Keidanren's Perspective on Future Framework Beyond 2012

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# Overcoming the limitations of the current framework for the future

- 1) Coordination with energy policy and measures
- 2) Promotion of diffusion and development of technology: the key to climate change measures
- 3) Importance of multiple and flexible approaches
- 4) Utilization of "market mechanisms"
- 5) Improvement of the environment to promote efforts of developing countries

CDM/JI Buyers of project based market
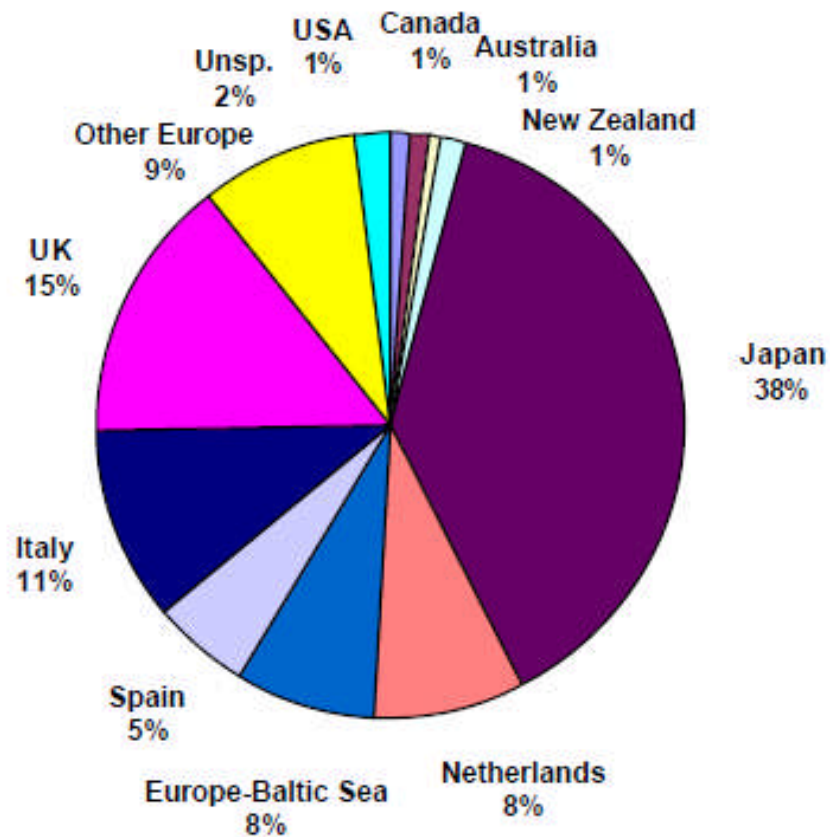
January 2005 to March 2006

Overall volume: 453.5 million t CO2e
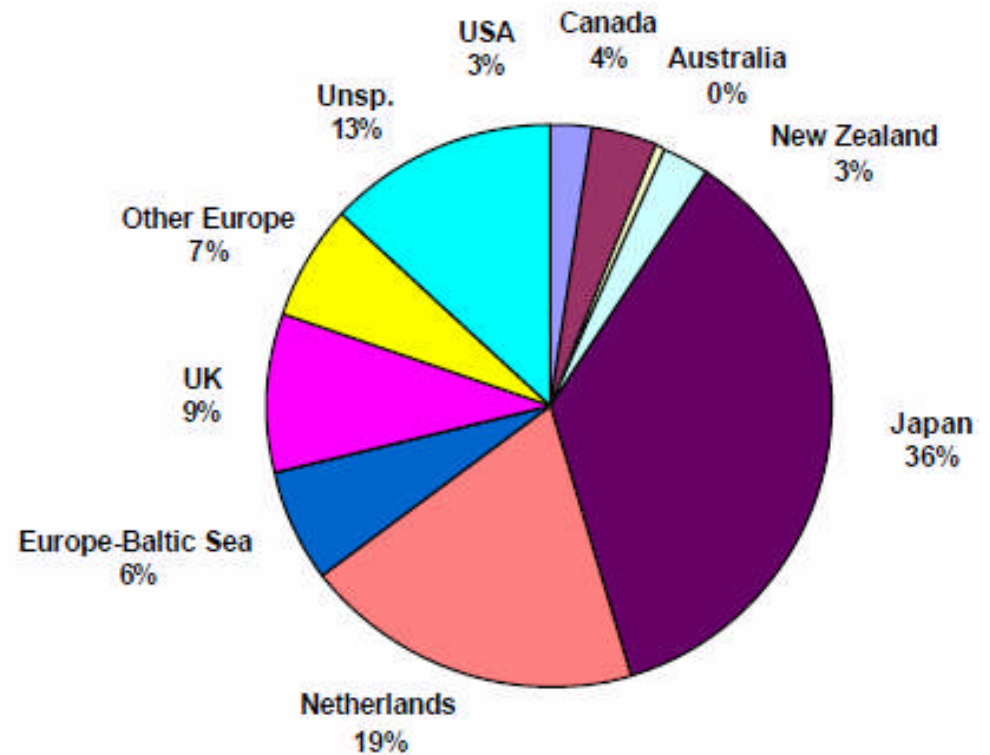
January 2004 to March 2005

Overall volume: 110.0 million t CO2e

(Source: World Bank, IETA)

Keidanren's Voluntary Action Plan

- Numerical targets for CO_2 emissions reduction set by each industry

  Targets are kind of;
  CO_2 emissions, CO_2 emissions intensity,
  energy consumption, energy intensity

- Overall target 'to suppress the CO_2 emissions in 2010 from industrial &

  energy-converting sectors below its

  1990 level'

- Annual review of the progress

CO₂ Emissions by 35 Industries in the Industrial and Energy-Converting Sectors
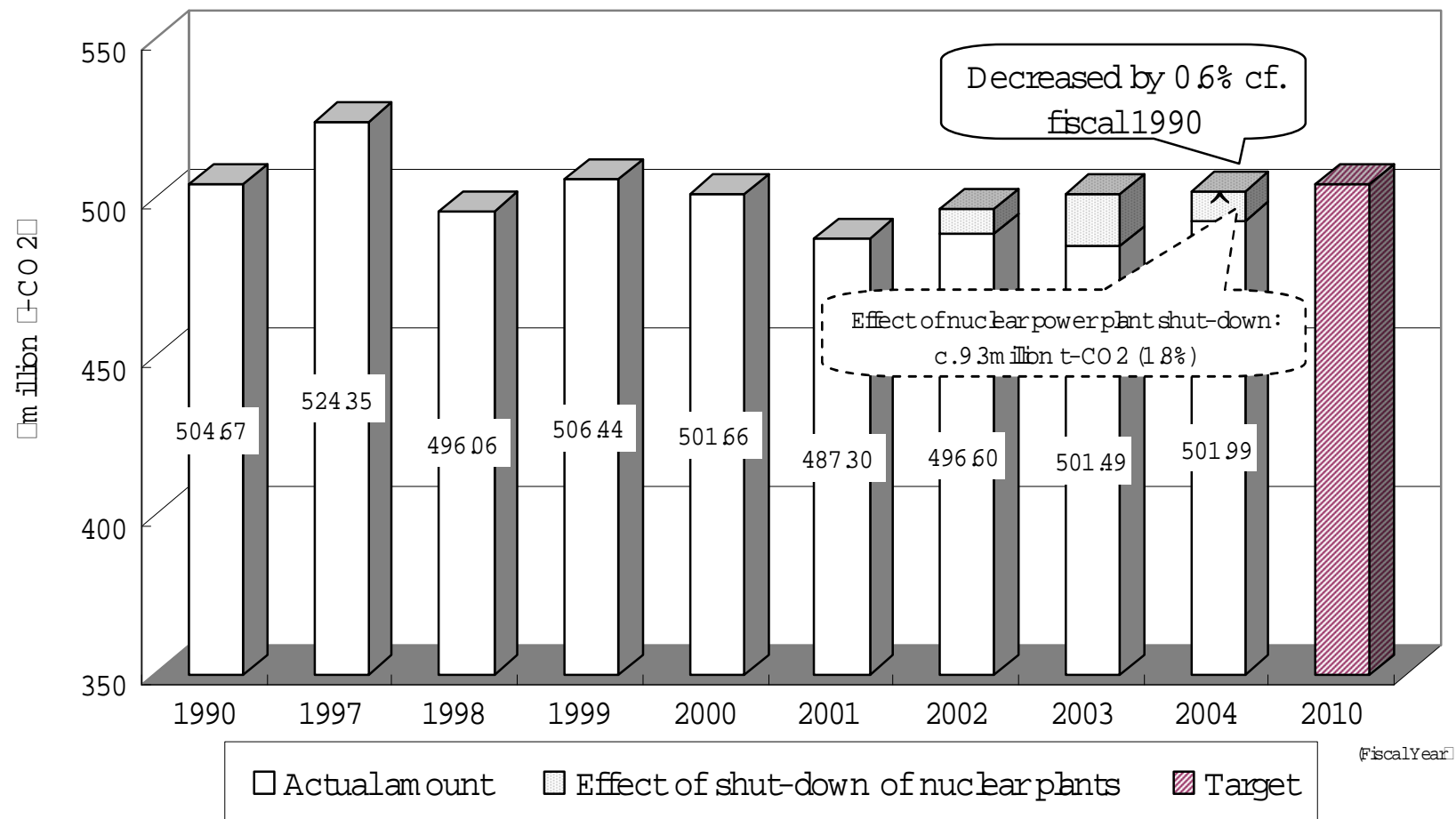
Analysis of 2005 follow-up

	Cf. fiscal 1990	Cf. fiscal 2003
Change in production	+8.6%	+2.0%
Change in CO_2 emissions per production	-9.2%	-1.5%
Change in CO_2 coefficient	+0.1%	-0.4%
Total	-0.5%	+0.1%

GDP and CO2 emissions of Major Countries

	Japan	EU (15 countries)	USA	China	Russia	India
GDP/World GDP (2001)	□□□	□□□	□□□	□□	□□	□□
CO2 emissions /World CO2 emssions (2001)	□□	□□□	□□□	□□□	□□	□□
CO2 emissions to produce same GDP （Japan = 1）	□	□□□	□□□	□□□□	□□□□	□□□□

Source: GDP: OECD 2003

CO2 emissions: IEA 2003

Cement CO2 Intensities by region, 2000
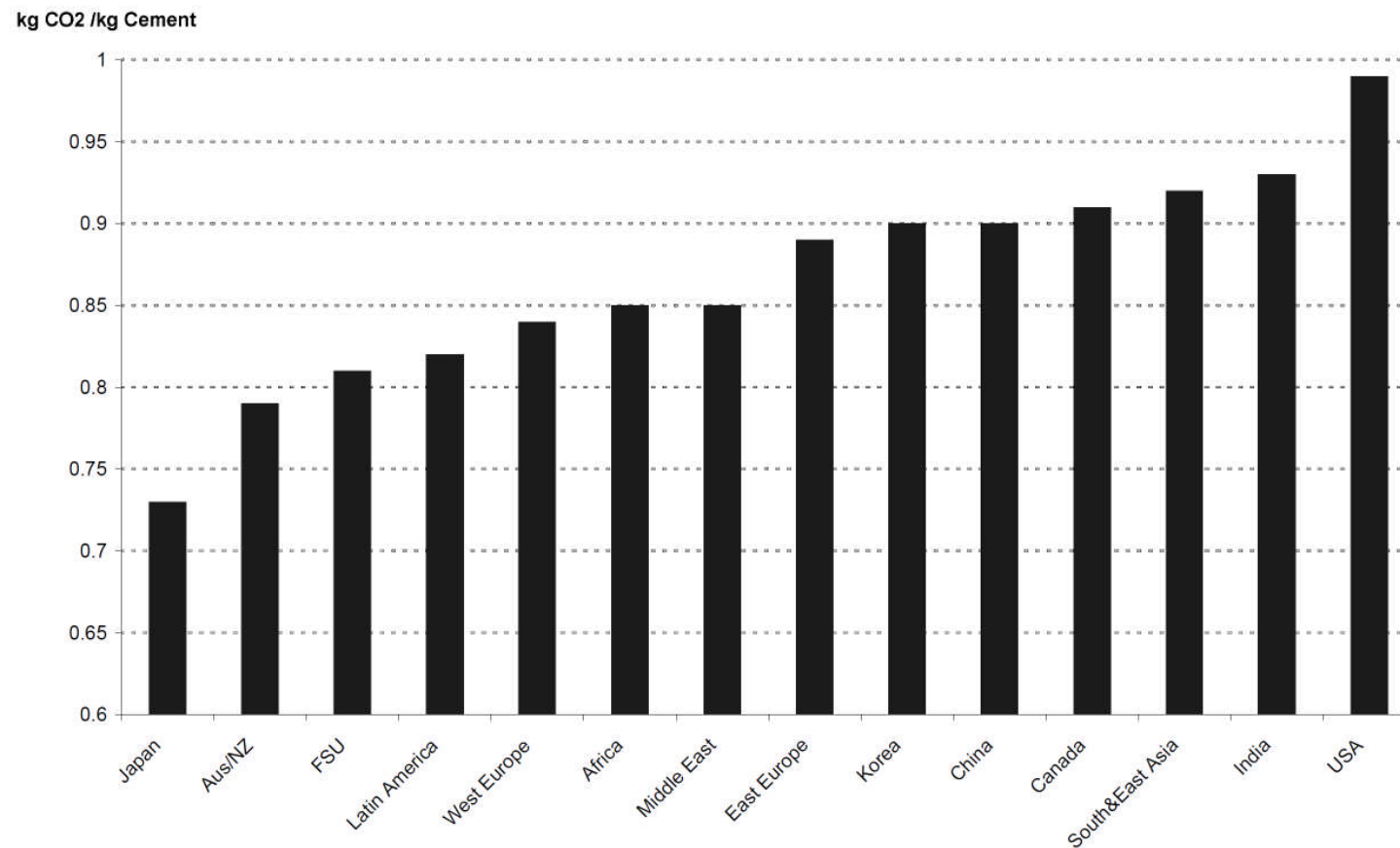
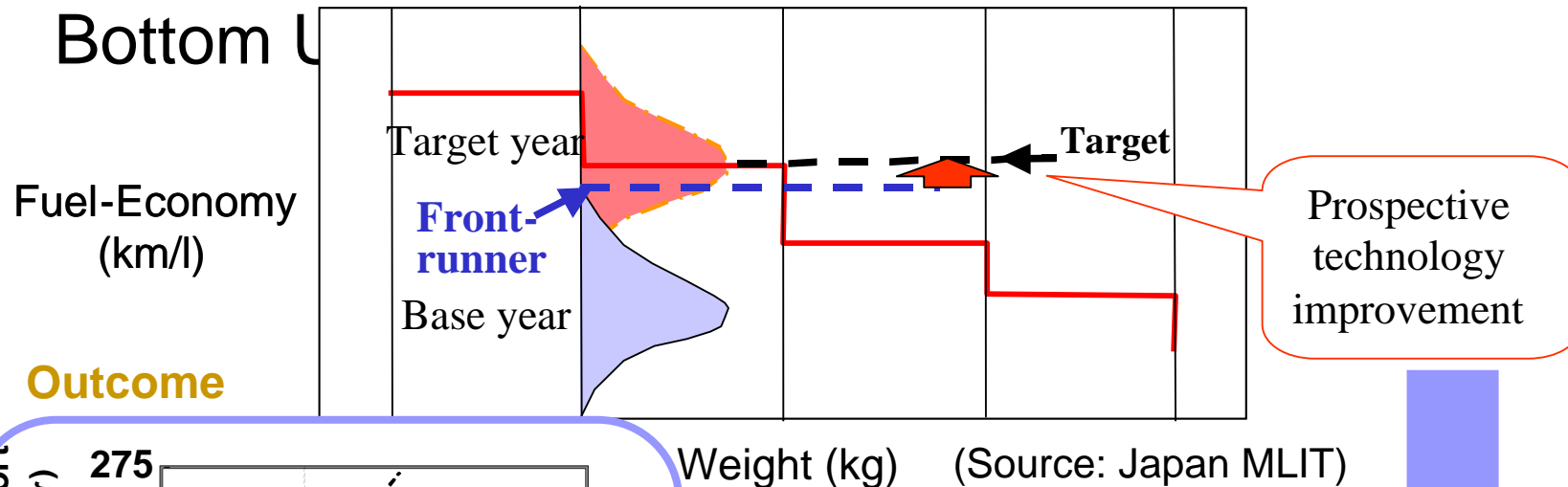Source: Battelle(2002): Toward a Sustainable Cement Industry(WBCSD)

Energy Efficiency Standards and measurement

- Improving Equipment Efficiency with the Top Runner Program
  The Top Runner Program was introduced in 1998 for the energy conservation standards for home/office appliances and the fuel economy standard of automotives.

  ☐Maximum standard value system

  ☐Target Products (21 Items)
    -home/office appliances
    (Air conditioners, Refrigerators/Freezers, Microwave Ovens, Rice Cookers, Fluorescent Lights, TV sets, Video Cassette Recorders, DVD Recorders, PCs, Magnetic Disc Units, Copying Machines, Electric Toilet Seats, ☐☐☐etc)
    -Transformers
    -Passenger Vehicles, Freight Vehicles

  ☐To establish target standard values for home/office appliances, reduction of standby consumption should be taken into account

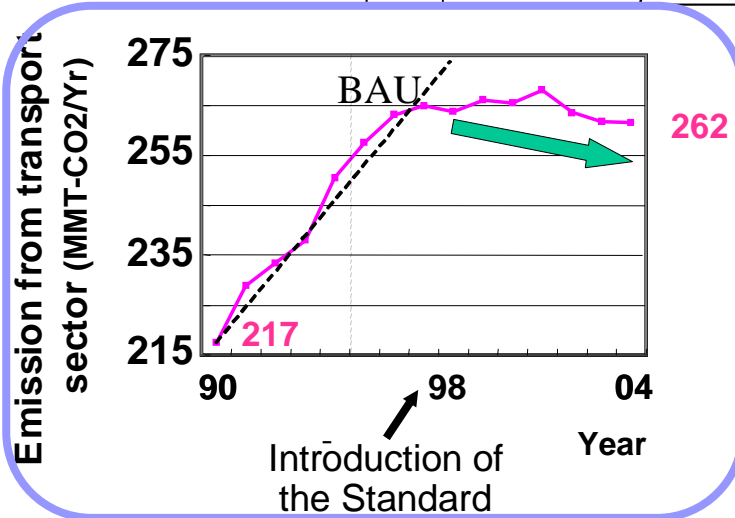 ☐Measurement methods should bear domestic and international harmonization in mind

Importance of Benchmarking

Bottom U

Fuel-Economy (km/l)

Front-runner

Base year

Target year

Target

Prospective technology improvement

Outcome

Weight (kg)   (Source: Japan MLIT)

Emission from transport sector (MMT-CO2/Yr)

275

255

235

215

BAU

262

217

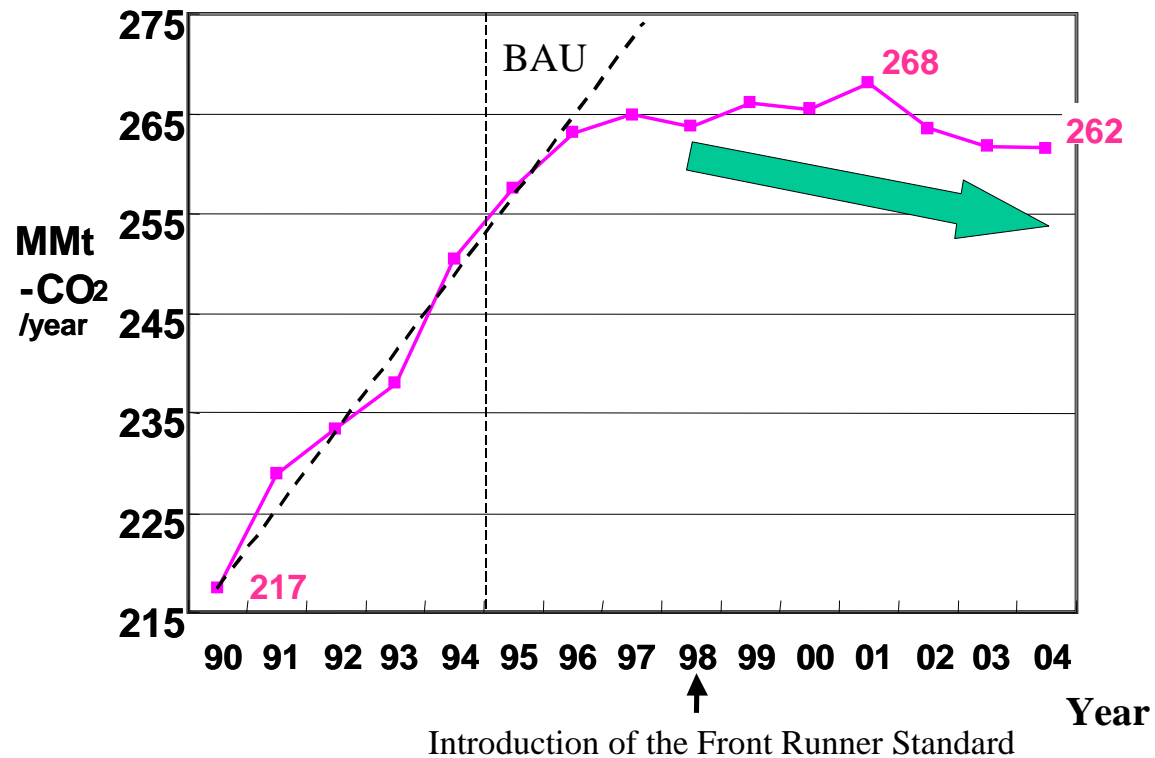90   98   04

Year

Introduction of the Standard

-Improvement of engine efficiency
   e.g. Direct-injection engine,
   Reduction of friction loss, etc.
-Improvement of driving-train
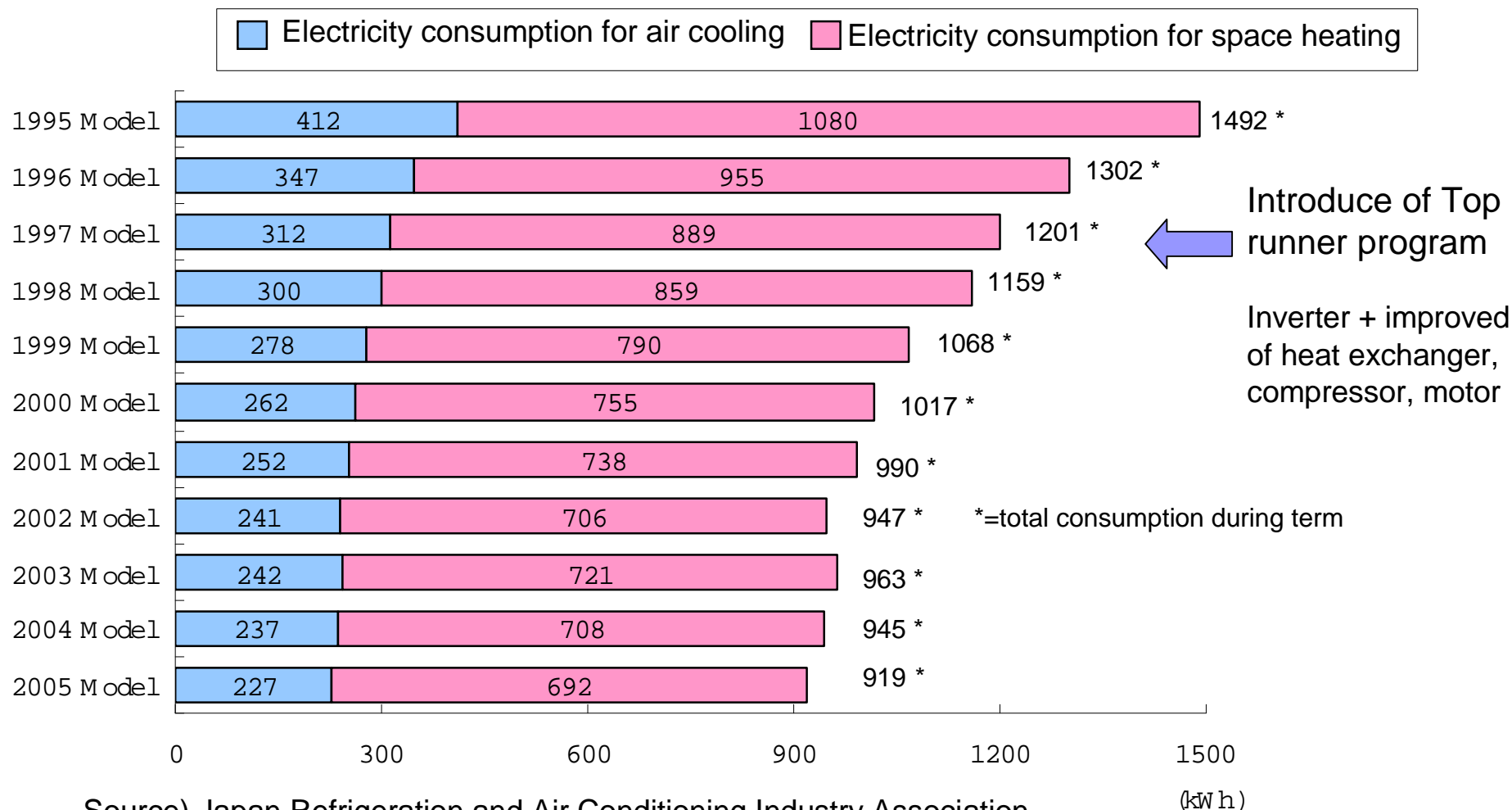   e.g. Multiple AT (5AT, 6AT)
-Dissemination of hybrid system

Status of Front Runner Approach

Example:Emission from transport sector and Japan Vehicle
Fuel efficiency standard

Improvement of energy conservation performance on Air Conditioners

| ☐ Electricity consumption for air cooling | ☐ Electricity consumption for space heating |

1995 Model	412	1080	1492 *
1996 Model	347	955	1302 *
1997 Model	312	889	1201 *
1998 Model	300	859	1159 *
1999 Model	278	790	1068 *
2000 Model	262	755	1017 *
2001 Model	252	738	990 *
2002 Model	241	706	947 *
2003 Model	242	721	963 *
2004 Model	237	708	945 *
2005 Model	227	692	919 *

Introduce of Top runner program

Inverter + improved of heat exchanger, compressor, motor

*=total consumption during term

0   300   600   900   1200   1500

(kWh)

Source) Japan Refrigeration and Air Conditioning Industry Association
Note)
☐Simple average values of typical models of energy conservation type wall-mounted cooling and heating air conditioners with 2.8kW cooling capability.
☐Based on Japan Refrigeration and Air Conditioning Industry Association standards JRAS4046 (standards for calculating room air conditioner term power consumption)