

IGES/RFF Climate Workshop

Resources for the Future, Washington D.C.

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Climate Change Policy Development in Japan

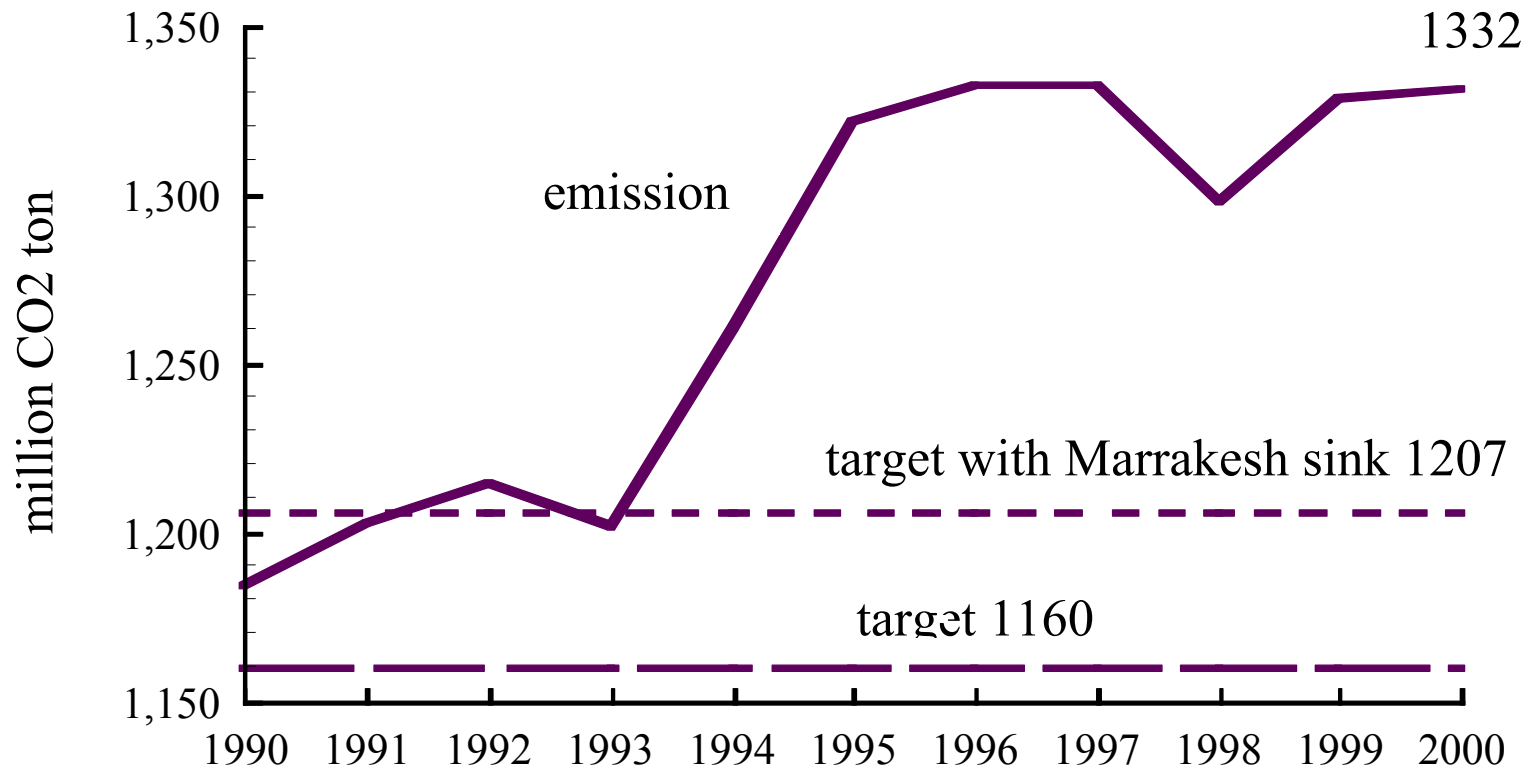
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GHG Emissions in Japan



Change of CO₂ Emission

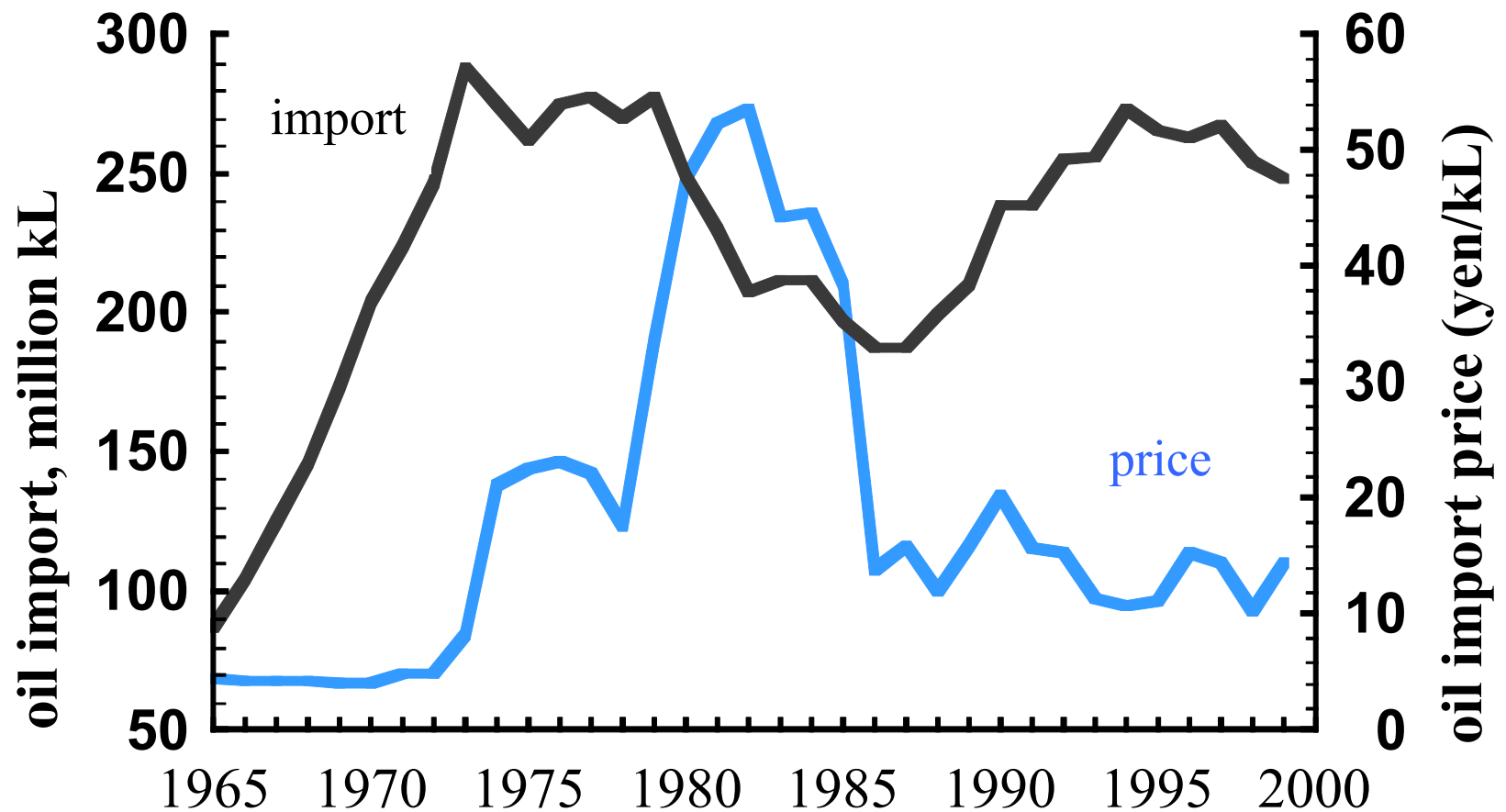
Major sectors	1990	2001	increase ratio (%)
Industry	476	452	-5.1
Transport	217	267	22.8
Business	144	188	30.9
Household	129	154	19.4

(million ton)

CO₂ Emission by Sectors in 2001

Major sectors	million ton	%
Power generation	460	37.9
Industry	256	21.1
Transportation	260	21.4
Business	96	7.9
Household	66	5.4

Oil Price and Import



Policy Development in Japan

- Ratified the KP (2002)
- New Climate Change Policy Program (2002.3)
 - 1st step 2002-2004
 - voluntary action by *Keidanren*
 - extension of the Energy Saving Law
 - new tax on coal (since 2003)
 - RPS (since 2003)
 - preparation for CDM/JI
 - 2nd step 2005-2007
 - additional policy ?
 - 3rd step 2008-2012
 - No plan beyond 2012

Energy Saving Law

- Energy efficiency standards of electric machines
- Fuel economy standards
 - Make incentive for consumer to increase activities
- Energy management at factories and office buildings: 1%/year
 - Fear of discretionary CaC by government

Electricity from Renewable Energy

- Renewable Energy (New Energy)
 - Wind, PV, small hydro, geothermal, biomass (incl. waste derived biomass)
- RPS from 2003
- Target : 12 billion kWh in 2010
- Safety valve : 11 yen/kWh
 - Cost of PV > 50 yen/kWh
 - Cost of middle scale wind > 20 yen/kWh

Preparation for the CDM / JI

- Registry
- Domestic approval process
- 25% subsidy for CDM/JI projects
 - Budget: 2.4billion yen in 2004
- Governmental loans
- Trade insurance
- But, no legal individual obligation, voluntary

New Tax on Coal

	Sep. 2003	Oct. 2003	April 2005	April 2007
LPG	670 yen/ton	800	940	1080
LNG	720 yen/ton	840	960	1080
Coal	----- yen/ton	230	460	700
Oil	2040 yen/kl	2040	2040	2040

Differentiated tax ratio (Vt-C)

	price without tax	taxes	price with taxes
General coal	7504	1083	8587
Gasoline	69825	88905	158730
Light oil for vehicle	64847	47652	112499
High sulfur heavy oil	29841	2738	32579
LNG	38288	1419	39707

Proposal of modifying existing energy tax ratios

(Yokoyama, Ueta, Fujikawa 2000)

- Equalizing tax ratios in terms of carbon will reduce the cost of emission reduction
- But there are reasons to differentiate tax ratios

Global Warming Tax proposed by Ministry of Env.

The purpose of the tax is to raise revenue.

The revenue is earmarked for subsidy for carbon reduction (energy saving) *technologies* to improve the return of investment.

- 2% reduction compared to 1990 emission (10% reduction from BaU in 2010)
- Necessary tax ratio : 3400 yen /ton-C.
- Expected revenue : 950 billion yen

A model analysis says that the subsidy will reduce the equal amount of carbon with the price effect of 45000 yen /ton-C tax !

Criticisms of the GW tax

- Burden of tax payment is still large
 - Concern of competitiveness
- Distrust of subsidy
- Cost effective reduction may not be possible because the subsidy allocation for technologies influences the choice of technologies
- Uncertainty of effect
 - Target is quantity

Amano Proposal (2003)

- The GW tax revenue is distributed for *emission reduction* by the UK type auction
 - Necessary reduction is about one tenth of emission. Necessary tax ratio is one tenth of the subsidy ratio
- Cost-effective
- Difficult to define *reduction*

What we learn from UK

- Climate Change Levy
- Climate Change Agreement
- Emissions Trading
- Incentive Money Auction

- Meaning of combination of policies
 - Tax exemption to urge larger emission reduction by agreements
 - Emission trading to improve cost effectiveness of agreed targets
 - Inconsistency between sector-wide agreements and emissions trading
- Emission reduction agreement is likely to be lax

What we learn from EU

- Move from carbon tax to emissions trading?
- Emissions trading
 - Cap and trade, downstream large sources, cap on 40 % of total GHGs emission, grandfathering, allocation
- Why could they agree with mandatory cap and trade?
 - Internal competition is major concern.
 - Low cost option

Emissions trading in Japan

- No Ministry is proposing at present
- Proposals of upstream emissions trading
- Experiment by the Mie prefecture
- Research project of emissions trading at TOCOM

- People don't want to be capped. But we agreed a national target by the Kyoto Protocol

Controversy on the Kyoto Protocol

- US withdrawal
- METI report (2003) criticized the framework of the Kyoto Protocol
 - actions vs. results
- Uncertainty of future international framework influences current domestic policy discussion
- But most people say that we should achieve the target which we ratified. It will be too late for Japan to achieve the target if we wait for the ratification by Russia

Conclusion

- Cost effective reduction is important irrespective of international framework
- Price of GHGs is needed
 - Carbon tax or emissions trading
 - Price vs. quantity
 - Auctioning vs. grandfathering
- Upstream approach is needed for small sources
- Gradual price increase is realistic