Vision of Technology Innovation

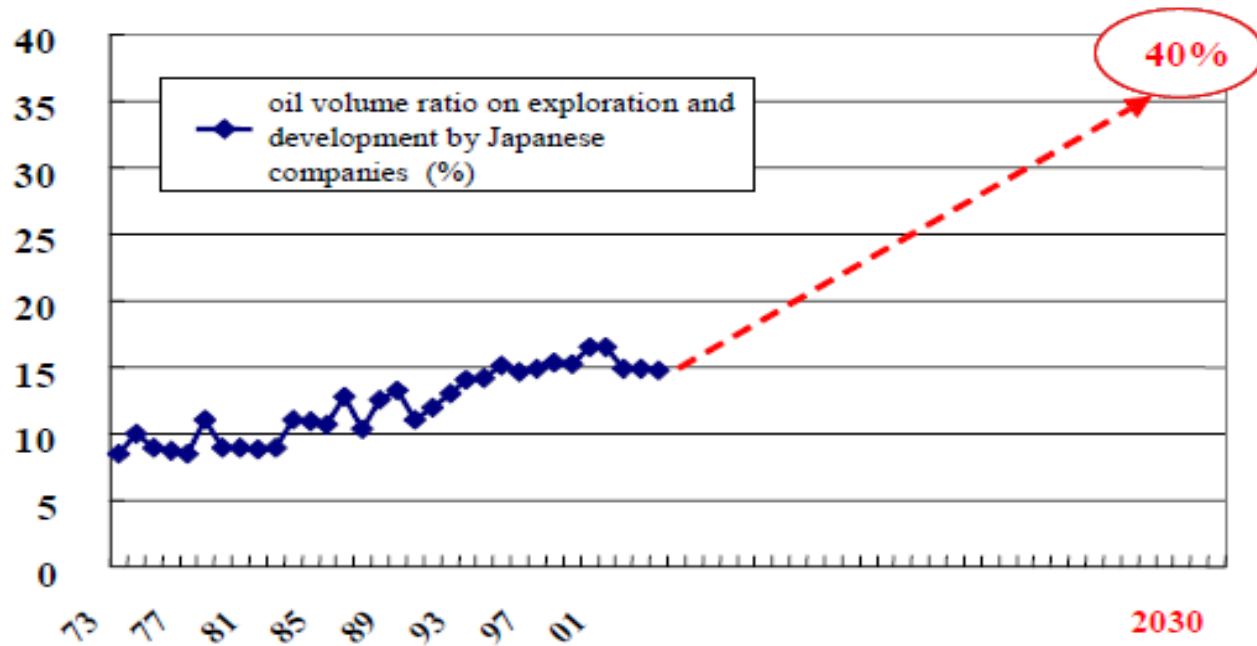
Source; New National Energy Strategy (May 2006)

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<http://www.enecho.meti.go.jp/english/data/newnationalenergystrategy2006.pdf>

Energy Strategy Goals (3)

Figure 21: Oil volume ratio on exploration and development by Japanese companies



Source; New National Energy Strategy (May 2006)

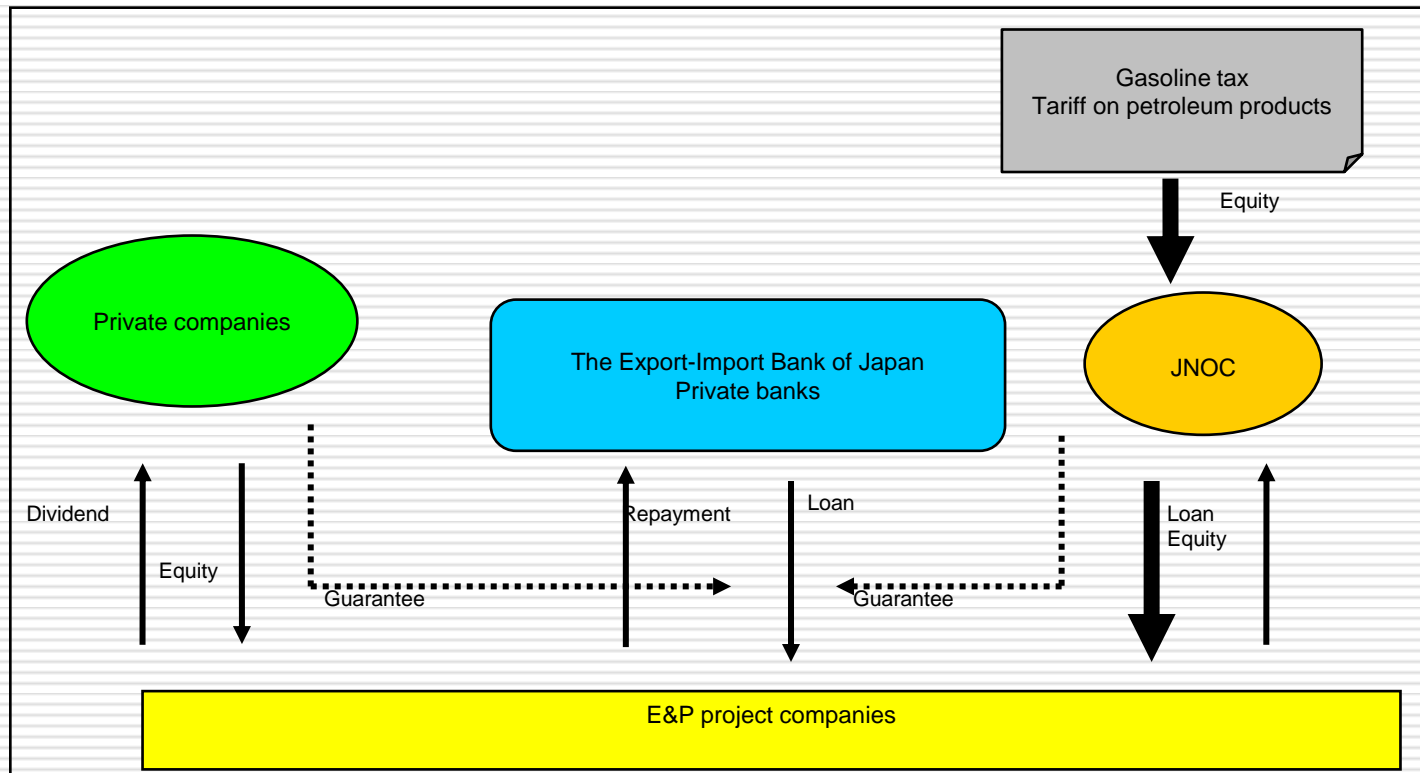
<http://www.enecho.meti.go.jp/english/data/newnationalenergystrategy2006.pdf>

Past Efforts of Oil Development by Japan

When target was set	Target of own-developed oil	Target Data	Result
1965	30% of total import of 881 million barrel/yr	1985	10.7% 133 million barrel/yr
1967	30% of total import	1985	10.7%
1978	1.5 MMBD	1990	0.45 MMBD
1983	1.2 MMBD	1995	0.69 MMBD
1993	1.2 MMBD	At the beginning of 21 st century	0.58 MMBD
2000	Cancellation of numeric target	-	-
2006	40% of total import	2030	?

Source: Masanari Koike*, Gento Mogi, Waleed H Albedaiwi, "Overseas Oil Development Policy of Resource-poor Countries: A case study from Japan", (Draft) to be published, 2007

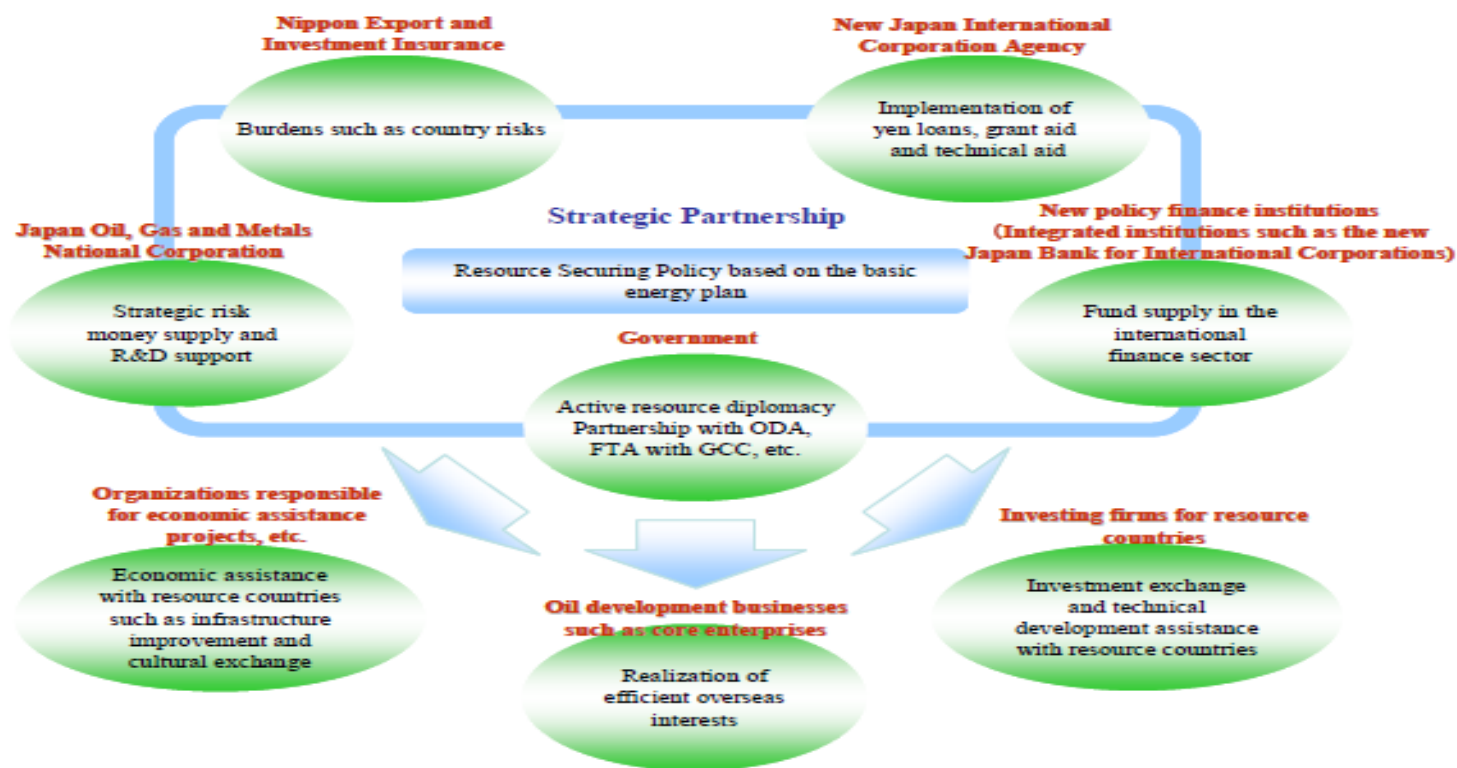
Structure of JNOC's financial support



Source: Masanari Koike*, Gento Mogi, Waleed H Albedaiwi, "Overseas Oil Development Policy of Resource-poor Countries: A case study from Japan", (Draft) to be published, 2007 ¹⁷

New Scheme for Oil Resource Development

Figure 22: Comprehensive reinforcement of the resource development system



Source; New National Energy Strategy (May 2006)

<http://www.enecho.meti.go.jp/english/data/newnationalenergystrategy2006.pdf>

Japan's New "Resource Diplomacy"

BBC World News, August 28, 2006

Koizumi begins Central Asia visit
Japanese Prime Minister Junichiro
Koizumi has arrived in
Kazakhstan to begin the first visit
to Central Asia by a Japanese
premier



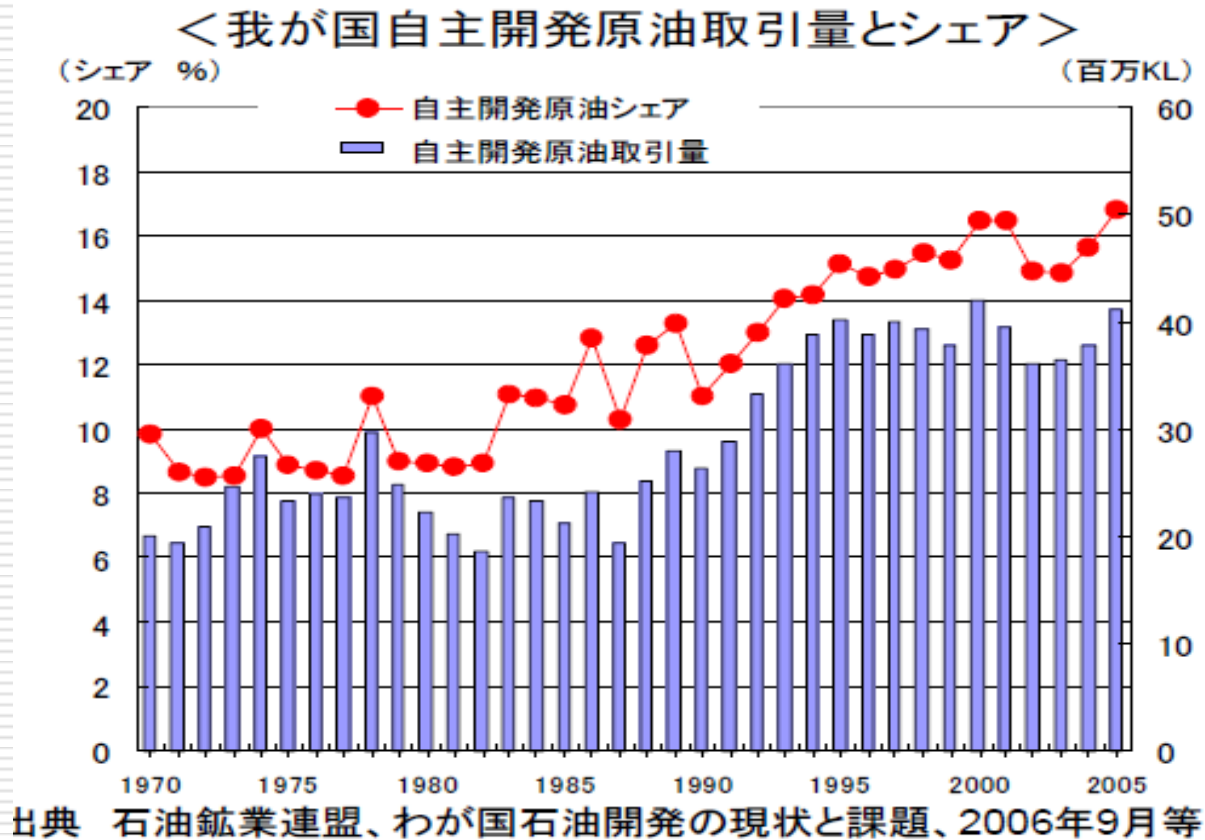
“In the game of regional politics, Japan feels it has a role to play in helping offset growing Russian and Chinese influence”

Col Christopher Langton

International Institute of Strategic Studies

source: BBC News <http://news.bbc.co.uk/2/hi/asia-pacific/5291858.stm>

Self-developed oil trade and its share



self-developed
oil ratio(%)

Self-developed
oil trade (mill kl)

Asia energy and environment cooperation strategy

- Promotion of Energy Conservation based on the Asia Energy Conservation Program
 - China, India, Thailand, Vietnam...
- New Energy Cooperation in Asia
- Dissemination of clean use, production and safety technologies of coal in Asia
- Building the stockpiling system in Asia
- Promotion of regional cooperation on nuclear power in Asia

CONCLUSION

- Energy Security Strategy has changed significantly
 - More complex, diversified, multi-layered strategy
 - “Diversity” is a key word to enhance energy security strategy
 - Applying “comprehensive energy security strategy”
 - Concern over “politicization” of oil market has encouraged Japan to increase share of “self-developed” oil import (up to 40% by 2030)
 - But its implementation may not be so easy
 - Cooperation with Asian countries, especially on energy efficiency, is an essential part of new energy strategy
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