

Measures taken by the Ministry of Land, Infrastructure, Transport and Tourism to reduce CO₂ emissions

October 2009

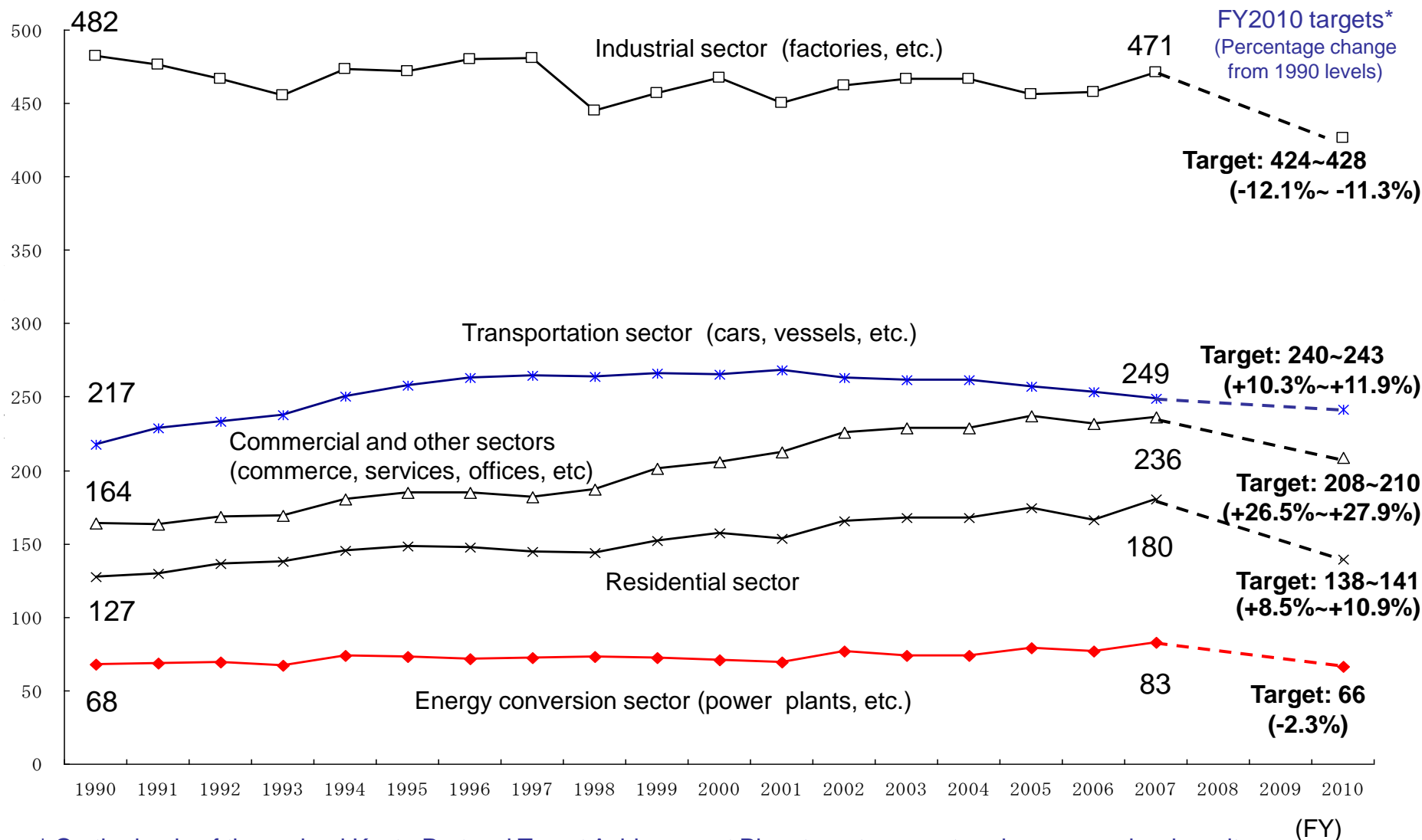
Housing Bureau, MLIT



Energy-originated CO₂ emissions by sector, and targets for 2010

Emissions in FY2007

(Million tons CO₂)



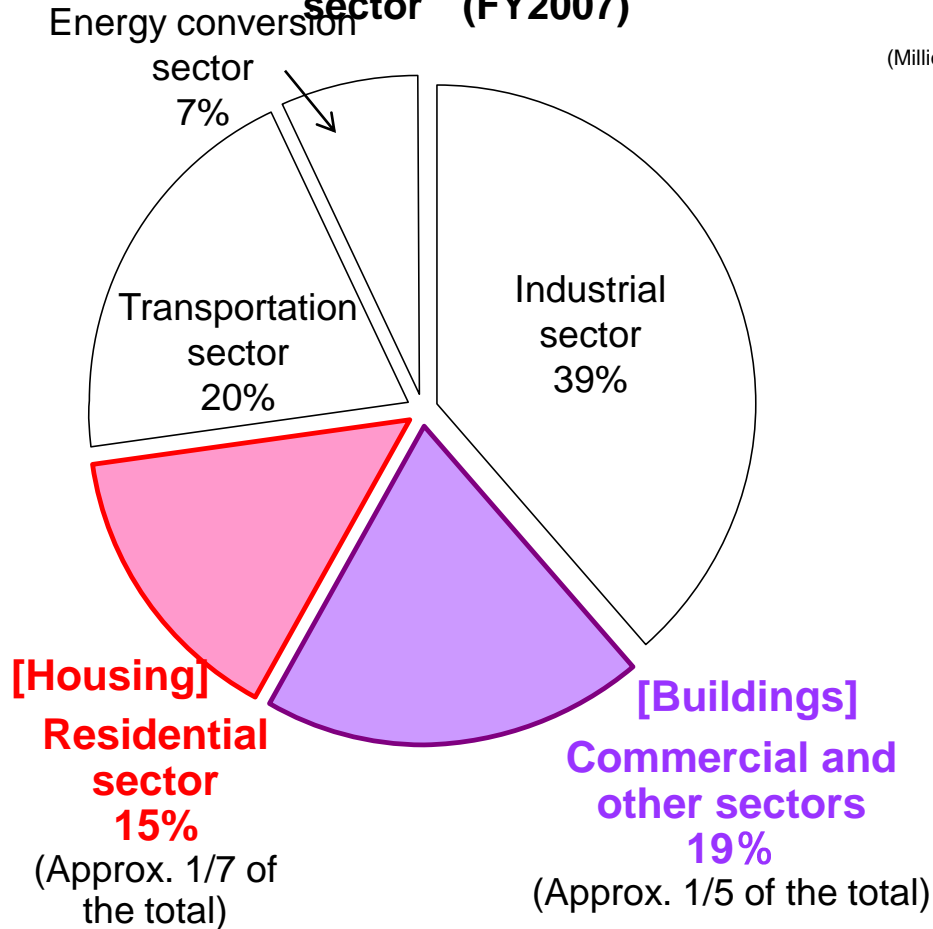
* On the basis of the revised Kyoto Protocol Target Achievement Plan, targets are set under a scenario where its measures will achieve the best possible effect.

Source: Press release by the Ministry of the Environment (MOE) on Apr. 30, 2009

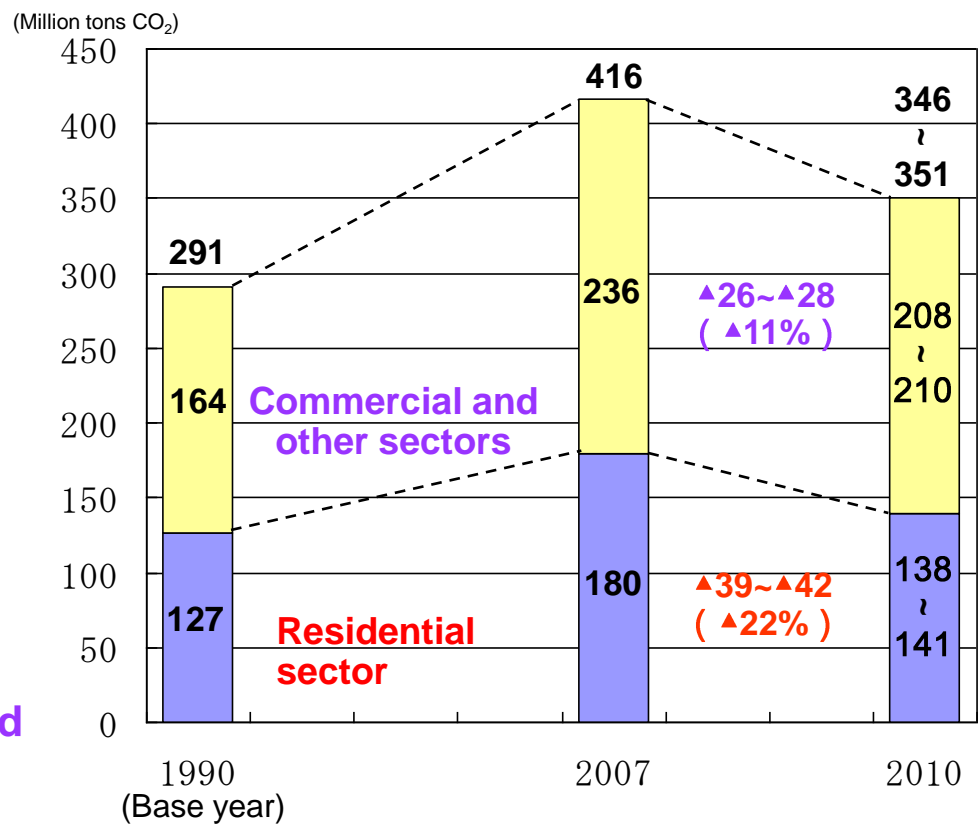
CO₂ emissions in the civilian sector (residential sector and commercial and other sectors), and targets for 2010

- ◆ Of the total energy-originated CO₂ emissions, the residential sector accounts for about 15% and the commercial and other sectors account for about 19%.
- ◆ CO₂ emissions from the residential sector increased 41.7% and the commercial and other sectors increased 43.9% from 1990 levels. In order to achieve the 2010 targets, the residential sector and the commercial and other sectors need to reduce their emissions by about 39 mil. to 42 mil. t-CO₂ (22% reductions from 2007 levels) and about 26 mil. to 28 mil. tons of CO₂ (11% reductions from 2007 levels), respectively.

● Energy-originated CO₂ emissions by sector (FY2007)



● Projected reductions in CO₂ emissions in the civilian sector

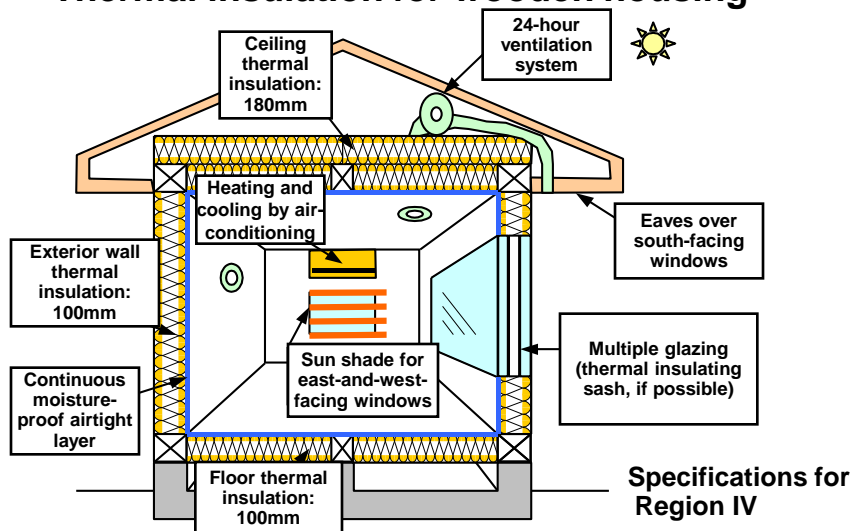


Source: Press release by MOE (Apr. 30, 2009); Kyoto Protocol Target Achievement Plan (revised on Mar. 28, 2008)

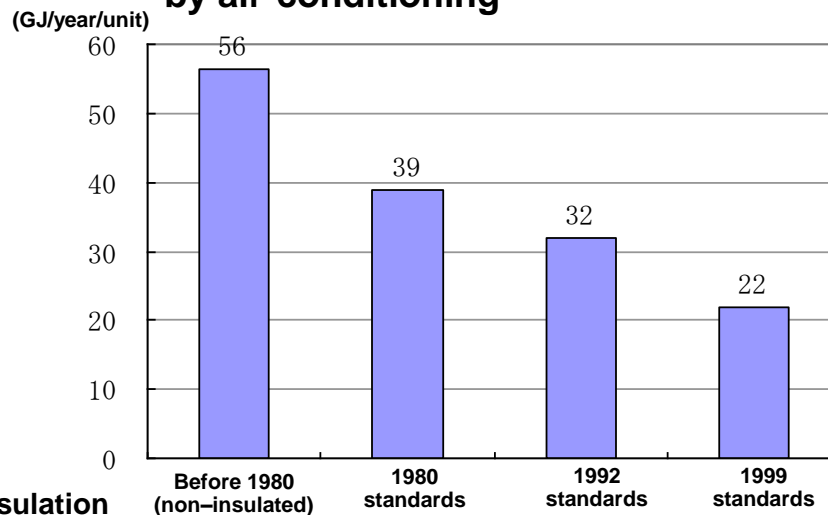
Energy efficiency standards for housing

- Established standards for thermal insulation, airtightness, sun shading and other items for each of the 6 regions into which Japan is divided.
- The standards were enacted in 1980, and were then made stricter in 1992 and again in 1999.
- Standards for building equipment in common areas of apartment houses were added in 2006.

● Thermal insulation for wooden housing



● Estimate of annual energy consumption by air-conditioning*



● Comparison of standards in regard to specifications for thermal insulation

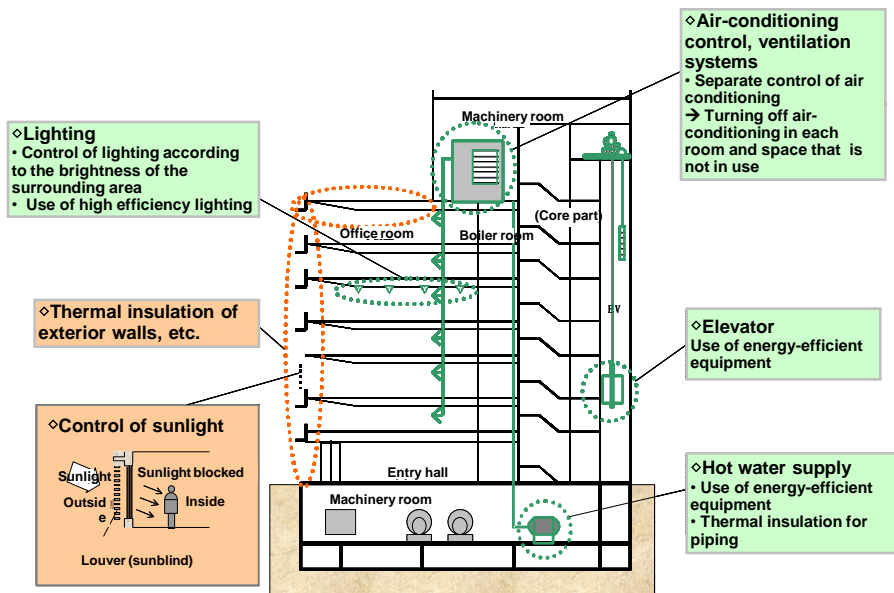
Items		Before 1980	1980 standards	1992 standards	1999 standards (which are currently in use)
Efficiency	Heat-loss coefficient	-	5.2 W/ (m ² K) or below	4.2 W/ (m ² K) or below	2.7 W/ (m ² K) or below
	Equivalent clearance area	-	-	-	5.0 cm ² /m ² or below
Specifications	Thermal insulating materials (exterior walls)	None	Glass wool: 30mm	Glass wool: 55mm	Glass wool: 100mm
	Thermal insulating materials (ceilings)	None	Glass wool: 40mm	Glass wool: 85mm	Glass wool: 180mm
	Openings (windows)	Aluminum sash + single pane	Aluminum sash + single pane	Aluminum sash + single pane	Double aluminum sash or aluminum sash plus multiple glazing
Annual costs of heating and cooling*		About 133,000 yen/year	About 92,000 yen/year	About 75,000 yen/year	About 52,000 yen/year
Annual energy consumption for heating and cooling*		About 56GJ	About 39GJ	About 32GJ	About 22GJ

* Estimated by MLIT, based on certain assumptions.

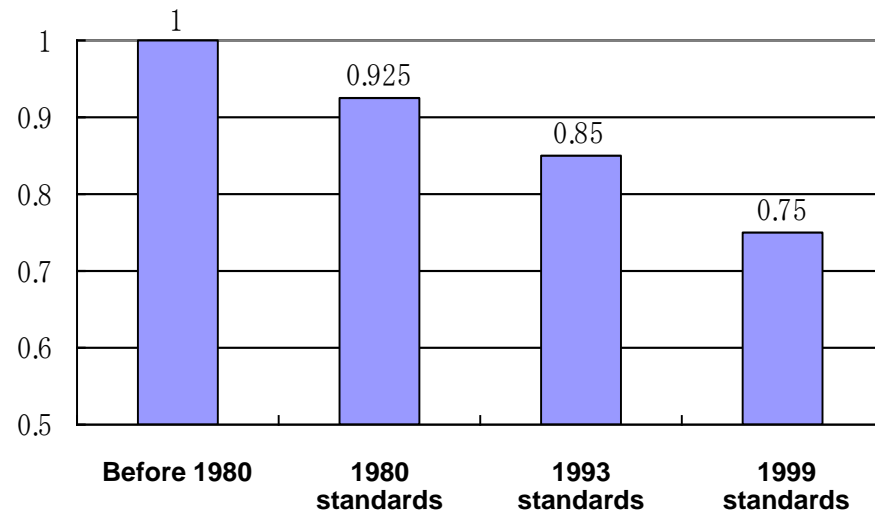
Energy efficiency standards for buildings

- The energy efficiency standards for buildings consist of PAL (Perimeter Annual Load) standards and CEC (Coefficient of Energy Consumption) standards. PAL is an index that indicates thermal performance of buildings. It is used for architectural planning and design of building envelopes (such as specifications for glazing and thickness of insulation materials). CEC is an index that indicates energy efficiency of building equipment.
- CEC standard values are set for building equipment: CEC / AC (air-conditioning), CEC / V (mechanical ventilation), CEC / L (lighting), CEC / HW (hot water supply), and CEC / E (elevators).
- Energy efficiency standards are expressed in PAL and CEC values according to the use of buildings, such as offices, hotels, hospitals, stores, restaurants, schools, assembly halls and factories.
- Energy efficiency standards were enacted in 1980, and were then made stricter in 1993 and again in 1999.

● Examples of energy efficiency measures for buildings



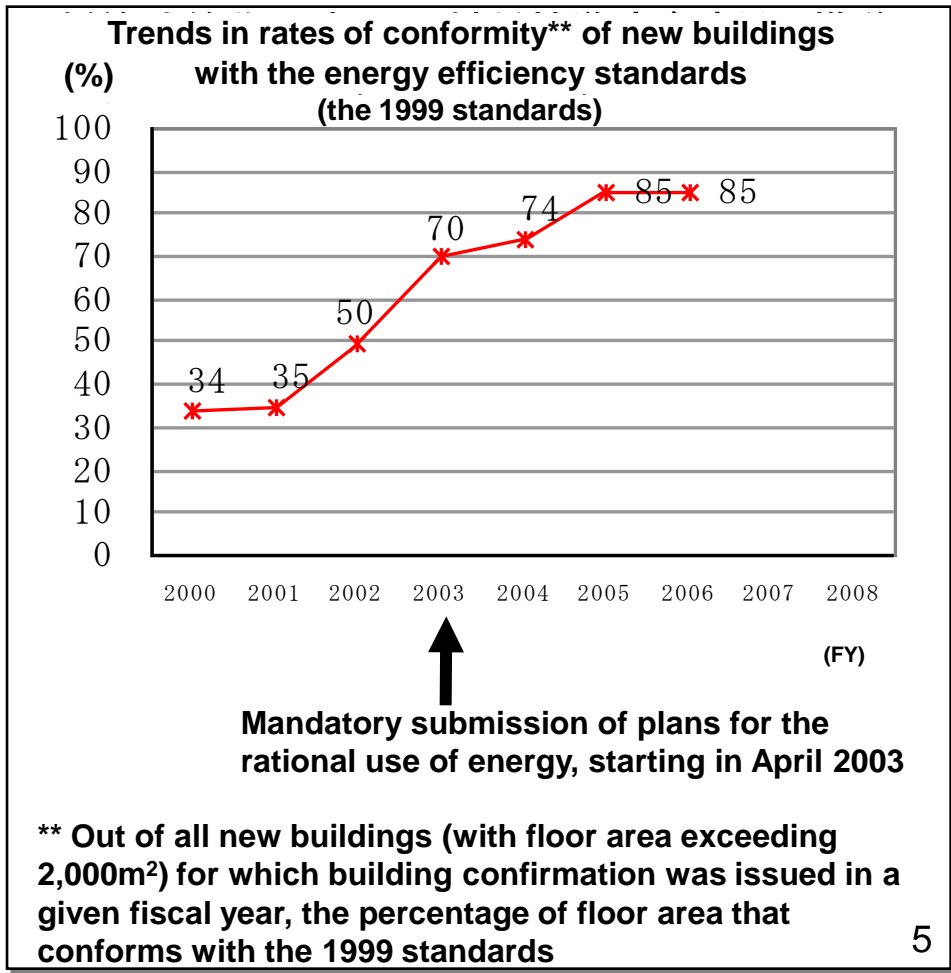
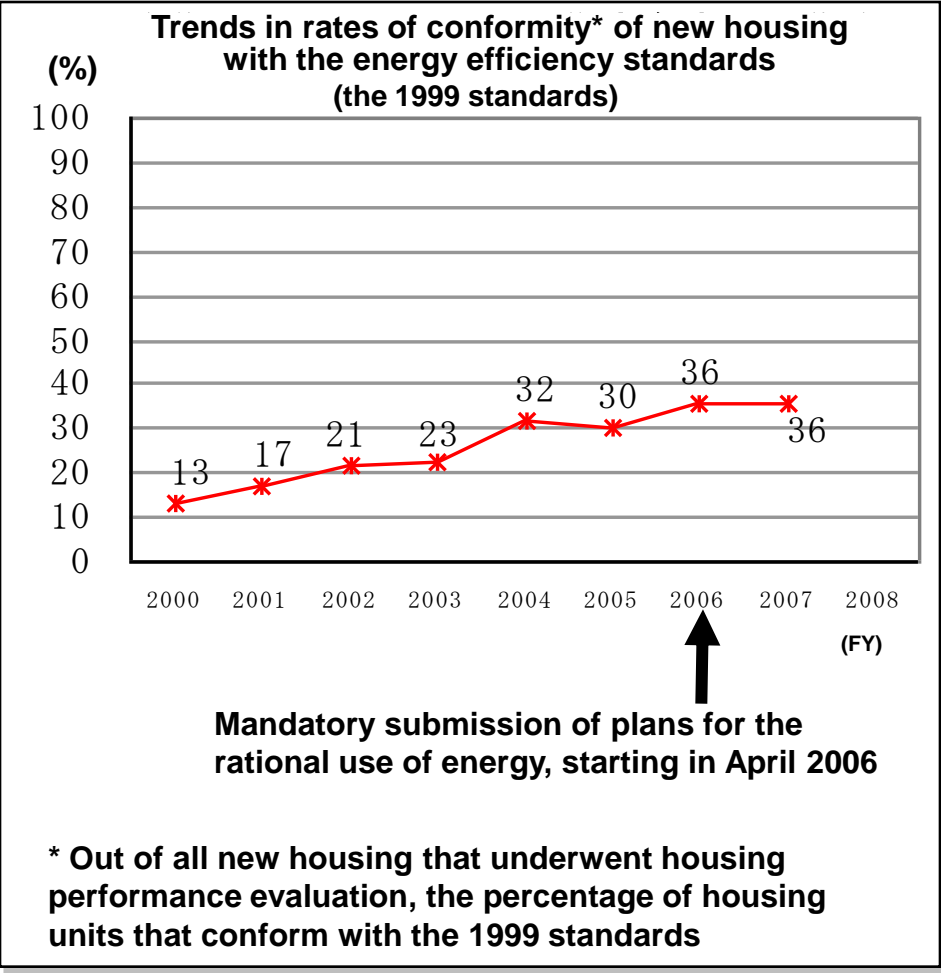
● Comparison of energy consumption* in buildings that conform to each of the energy efficiency standards



* Assuming energy consumption in buildings before 1980 (before the establishment of the standards) as 1, energy needed for an in-room environment equivalent to that before 1980

Targets (evaluation indicators) set in the Kyoto Protocol Target Achievement Plan (completely revised on March 28, 2008)

Improvement in energy efficiency for housing	Improvement in energy efficiency for buildings
Rates of new housing that conforms with the 1999 energy efficiency standards <66% (FY2010)>	Rates of new buildings that conform with the 1999 energy efficiency standards <85% (FY2010)>



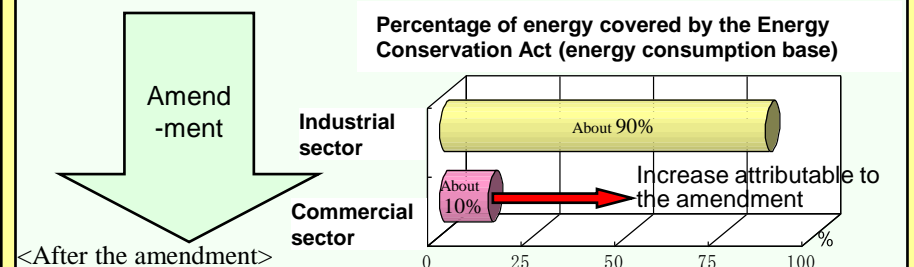
Outline of partial amendment to the Act Concerning the Rational Use of Energy (the Energy Conservation Act)

- Necessary to strengthen energy conservation measures in response to the rapidly changing energy environment, including soaring energy prices (such as crude oil prices), growing imbalance between energy supply and demand around the world in the mid- and long-term and worsening global warming.
- In particular, necessary to enhance measures for the commercial and residential sectors, which have seen a significance increase in energy consumption.

Strengthening energy conservation measures pertaining to factories, offices and other workplaces

Measure 1: Introduction of a regulation scheme targeting each business operator

<Before the amendment>
Energy management per factory or workplace is mandatory for large-scale factories and workplaces.

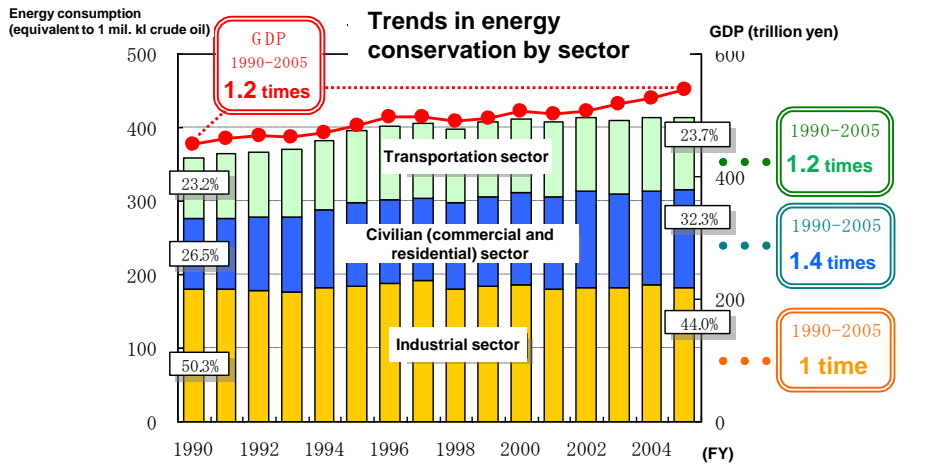


- <After the amendment>
1. Energy management per business operator (per company) will become mandatory.
 2. A franchise chain is regarded as a business operator and is subject to this regulation.
- Consequently, enhancing energy-conservation measures in the industrial and commercial sectors

Measure 2: Creation of joint projects for energy conservation

<After the amendment>
Establishment of a framework in which business operators work together to conserve energy and to make regular reports on their efforts

→ Consequently, assisting energy conservation efforts by small and medium-sized companies and promoting collaborative operation within an industrial complex



Measure 3: Measures pertaining to housing and buildings

<Before the amendment>
The submission of plans for the rational use of energy is mandatory for those who intend to construct large housing and buildings (with floor area exceeding 2,000m²).

- <After the amendment>
- Amendment
- 1) Introduction of stronger actions to ensure proper enforcement of the provision concerning large housing and buildings (with floor area exceeding 2,000m²)
 - 2) Additionally, the submission of plans for the rational use of energy shall be mandatory for certain small and medium-sized housing and buildings (with floor area exceeding 300 m² but less than 2,000m²)
 - 3) Introduction of measures to encourage people, including those who construct and sell housing, to improve energy efficiency in housing
 - 4) Encouragement to indicate energy efficiency performance of housing and buildings, and other measures
- Consequently, enhancing energy-conservation measures in the residential and commercial sectors

New approaches to enhance energy conservation measures for housing and buildings

- In order to further promote measures against global warming, it is essential to strengthen energy conservation measures in the commercial and residential sectors, which have seen a significant increase in energy consumption.
- Therefore, energy conservation measures for housing and buildings need to be enhanced through amendments to the Energy Conservation Act and other approaches.

1. Amendments to the Act Concerning the Rational Use of Energy

Provision currently in effect

The submission of plans for the rational use of energy is mandatory for those who intend to construct large housing and buildings (with floor area exceeding 2,000m²) (action to ensure proper enforcement of this provision: disclosure of the findings to the public, when necessary)

Amendment

After the amendment

- Introduction of stronger actions to ensure proper enforcement of the provision concerning large housing and buildings (with floor area exceeding 2,000m²)
- Additionally, the submission of plans for the rational use of energy shall be mandatory for certain small and medium-sized housing and buildings (with floor area exceeding 300m² but less than 2,000m²)
- Introduction of measures to encourage people, including those who construct and sell housing, to improve energy efficiency in housing
- Encouragement to indicate energy efficiency performance of housing and buildings, and other measures

2. Budget for the improvement of energy conservation measures in housing and buildings

- Promotion of leading projects to reduce CO₂ emissions in housing and buildings (FY2009 budget → national expenditure: 7 billion yen)
- Encouragement for small and medium-sized companies to take energy conservation measures that are more efficient for housing and buildings (FY2009 budget → national expenditure: 300 million yen)

3. Tax incentives to promote energy efficiency in housing and buildings

- Introduction of a tax break for self-financed renovations to improve energy efficiency in housing without receiving loans (FY2009 tax reform)
- Extension of the period for tax incentives to promote energy efficiency renovations in housing (FY2009 tax reform)
- Extension of the period for, and enhancement of, tax incentives to promote investment in energy-efficient equipment and systems for the transformation of energy use (increased support for energy conservation measures in buildings for commercial use) (FY2008 tax reform)

Projected to reduce approx. 2 million tons of CO₂ through these new approaches (FY2010)

Outline of the amendments to the Energy Conservation Act (measures pertaining to housing and buildings) (1)

- Date of enforcement: April 1, 2009

The provision for small and medium-sized buildings (described in the second box below) will go into effect on April 1, 2010.

<Amendments>

1) Introduction of new action: issuance of orders when energy conservation measures* for large buildings are extremely insufficient

* Energy conservation measures: thermal insulation for exterior walls, windows, and other parts; efficient use of systems, such as air-conditioning

2) Obligation to submit energy conservation plans for certain small and medium-sized buildings

•When certain small and medium-sized buildings are newly constructed, and when such buildings undergo additions or rebuilding, it is mandatory to submit energy conservation plans and subsequent periodic maintenance reports. Recommendations will be issued if the measures are extremely insufficient.

3) Creation of a system in which registered building inspection bodies confirm whether or not energy conservation measures continue to be effective

•If a registered building inspection body concludes that energy conservation measures for specified buildings are maintained in a state complying with the stipulated standards of judgment, reporting on maintenance will not be required.

(Before the amendment)

Submission of plans for the rational use of energy in buildings

- **Submit** energy conservation plans to CAA** when buildings with floor area of 2,000m² or more are newly constructed, and when such buildings undergo additions, rebuilding, major repairs, etc.
- If measures are extremely insufficient → instructions or disclosure to the public

For buildings with floor area of less than 2,000m², there are no provisions for the submission of energy conservation plans.

**CAA (Concerned Administrative Agency): Administrative agencies in prefectures, cities, etc. that appoint building officials and perform building confirmation

(After the amendment)

Revised parts are highlighted in red.



- **Submit** energy conservation plans to CAA when **Category 1 Specified Buildings** are newly constructed, and when such buildings undergo additions, rebuilding, major repairs, etc.
- If measures are extremely insufficient → instructions, and if the instructions are not followed, disclosure to the public, **issuance of orders (with penalties)**.



- **Submit** energy conservation plans to CAA when **Category 2 Specified Buildings** (buildings with floor area exceeding 300m² but less than 2,000m²) are **newly constructed**, and when such buildings undergo **additions or rebuilding**
- If measures are extremely insufficient → **recommendations**

(Before the amendment)

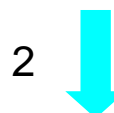
Reporting on maintenance

- **Periodically report** to CAA on how the energy conservation measures stated in the abovementioned plans have been maintained
- If maintenance is extremely insufficient → recommendations

(For buildings with floor area of less than 2,000m², there are no provisions for the submission of plans for the rational use of energy)

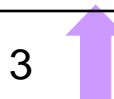
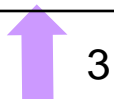
(After the amendment)

Revised parts are highlighted in red.



- **Periodically report** to CAA on the maintenance of the effectiveness of the intended energy conservation measures for **Category 1 Specified Buildings**
- If maintenance is extremely insufficient → recommendations

- **Periodically report** to CAA on the maintenance of the effectiveness of the intended energy conservation measures for **Category 2 Specified Buildings (excluding housing)**
- If maintenance is extremely insufficient → recommendations



Inspection by registered building inspection bodies



Training for inspectors by registered training bodies

- 4) Introduction of measures to encourage housing suppliers who construct and sell housing (i.e., "housing-business owners") to improve energy efficiency in specified housing that is intended as new construction (detached houses) .
- Establishment of standards of judgment for housing-business owners
 - As a new measure, the Minister of Land, Infrastructure, Transport and Tourism recommends housing-business owners (who supply 150 or more housing units per year) to improve energy efficiency of specified housing. If the owners do not follow the recommendations, disclosure to the public and orders (with penalties) will follow.

5) The Minister of Land, Infrastructure, Transport and Tourism provides those who design and construct buildings with guidance and advice on the improvement and indication of energy efficiency

6) Explicit statement on voluntary efforts that those who sell or rent buildings can and should make in order to provide consumers with information by indicating building energy efficiency

Comparison between Category 1 Specified Buildings and Category 2 Specified Buildings

	Category 1 Specified Buildings	Category 2 Specified Buildings*
Size (floor area)	2,000m ² or more	Exceeding 300m ² but less than 2,000m ²
Activities subject to the submission of energy conservation plans	New construction Additions or rebuilding over a certain size	New construction Additions or rebuilding over a certain size
	Repairs or renovations of roofs, walls or floors over a certain size	-
	Installation of systems, such as air-conditioning, or specified renovations	-
Violation of the rules for submission	Penalties not exceeding 500,000 yen	
Actions to be taken if intended energy conservation measures are extremely insufficient in light of the standards of judgment	Instructions	Recommendations
	(If instructions are not followed) Disclosure to the public	-
	(Corrective measures were not taken according to instructions without justifiable reasons) Orders	-
	Violation of orders → Penalties not exceeding 100,000 yen	-
Target of regular reporting	Those who submitted energy conservation plans	Those who have submitted energy conservation plans (excluding measures for housing)
	Maintenance of the effectiveness of the intended energy conservation measures	Maintenance of the effectiveness of the intended energy conservation measures (limited to measures for systems, such as air-conditioning)
Violation of the rules for reporting	Penalties not exceeding 500,000 yen	
Actions to be taken if reporting is insufficient	Recommendations	Recommendations

● Over view of the system

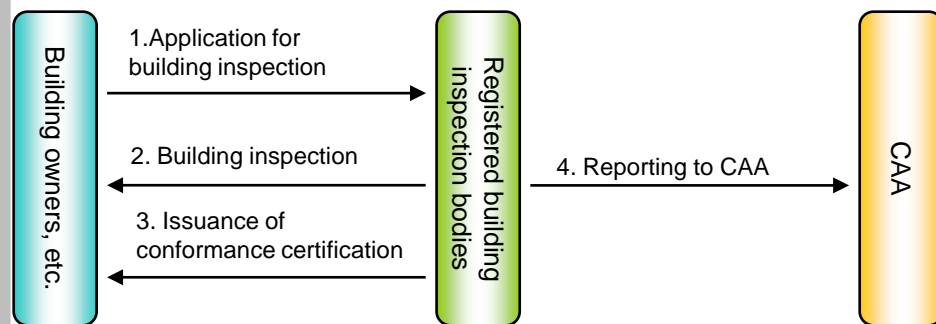
- Those who submitted energy conservation plans (or those who are in charge of maintenance if they are not the ones who submitted plans) must report on the maintenance of energy conservation measures stated in the plans to Concerned Administrative Agency (CAA) once every 3 years.
- Those who are subject to periodic reporting can request registered building inspection bodies to carry out building inspections to insure that the intended effectiveness of the energy conservation measures continue to be effective. They can choose to either 1) periodically report on the maintenance to CAA by themselves or 2) undergo building inspection by registered building inspection bodies.

● Roles of registered building inspection bodies

- When the results of building inspections confirm that energy conservation measures for the inspected buildings are maintained in a state complying with the stipulated standards of judgment, registered building inspection bodies issue conformance certification, without delay, to building owners and report on the results of the conformity inspections to CAA.
- Responsible persons, such as building owners, who receive conformance certification will be exempted from periodic reporting to CAA only for the term during which the inspection was conducted.

● Flow of the registration of building inspection bodies

- To be registered as building inspection bodies, applicants **consult with the authority having jurisdiction (MLIT or its regional development bureaus, depending on where the bodies are going to perform inspection services) beforehand if needed, prepare registration application forms and other necessary documents, and then file an application.**



● List of registered building inspection bodies

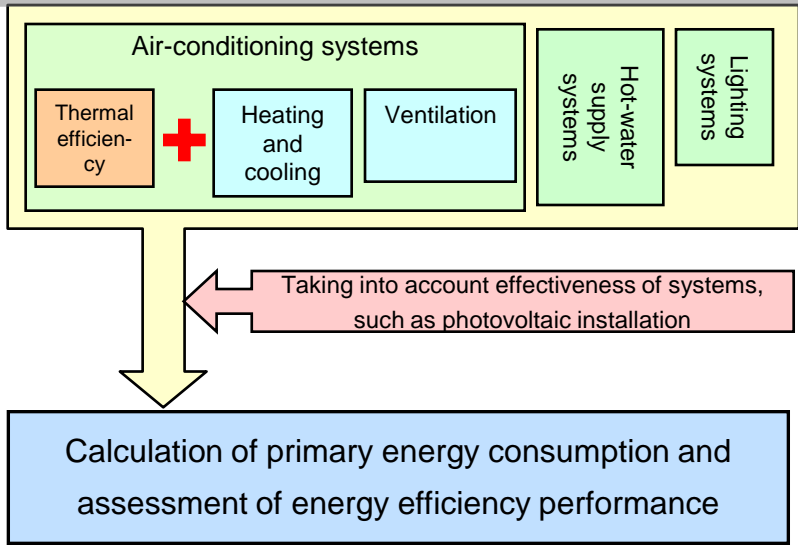
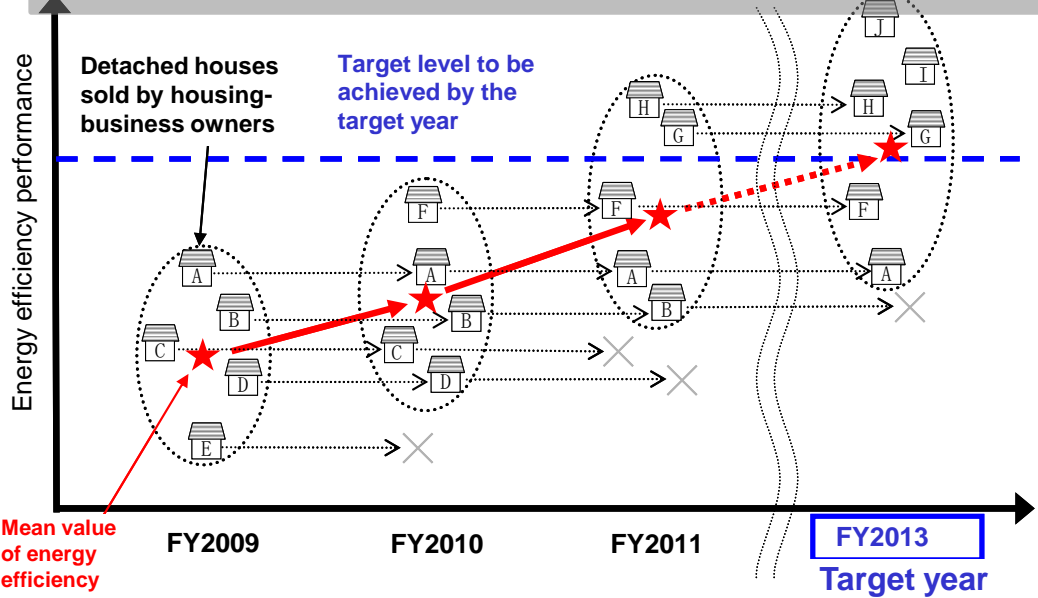
(as of Sep. 3, 2008)

- Maeda Corporation
 - UHEC
 - Fuji Building Consulting, Inc.
 - NJK Inc.
 - Bureau Veritas Japan
 - Sompo Japan Risk Management, inc.
 - Souken
 - Japan Construction Inspection Association
 - Aisumi Sekkei
 - Kenchiku Kensa Kiko [Japan Building Inspection Organization]
- Total 11 organization\$3

Measures to encourage housing-business owners to improve energy efficiency in housing

- **Measures to encourage housing-business owners to improve energy efficiency in ready-built detached houses that they construct and sell**
- Establishment of targets for building owners who construct housing in business (housing-business owners) for **energy-efficiency improvement of ready-built detached houses** that they supply, aiming to further promote the improvement of energy efficiency performance by such means of ensuring thermal performance and introducing highly energy-efficient building equipment
- If by **2013 (the target year)** housing-business owners have not satisfactorily reached goals, and thus relatively significant improvement is obviously necessary, the Minister of Land, Infrastructure, Transport and Tourism **will recommend** that the owners **improve energy efficiency** by indicating improvement targets. If the owners **do not follow the recommendations**, **disclosure to the public and orders (with penalties)** will follow.





- **Target energy efficiency levels**
- The Minister of Land, Infrastructure, Transport and Tourism and the Minister of Economy, Trade and Industry set **common goals for all ready-built detached houses**, referring to **the performance level of the most energy efficient ready-built detached house** of all existing ready-built detached houses and considering the **future outlook of technology development** and other factors.
- Setting goals by **comprehensively assessing energy efficiency of building equipment**, such as hot-water supply systems and heating and cooling systems, in addition to **thermal performance of exterior walls, windows and other building parts**, and by utilizing **primary energy consumption as an assessment index**
- Specifically, as a goal, setting an energy efficiency level that is **equivalent to a reduction of approximately 10%** from the estimated average primary-energy consumption of houses that conform with the energy-efficiency standards currently in use (the 1999 standards) on the assumption that these houses are installed with pieces of building equipment and appliances that are widely used at the time.



Article 86 of the amended Energy Conservation Act stipulates that business operators engaged in selling or renting buildings shall endeavor to indicate energy efficiency performance for the benefit of consumers. A notification¹⁾ issued on the basis of this Article allows housing-business owners to indicate that detached houses they sell conform with the standards of judgment for housing-business owners.²⁾



When complying with the standards of judgment of housing-business owners, the owners may use energy efficiency labels that indicate the classification

	When indicating energy efficiency performance after undergoing assessment by registered building inspection bodies (third party assessment)	When indicating energy efficiency performance based on assessment conducted by housing-business owners themselves (self assessment)
When complying with both the standards of judgment for housing-business owners and the standards of judgment for energy conservation ³⁾	 <p>Label for energy- efficient detached house</p> <p>戸建 Comprehensive energy efficiency: proper Thermal performance: proper</p> <p>Assessment by registered inspection bodies conducted in (year)</p>	 <p>Label for energy- efficient detached house</p> <p>戸建 Comprehensive energy efficiency: proper Thermal performance: proper</p> <p>Self assessment conducted in (year)</p>
When complying with the standards of judgment for housing-business owners but not the standards of judgment for energy conservation	 <p>Label for energy- efficient detached house</p> <p>戸建 Comprehensive energy efficiency: proper</p> <p>Assessment by registered inspection bodies conducted in (year)</p>	 <p>Label for energy- efficient detached house</p> <p>戸建 Comprehensive energy efficiency: proper</p> <p>Self assessment conducted in (year)</p>

1) Guideline on measures to be taken by housing-business owners for the indication of performance required for specified housing for the efficient use of energy in housing, such as heat loss prevention of exterior walls and windows, and the installation of air-conditioning (Notification No. 634 of MLIT / 2009)

2) Standards of judgment for housing-business owners for performance improvement required for specified housing (Notification No. 2 of the Ministry of Economy, Trade and Industry [METI] and MLIT / 2009)

3) Standards of judgment for building owners and owners of specified buildings for the rational use of energy in housing (Notification No. 3 of METI and MLIT / 2006) or Guideline on design, construction and maintenance for the rational use of energy in housing (Notification No. 378 of MLIT / 2006)

System of supporting acquisition of good quality housing (long-term fixed-rate housing loans, called Flat 35S)

System of supporting acquisition of good-quality housing: lower interest rate on home loans under the framework of support through securitization by Japan Housing Finance Agency

Target housing: 1. Housing that has high performance in one of the following: **energy efficiency**, earthquake resistance or durability and adjustability

2. Housing that meets required standards of energy efficiency or barrier-free designs

Interest rate cuts: **0.3%** for the first 5 years of the loan

FY2009 budget: **Extension** of the period for interest rate cuts, changing it to **the first 10 years of the loan** (applicable to loans taken out on and after May 1, 2009)

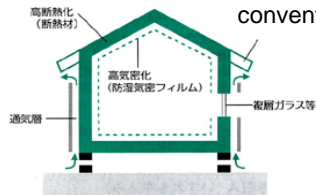
In response to the adjustment of FY2009 budget, a new version of **Flat 35S (preferential interest rate for 20 years)** began on June 4, 2009 with **interest rate cuts of 0.3% for the first 20 years of the loan**, targeting housing with especially high efficiency, including good-quality housing and **long-life housing that complies with the standards of judgment for housing-business owners, based on the Energy Conservation Act.**

Standards
mainly for new
housing

Promotion of measures against global warming

(With high energy efficiency)

Housing that achieves higher thermal insulation and airtightness than conventional housing

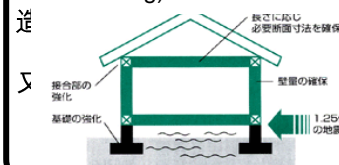


**Energy Efficiency:
Grade 4**

Promotion of earthquake resistance

(With high earthquake-resistance)

Housing that can withstand strong forces without collapsing or suffering serious damage (including seismic ally isolated housing)



**Earthquake resistance: Grade 2
(indicators, such as prevention
of structural collapse)
or seismically isolated housing**

Promotion of barrier-free designs

(With excellent barrier-free designs)

Housing that takes sufficient measures to help a person in a wheelchair, with a helper, to conduct basic daily activities, such as moving around and taking a bath



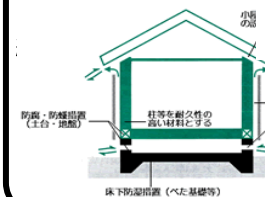
**Measures for the aged and
others: Grade 3 or above**

Promotion of durability and adjustability

(With high durability and adjustability)

Durability that allows residents stable and long-time use of housing and appropriate adjustability that facilitates refurbishment and other alteration

**Must meet all of the following:
Anti-degradation measure: Grade 3,
Measures for maintenance: Grade 2 or
above
(Certain measures must also be taken
for upgrading apartment houses.)**



Note 1: The above technical standards are based on the Housing Performance Indication System under the Housing Quality Assurance Act (Law No. 81 / 1999).
Note 2: Standards for existing housing were set in such areas as energy efficiency and barrier-free (Jan. 5, 2009).

Tax incentive systems (income tax and property tax) to promote renovations to increase energy efficiency in housing

◆Energy efficiency renovations

Income tax	Tax break for home loans	Tax break for self-financed renovations without receiving loans
Tax-deductible work	(1) Replacement of all windows in habitable rooms with more thermally efficient ones or (1) + (2) Insulation in floors; (1) + (3) Insulation in ceilings; (1) + (4) Insulation in walls * It must be certified that: <ul style="list-style-type: none"> all the renovated/replaced parts will exceed the 1999 energy efficiency standards. the energy efficiency of the whole housing unit will increase after the renovations/replacements, so as to satisfy the 1999 standards and attain one grade higher, or more, in the housing performance indication system. (Until Dec. 31, 2010, it not necessary to satisfy the requirement highlighted in blue.)	(1) Replacement of all windows in habitable rooms with more thermally efficient ones or (1) + (2) Insulation in floors; (1) + (3) Insulation in ceilings; (1) + (4) Insulation in walls; (1) + (5) Installation of photovoltaics * After the work in (1) through (4), all the renovated/replaced parts must exceed the 1999 energy efficiency standards. The work in (5) is limited to specified photovoltaic systems.
Deductible amount	(1) 2.0% of loans outstanding at the end of the year taken out for specified, energy-efficiency renovations* (up to 2 million yen): deductible for a 5-year period (2) 1.0% of loans outstanding at the end of the year taken out for work other than additions or rebuilding mentioned in (1): deductible for a 5-year period (The total of (1) and (2) must be less than 10 million yen.) * Specified, energy-efficiency renovations: renovation work that is certified as increasing energy efficiency of the whole housing unit after renovations/replacements to become equivalent to the current energy standards.	10% of either costs incurred to energy efficiency renovations or of costs of standard renovation work, whichever is smaller (up to 2 million yen, but in the case of installing photovoltaics up to 3 million yen) * Costs of standard renovation work needs to be calculated.
Issuers of certification	<ul style="list-style-type: none"> <i>Kenchikushi</i> who belong to a <i>Kenchikushi</i> office Designated Housing Performance Evaluation Bodies Designated Confirmation and Inspection Bodies 	<ul style="list-style-type: none"> <i>Kenchikushi</i> who belong to a <i>Kenchikushi</i> office Designated Housing Performance Evaluation Bodies Designated Confirmation and Inspection Bodies
Period	Until Dec. 31, 2013	From Apr. 1, 2009 to Dec. 31, 2010

Property tax

If owners carry out renovations to increase energy efficiency in housing (other than rental housing) that was constructed on or before Jan.1,2008, tax on that property will be reduced by 1/3 the following year.

● **Type of taxation**

- Corporate taxes (for corporations), Income taxes (for individuals)

● **Contents of tax reduction**

- If corporations purchase energy-saving systems and use them for business purposes within a year, they may choose either of the following and get a tax break
 - (1) Tax credit equivalent of 7% of base acquisition cost, but limited to small and medium enterprises
 - (2) In addition to ordinary depreciation, special depreciation that allows for depreciation up to the equivalent amount of 30% of base acquisition cost
(For 2 years, beginning on Apr. 1, 2009, immediate depreciation (100%) is available in the first year.)

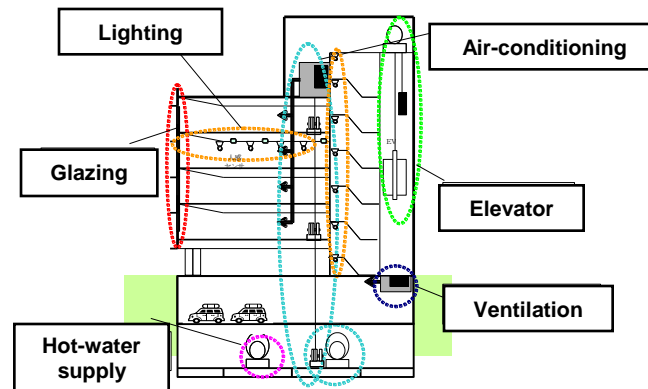
● **Eligible individuals and corporations**

• Individuals with income from real estate, business or forestry and corporations that file tax returns (called “blue return”) by Mar. 31, 2012

● **Requirements** (Systems for the rational use of energy, which became eligible for tax reduction by the FY2008 tax reform)

- Must install all of the following systems at the same time
 - 1) Highly insulating glazing systems
 - 2) Highly energy-efficient air-conditioning systems
 - 3) Highly energy-efficient mechanical-ventilation systems
 - 4) Lighting systems
 - 5) Highly energy-efficient hot-water supply systems
 - 6) Elevators using variable voltage and variable frequency controls

Size	Energy efficiency performance
Buildings with floor area exceeding 2,000m ²	Energy efficiency performance that exceeds the current energy efficiency standards by 20%
Buildings with floor area of less than 2,000m ²	Energy efficiency performance that exceeds the current energy efficiency standards by 10%



● **Outline of the FY2008 tax reform**

- Two-year extension of the period for these tax incentives (until Mar. 31, 2012)
- For 2 years, beginning on Apr. 1, 2009, immediate depreciation (100% of the purchase price) is available in the first year.

In order to strongly promote measures for reducing CO₂ emissions in housing and buildings

- Inviting proposals for building and housing projects nationwide from the public sector and other organizations
- Providing financial support to selected leading projects that will greatly contribute to reducing CO₂ emissions 【Budget for FY2008: 5 billion yen (national expenditure), Budget for FY2009: 7 billion yen (national expenditure)】

The national gov. publicly invites proposals from the public sector and other organizations. → (Proposals are assessed by experts.)

Carrying out model projects

- New construction**
- Renovations of existing buildings**
- Development of management systems, etc.**

<Example of a model project>



- <Possible proposals>**
- **Utilization of new energy**
 - Such as solar power, wind power and geothermal power
 - **Use of passive systems**
 - Use of mirror duct systems (Bringing natural light into rooms)
 - Use of new building envelopes (Controlling solar heat gain)
 - **Use of highly-efficient heat source systems**
 - Sharing energy sources for heating and cooling with neighboring buildings connected with pipes
 - Introduction of fuel cell systems
 - **Introduction of systems for effective use of energy**
 - Clearly indicating the amount of energy consumed

Achievements for model projects are made public.
 → So as to encourage others to take similar effective measures and to raise awareness of CO₂ emission reductions

【Application and selection】

	Number of applied projects	Number of selected projects
First call in 2008 (Apr. 11~May 12)	120	10
Second call in 2008 (Aug. 1~Sep. 12)	35	11 <small>(One applicant declined.)</small>
First call in 2009 (Feb. 6~Mar. 31)	46	16

【Breakdown of selected projects】

		First call in 2008	Second call in 2008	First call in 2009	Total
New construction	Buildings	4	5	8	17
	Detached houses	4	3	0	7
	Apartment houses	0	1	2	3
Renovation	Buildings	1	1	4	6
Management systems		1	1	1	3
Verification of technology		0	0	1	1
Total		10	11	16	37