

# The Energy Scenario 2050

by Citizen side for Sustainable and Peaceful future

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## 1. Introduction

1) At present, the energy outlook in Japan is planned mainly by policy makers and people in energy industry.

e.g.) "Long-Term Prospect of Energy Demand" by the government

"Power Supply Plan" by utilities

## 2) Problems

- Mass-production, mass-consumption and mass-disposal are not reflected.
- The duration prospected for is too short - 10 years.
- Energy increase is considered as an inevitable phenomenon.
- Nuclear energy is premised.

→The Outlook is planned by those who get profits from energy consumption increase.

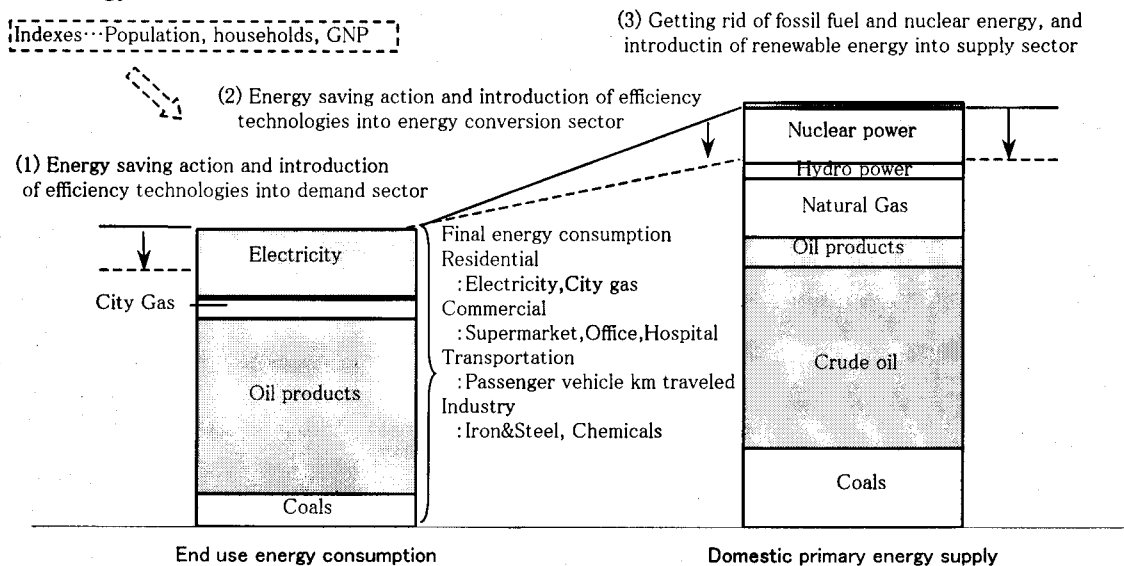
→Citizens who consume energy for their demands and pay money for it should play a vital role in energy outlook planning.

## 3) Purpose

This study tries to obtain the long-term energy outlook desirable for citizens/consumers from their viewpoints.

## 2. The energy scenario by citizen side

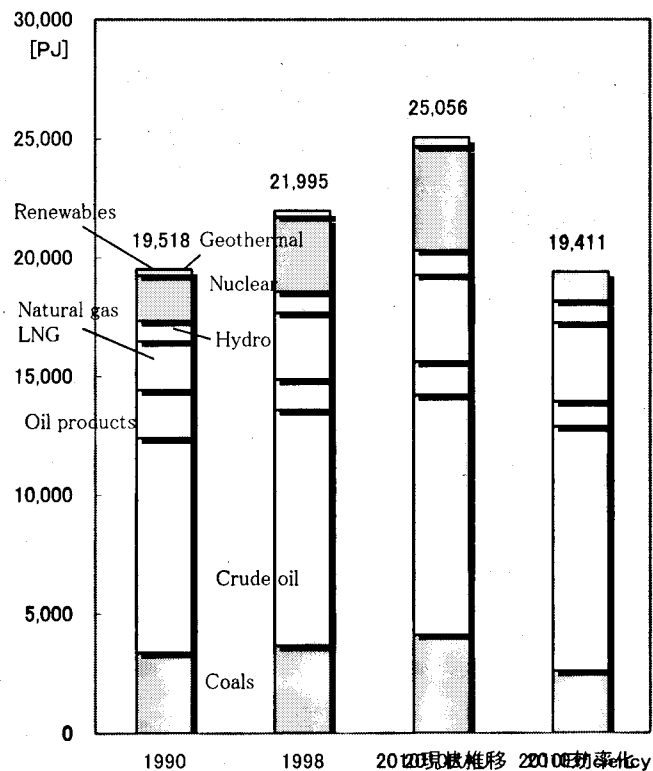
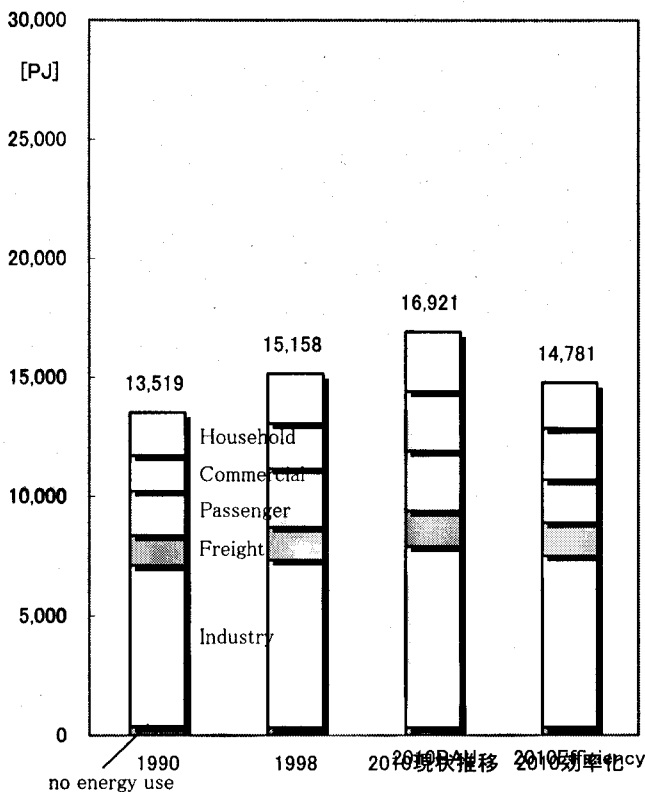
### 1) CNIC energy model



## 2) Energy efficiency technologies and energy saving action (examples)

Sector	Measure	Assumption
Residential	Energy Efficiency	Improvement of Energy Efficiency
	Air Conditioner	33% (1252.6→850.0kWh/year/unit)
	Refrigerator	50% (595.3→300.0kWh/year/unit)
	fluorescent lights	17% (179.7→150.0kWh/year/unit)
	TV	23% (177.0→135.0kWh/year/unit)
	New hot water supply system	16% reduction in LPG, town gas
	Change burner direction for stand by system	15% energy saving (6.58kcal/household)
	Reduction of electricity for stand-by system	1/10 (270→27kWh/household/year)
	Energy saving action in house	20% reduction in electricity
Commercial	Achievement of Standards for energy saving law	Reduction in electricity
	LED traffic lights	508.1kWh/light, Introduction rate: 100%
	Emergency lights	153.3kWh/light, Introduction rate: 70%
	Retained heat for hot water supply	10% reduction in energy (restaurant, hotel, hospital)
	Latent heat for hot water supply	15% reduction in energy (restaurant, hotel, hospital)
	New type of elevator	75% reduction in electricity
	Vending machine	54% reduction in electricity
	High efficient transformer	Energy saving: $1.8 \times 10^9$ kWh (80%)
	Plant greens in city	Introduction area: $1.25 \times 1.0^4$ ha
	Plant greens in roof	Introduction area: $6 \times 10^6$ m <sup>2</sup>
	Micro gas turbine	Introduce of 10,000 turbine
	Energy saving action in office	20% reduction of electricity

## 3) Result of calculation



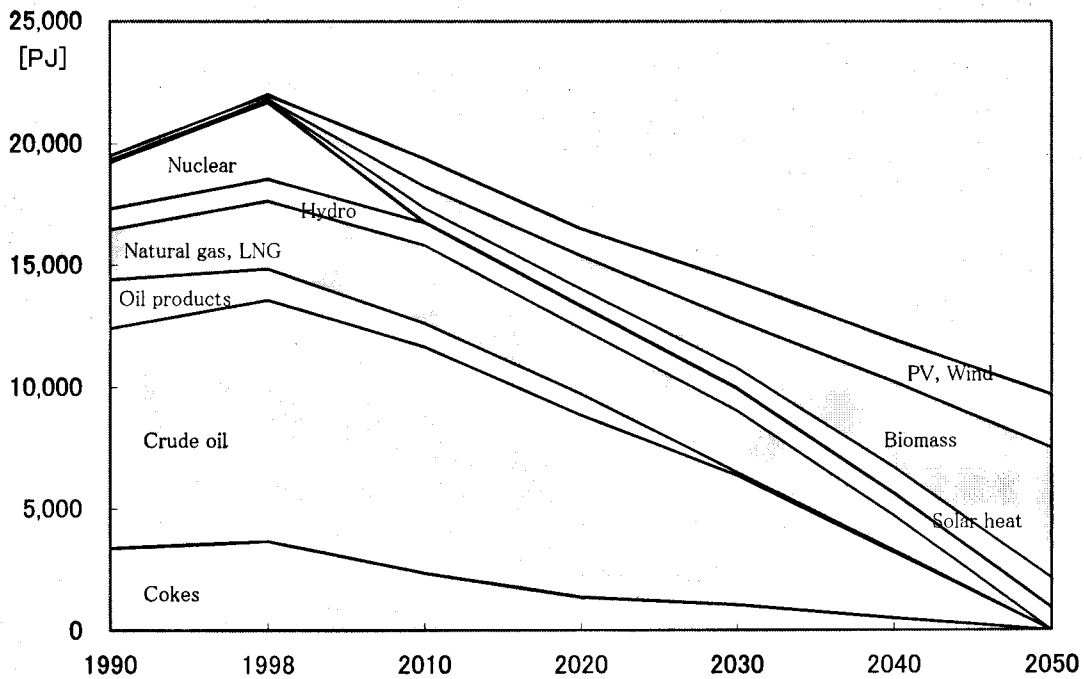
An outlook different from that by the government is obtained, in spite that the same indexes (the number of electrical appliances, cars and so on), energy efficiency technologies and global warming preventive measures, which are introduced by the government, are assumed.

- "Closure of nuclear power plants would not promote global warming."
- "Closure of nuclear power plants would not cause blackouts."
- "Reducing energy consumption does not affect the quality of our life."

#### 4) Comparison of nuclear energy and renewable energy

	Nuclear energy	Renewable energy
Technologies	•Special knowledge is required.	•Easily understandable
Source of energy	•Artificial nuclear fission	•Natural energy
Capital	•Intensive	•Manifold
Particular (generation)	•Only specific people participate	•Relatively open to anyone
Reaction to demand	•No CO <sub>2</sub> emission	•No CO <sub>2</sub> emission (except biomass)
Others	•Generate radioactive waste	•Does not generate radioactive waste
	•Fixed generation. Over generation requires increase in demand.	•Unstable generation. Low supply requires decrease in demand.
	•Information is controlled.	•Information is open.

#### 5) 100% renewable energy : Energy Scenario 2050



### 3. Conclusions

- Actions by each citizen have great power to change the government's energy outlook.
- Our future is decided by "what we will do", not "what it will be".

→ Let's act together now!

※ Tadahiro KATSUTA, *the energy scenario 2050*, Citizens' Nuclear Information Center (2003).