Perspectives and experiences of Japan on energy efficiency

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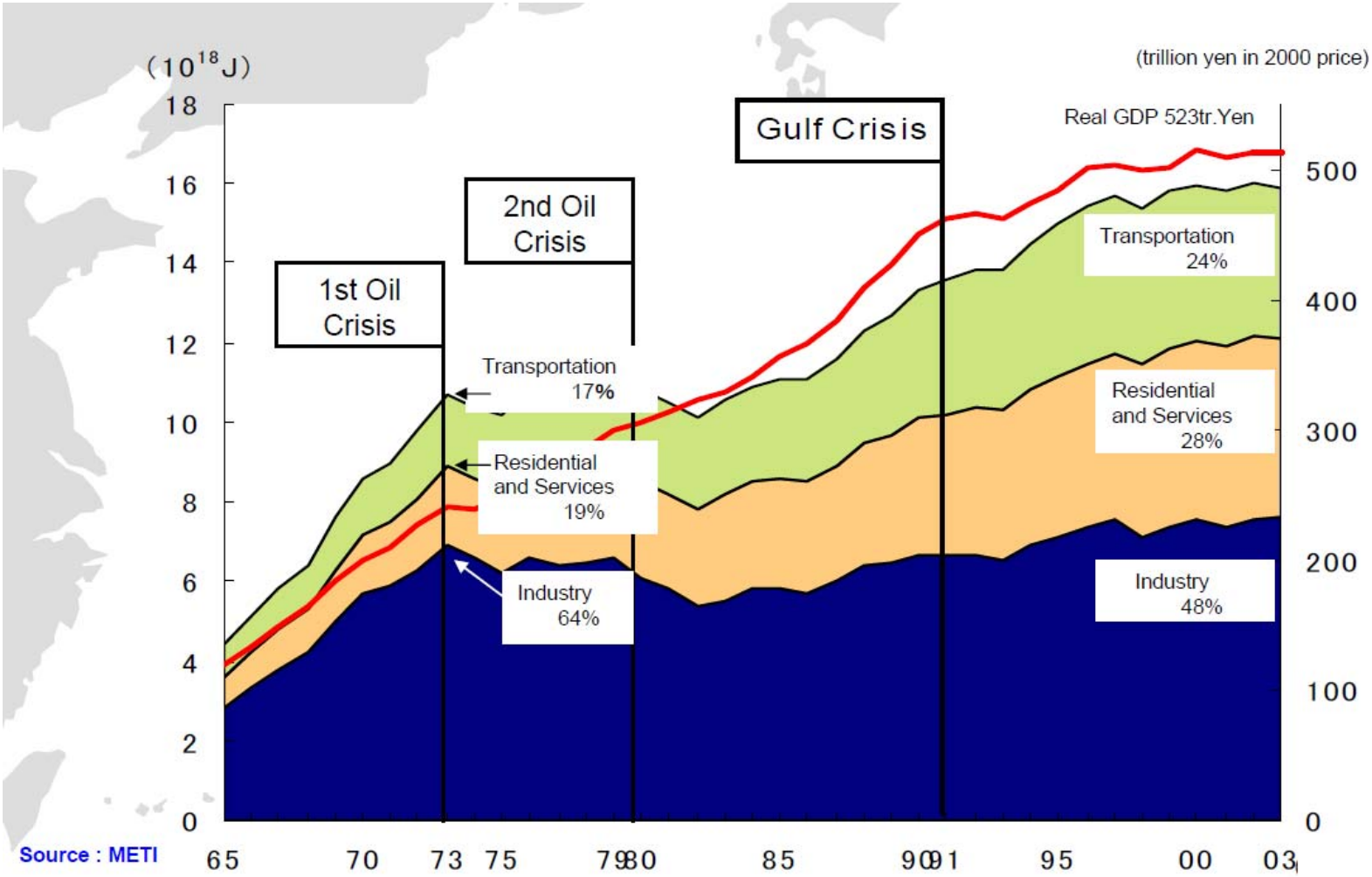
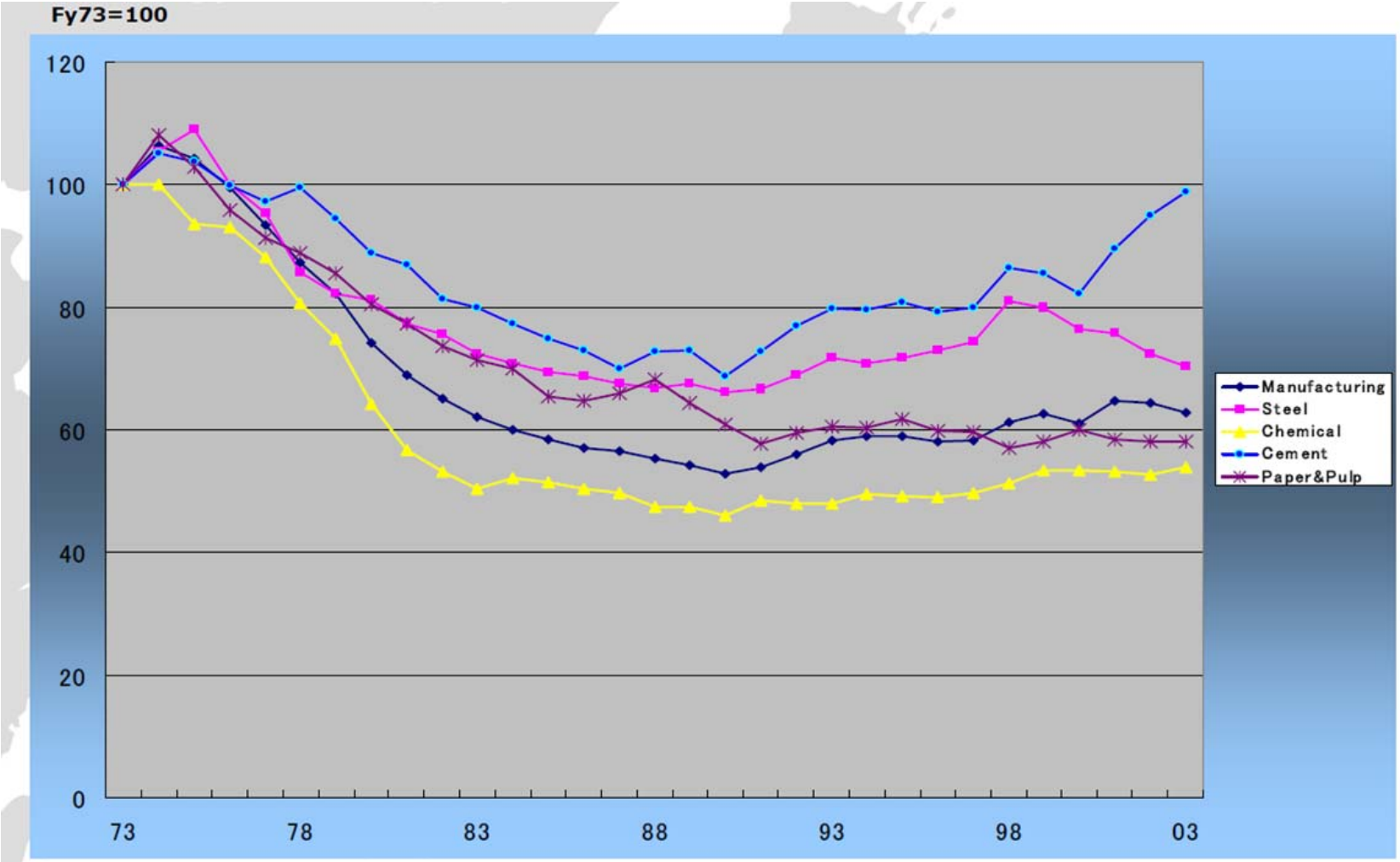
Performance of Japan's Energy Efficiency

Energy Consumption by Sector in Japan



Performance of Japan's Energy Efficiency

Energy Intensity by Industry in Japan



(energy consumption / IIP)

Source : METI

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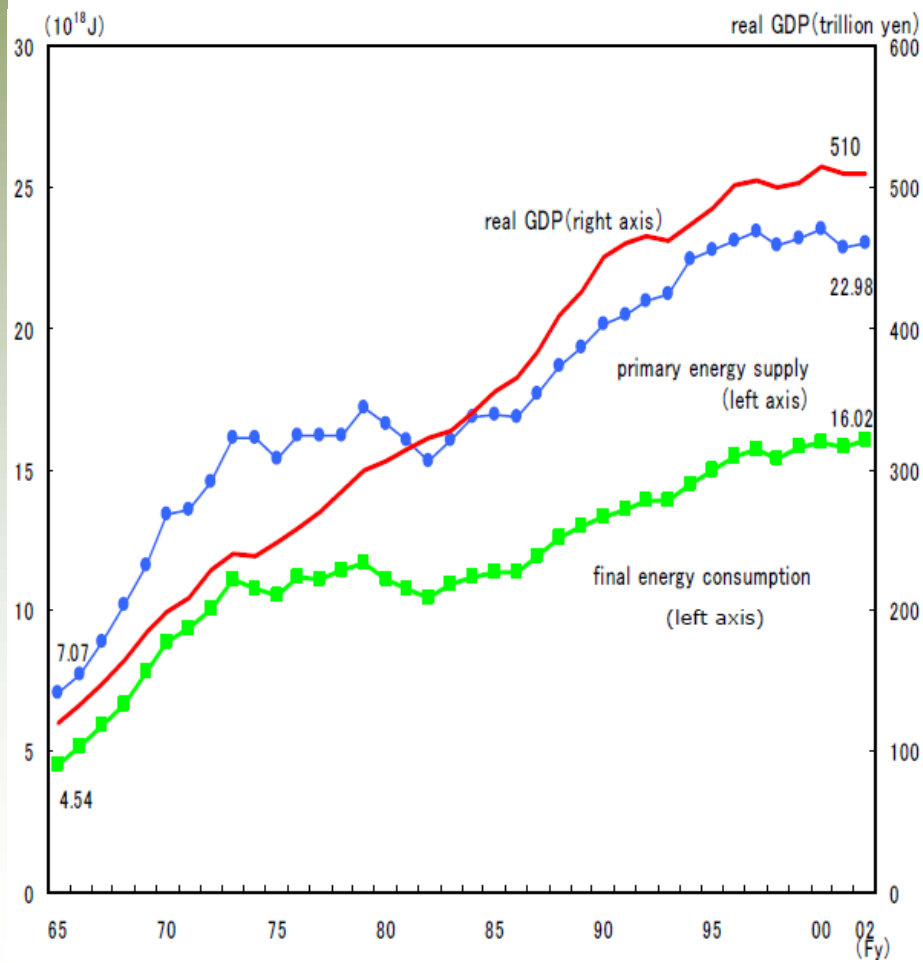
GDP and Energy Consumption in Japan



Elasticity

1965-'72	'73-'79	'79-'86	'86-'91	'91-2003
1.19	**0.29**	**-0.11**	**0.85**	**0.71**

Source: METI

Performance of Japan's Energy Efficiency

Energy Efficiency of Consumer Products

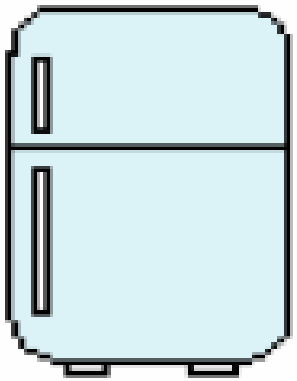
Refrigerator : Perfect example of "Factor 4"

1981
2.76 kWh/ℓ

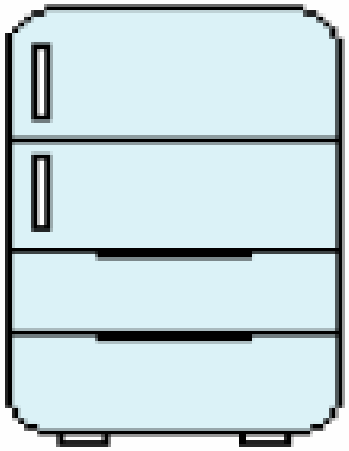
1991
2.20 kWh/ℓ

2001
0.75 kWh/ℓ

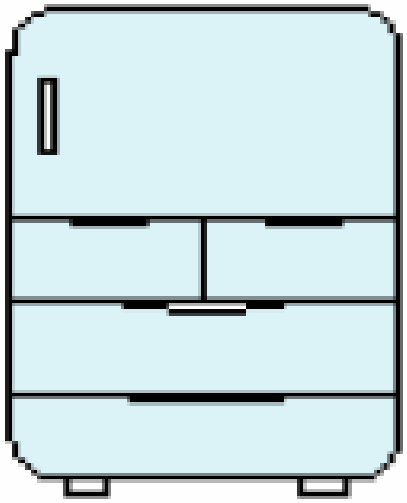
1981
230 ℓ



1991
413 ℓ



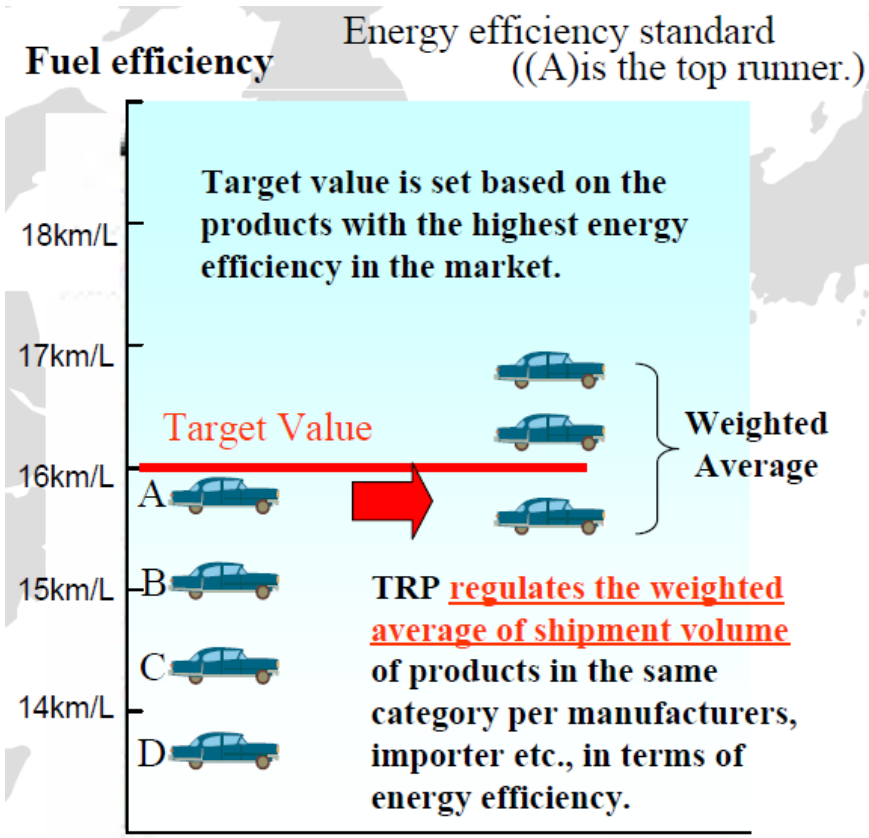
2001
442 ℓ



Performance of Japan's Energy Efficiency

Top Runner Program

Concept for setting target standard



Source : ECCJ

Currently designated products

Total 21 products designated

1. Air conditioners
2. Fluorescent lights
3. Television sets
4. Copying machines
5. Computers
6. Magnetic disk units
7. Video cassette recorders
8. Passenger vehicles
9. Freight vehicles
10. Electric refrigerators
11. Electric freezers

11 products designated in 1999

12. Space heaters
13. Gas cooking appliances
14. Gas water heaters
15. Oil water heaters
16. Electric toilet seats
17. Vending machines
18. Transformers (molded)

7 more products designated in 2002

19. Electric Ovens
20. Electric Rice Cookers
21. DVD Recorders

3 more products designated in 2006

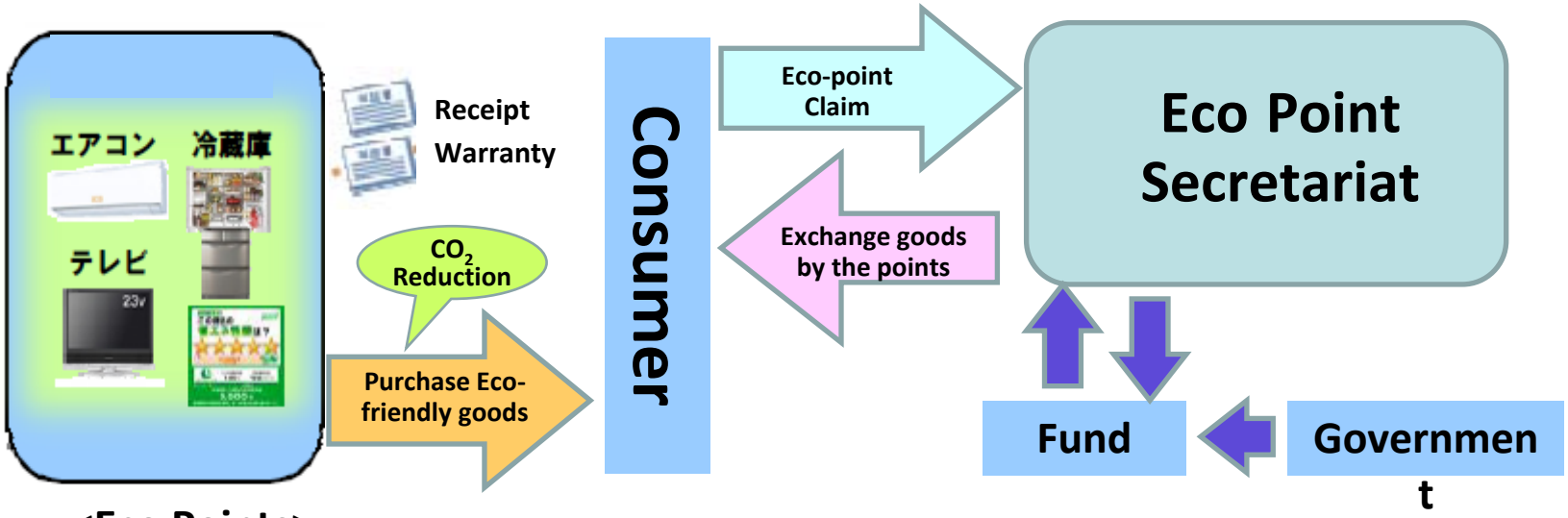
Performance of Japan's Energy Efficiency

Eco Point System

Stimulate purchasing Eco-friendly goods

Targets

1) CO_2 Reduction **2) Stimulate Economy** **3) Spreading Terrestrial Digital TV**



<Eco Points>

Air Conditioning		Refrigerator		Television	
3.6 kW or more	9,000 points	501 liter or more	10,000 points	46V or more	36,000 points
2.8 kW – 2.5 kW	7,000 points	401 – 500 liter	9,000 points	42V, 40V	23,000 points
2.2 kW or less	6,000 points	251 – 400 liter	6,000 points	37V	17,000 points
		250 liter or less	3,000 points	26V or less	7,000 points

Performance of Japan's Energy Efficiency

Eco point system - Effect

<CO_2 gas emission reduction>

400t/year reduction (4% of household emission reduction)

→ 4000t/10 years

<Economic Stimulus>

Electric home appliances, electronic parts, semi-conductor industries

→ stimulate 4,000billion yen

<Employment>

Stimulated job opportunity by new production

→ 120 thousand new employments

< Spreading Terrestrial Digital TV >

→ June 2011 Start Terrestrial Digital TV Broadcasting

Local Business Initiative (LBI)
(Eco-Home Diagnosis Programme)

Research Objectives

Increases in CO_2 emissions have been striking in the household sector!

⇒ Measures "go one step further" are necessary

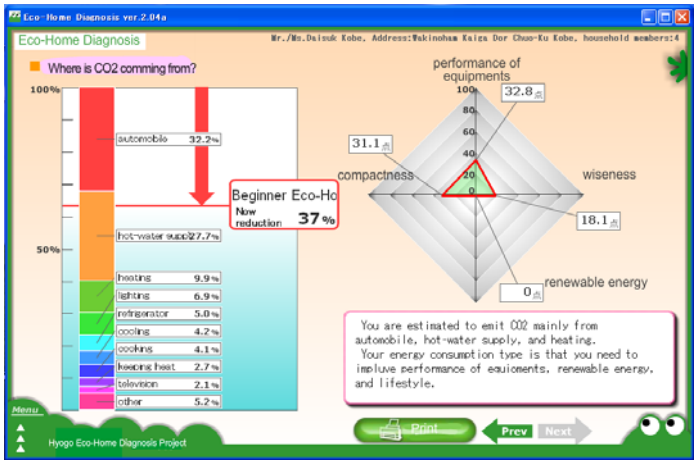
(Toward construction of a low-carbon society…)

⇒ The project of Eco-Home Diagnosis

Individual consultation aims to effect real reductions of CO_2 in household sector.

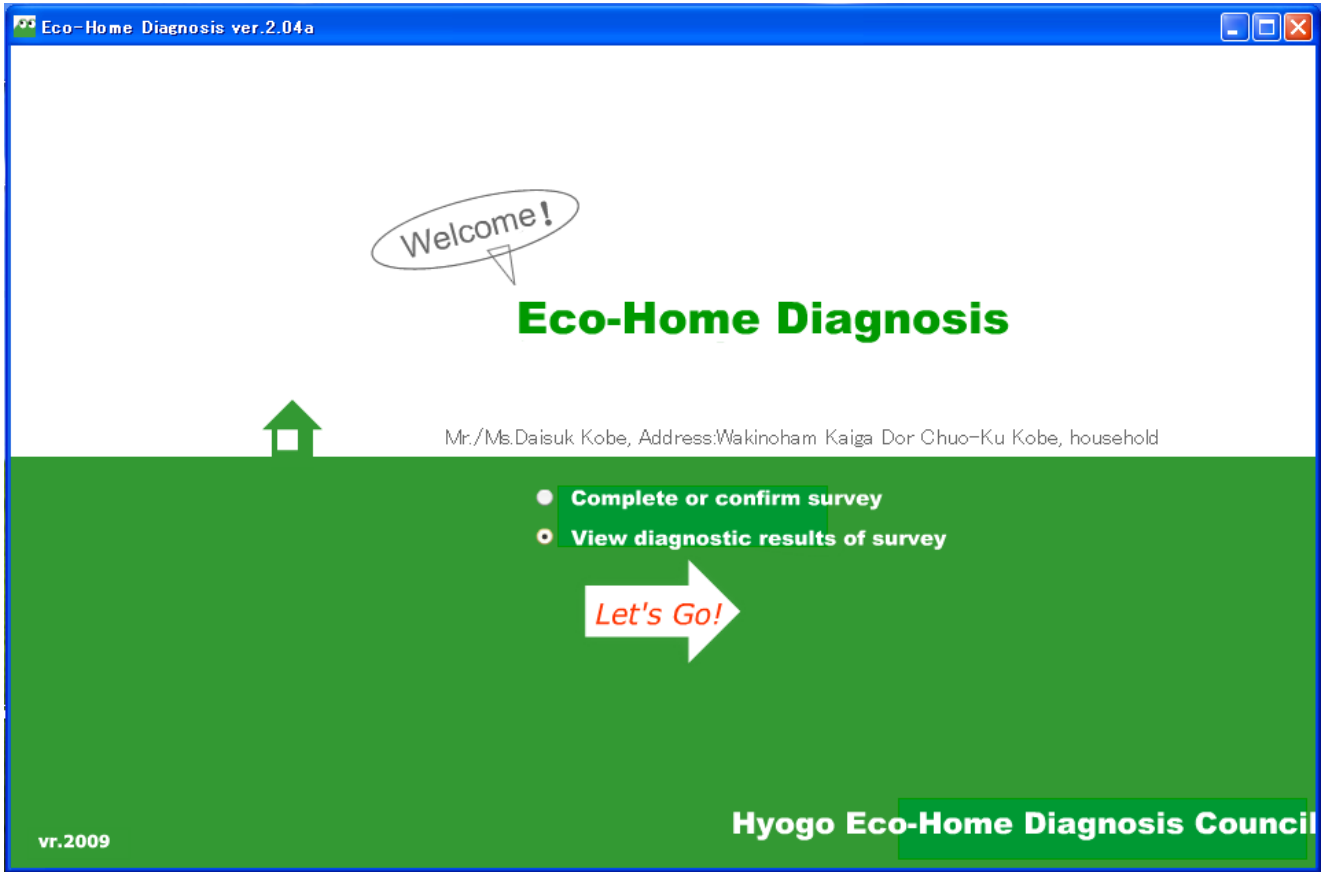
Talks of software development

Picture of "Eco-Home Diagnosis"

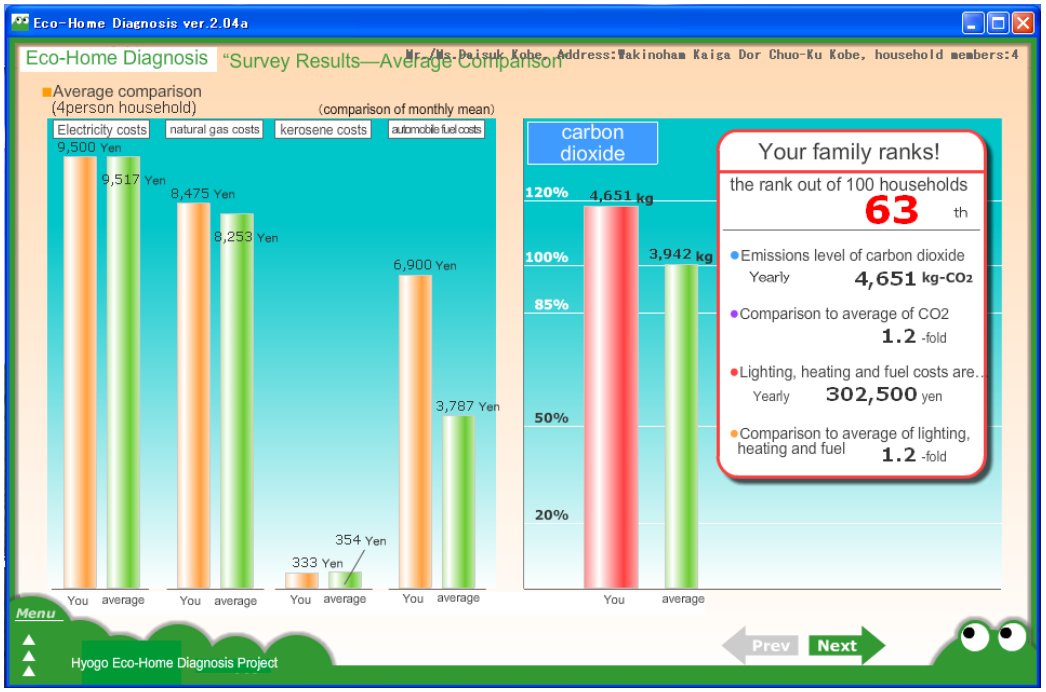


Developed "Eco-Home Diagnosis" Software

Starting screen



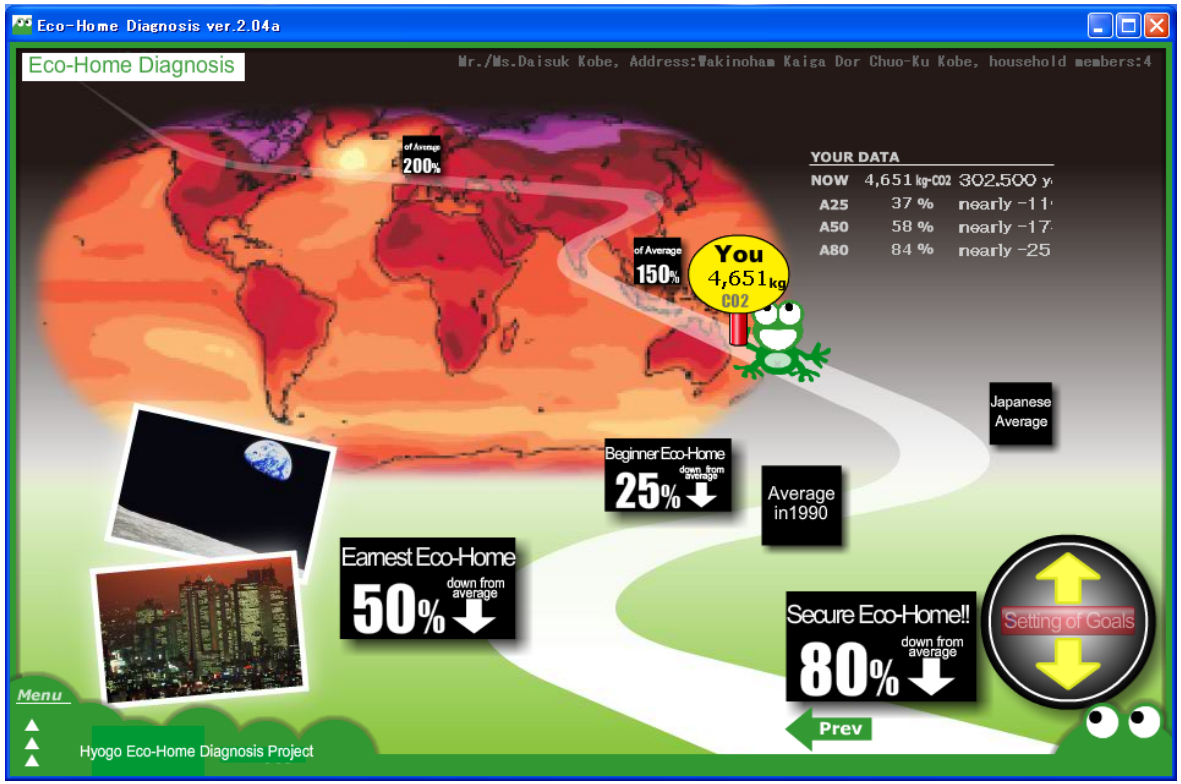
Comparison and ranking in relation to average CO_2 emissions
⇒ Reorganization of one's position



- Whether your household's utility costs are expensive or inexpensive compare to average households
- Whether your household's CO_2 emissions are large or small compare to average households
- Ranking is give to each household, based on emissions "assumed 100 households are in the area"

Understanding of necessary amount of reduction and clarification of reduction target

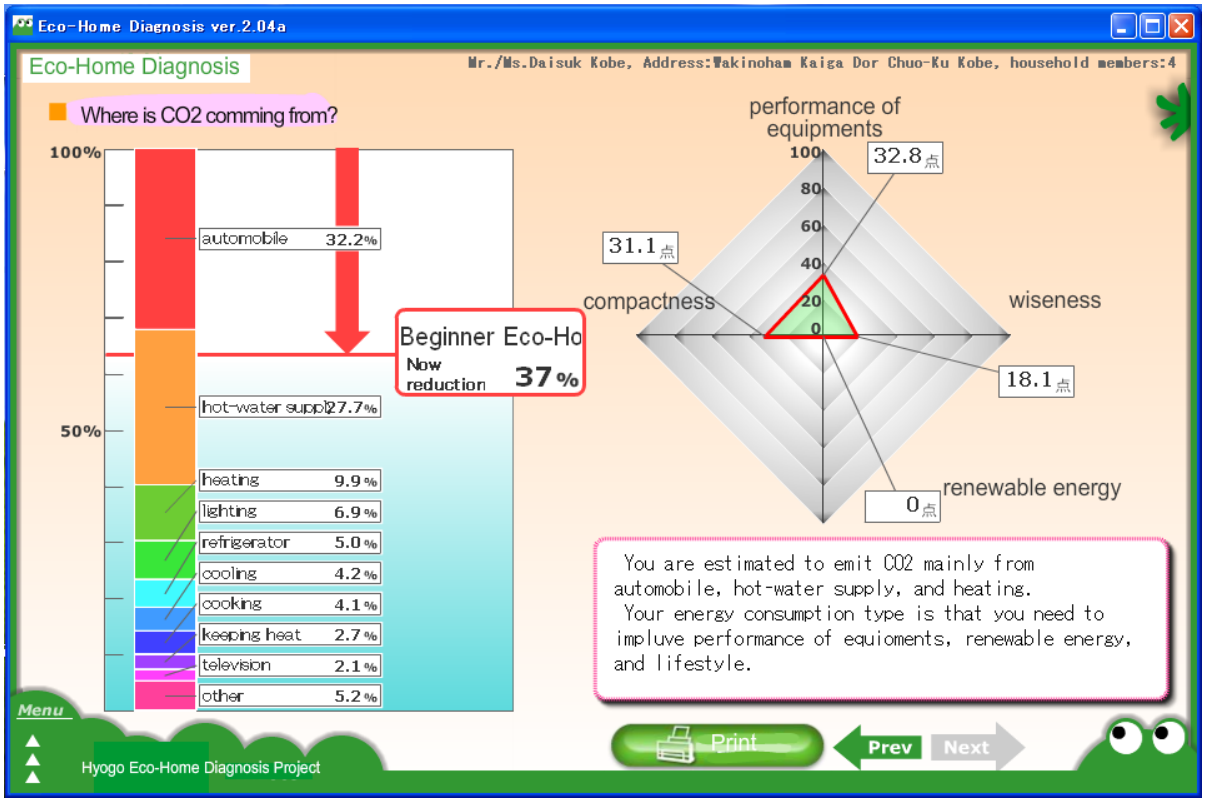
⇒ Confirmation of current positioned setting of reduction target



- Way toward the climate change mitigation (distance sense)
- “How much reduction” should we reduce? “our problem”

CO_2 emissions factor analysis

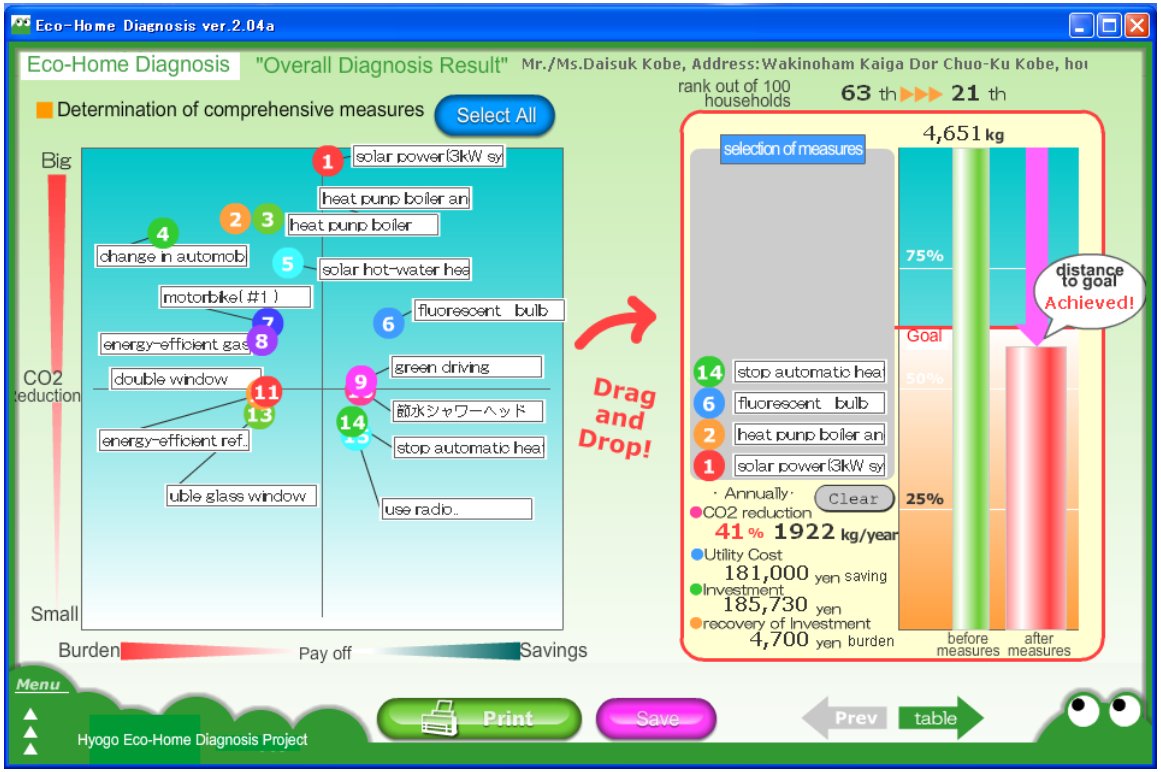
⇒ “Where from “ and “ how much” is being emitted?



- Emissions from 10 areas of daily living are analyzed
- Indicate the weak points by cobweb cart (analysis of causes)
- Break free from “ assumed eco-action”

Identification of effective measures

⇒ Instruction in reliable ways of CO_2 emissions



- The top 15 effective measures for CO_2 reduction are displayed
- CO_2 reduction effects and economic impacts are displayed by selected measures to be enacted
- Position changes through implementation of measures

LBI - Findings

Households are not necessarily aware of their main Emitting point of CO_2 .
(such as car use, hot water supply and air heating)

75%・・・・・It was found that 75% of all households agreed that, "there was an area of large CO_2 emissions ("blind spot" area) of which we were not previously aware".

40%・・・・・The pilot project also revealed that 40% of households were engaged in misdirected efforts in an area differing from the main emissions areas(assumed eco-action).

85%・・・・・Of the monitor households who underwent the Eco-Home Diagonosis,85% have either enacted recommended measures or have concrete plans to enact measures in the near future.

For those who are in "assumes eco", Eco-Home Diagnosis may be powerful approach to realize actual CO_2 reductions.


Unofficial meeting with MOEJ


Explanation to the governor of Hyogo Prefecture


Presentation at the Ministry of Environment in Indonesia (Feb.1.2010)

Thank you very much for your attention.

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