Enforcement of the Building Energy Efficiency Act in the City of Yokohama

November 27, 2017

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Architectural Projects Division,
Building Instruction Department,
Housing and Architecture Bureau,
City of Yokohama
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Overview of the City of Yokohama
Overview of the City of Yokohama

◆ Area: 435 km²
◆ Population: 3,730,000 people
◆ Households: 1,670,000 households
  (as of September 1, 2017)

(Materials: Urban Master Plan of the City of Yokohama, March 2013)
Comparison of the final energy consumption

- Breakdown of the final energy consumption (in FY2015)

  City of Yokohama
  Final Energy Consumption (in each sector) 169PJ/year
  - Residential 24%
  - Commercial 28%
  - Industrial 17%
  - Transport 31%

  Nationwide
  Final Energy Consumption (in each sector) 13,548PJ/year
  - Residential 14%
  - Commercial 18%
  - Industrial 45%
  - Transport 23%

Half of consumption is in the residential and commercial sectors
One third of consumption is in the residential and commercial sectors

Source: FY2015 Energy Demand Report (Preliminary)
(Agency for Natural Resources and Energy)
1. For large-scale non-residential buildings, mandatory compliance with energy efficiency standards, and mandatory evaluation for compliance (Enforced on April 1, 2017)
   → Regarding large-scale non-residential buildings (Specified buildings: Non-residential buildings that are 2,000 m² or larger), it is mandatory to comply with the energy efficiency standards and to conduct evaluation certification at the time of the new construction, etc., and to guarantee this by conducting building confirmation.

2. Mandatory notification for medium- and large-scale buildings (Enforced on April 1, 2017)
   → Regarding medium- and large-scale buildings (Buildings that are 300m² or larger, with the exception of specified buildings), it is mandatory to give notification of energy efficiency plans at the time of the new construction, etc. When the plans do not comply with the energy efficiency standards, the administrative agency with jurisdiction may give instructions or orders if necessary.

3. Certification of energy efficiency performance improvement plans and Exception of floor-area ratio regulation (Enforced on April 1, 2016)
   → When the plans for new buildings or renovations receive certification from the administrative agency with jurisdiction for their compliance with the certification standards, buildings may receive exception of floor-area ratio regulations.

4. Labeling of energy consumption performance (Enforced on April 1, 2016)
   → The owners of buildings can indicate the fact that they have received certification from the administrative agency with jurisdiction for the compliance of their buildings with the energy efficiency standards.
The City of Yokohama increased the number of staff members in charge of matters relating to the Building Energy Efficiency Act from four to six. (Added one division manager and one staff member.)

**Building and Environment Coordination Division**

- Division Manager for Building and Environment Coordination (1)
  - [Persons in charge of energy efficiency]
    - Section Manager (1)
      - Architectural positions (2), Electrical positions (1)
  - [Persons in charge of long-life quality housing, and welfare towns]
    - Section Manager (1)
      - Architectural positions (5)
  - [Persons in charge of city architecture]
    - Section Manager (1)
      - Architectural positions (4)

**Until March 31, 2017**

**Energy Conservation Act**

- Added one Division Manager and one staff member

**Building Projects Division**

- Division Manager for Architectural Projects (1)
  - [Persons in charge of energy efficiency]
    - Section Manager (1)
      - Architectural positions (3), Electrical positions (1)
  - [Persons in charge of long-life quality housing]
    - Section Manager (1)
      - Architectural positions (3)
  - [Persons in charge of planning]
    - Section Managers (2)
      - Architectural positions (6)

**From April 1, 2017**

**Building Energy Efficiency Act**
## Regulation details and energy efficiency standards for each building scale and application

<table>
<thead>
<tr>
<th>Building scale</th>
<th>Non-residential</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large-scale buildings (2,000 m² or larger)</td>
<td>[Specified buildings] Compliance evaluation*</td>
<td>Notification</td>
</tr>
<tr>
<td>Medium-scale buildings (300 m² or larger, less than 2,000 m²)</td>
<td>Notification</td>
<td>Notification</td>
</tr>
<tr>
<td>Primary energy standards (BEI)</td>
<td>Design primary energy consumption/Standard primary energy consumption ≤ 1.0</td>
<td></td>
</tr>
<tr>
<td>Exterior standards</td>
<td>Exempt from application</td>
<td>Dwelling units</td>
</tr>
<tr>
<td>Average outer shell heat transmission coefficient (UA)</td>
<td></td>
<td>UA ≤ 0.87</td>
</tr>
<tr>
<td>Average solar heat gain coefficient during cooling period (ηAC)</td>
<td></td>
<td>ηAC ≤ 2.8</td>
</tr>
</tbody>
</table>

* With regard to buildings in which compliance evaluations are mandatory, in most cases submissions are made together with the confirmation application to the registered energy efficiency certification institution (Article 15-1 of the Act). Currently, the buildings in which the City of Yokohama has implemented compliance evaluations consist only of public buildings where the confirmation application (plan notification) was also submitted to the City.
System and results of compliance evaluation work (As of end of September 2017)

It has been made mandatory for construction clients to, when conducting specified building activities, submit building energy consumption performance assurance plans (energy efficiency plans) to the “administrative agency with jurisdiction” or a “registered energy efficiency certification institution”, and have compliance evaluation conducted to prove that the plans conform to the energy efficiency standards.

Administrative agencies with jurisdiction (City, town, village, prefectoral agencies)

Compliance evaluation work

Commissioning (Article 15 of the Act)

Registered energy efficiency certification institutions

Registered as of April 1, 2017 (66 institutions)

Minister of Land, Infrastructure, Transport and Tourism, etc.

Registration (Articles 39 to 42 of the Act)

Applications for compliance evaluation

Construction clients

(Within the City of Yokohama: 13 cases)

(Within the City of Yokohama: 1 case)

Results as of the end of September 2017

Construction clients will determine the destination for submitting applications.

[Private buildings]
Almost all of them apply to the registered energy efficiency certification institutions.

[Public buildings]
Apply to the administrative agency with jurisdiction.
Regulation details and energy efficiency standards for each building scale and application

For buildings that are 300 m² or larger, with the exception of specified building activities, construction clients shall give notification of the plans to the “administrative agency with jurisdiction” no less than 21 days before the day that construction will start.

<table>
<thead>
<tr>
<th>Building scale</th>
<th>Non-residential</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large-scale buildings (2,000 m² or larger)</td>
<td>[Specified buildings] Compliance evaluation*</td>
<td>Notification</td>
</tr>
<tr>
<td>Medium-scale buildings (300 m² or larger, less than 2,000 m²)</td>
<td>Notification</td>
<td>Notification</td>
</tr>
</tbody>
</table>

Primary energy standards (BEI)

<table>
<thead>
<tr>
<th>Energy efficiency standards</th>
<th>Design primary energy consumption/Standard primary energy consumption ≤ 1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior standards</td>
<td>Exempt from application</td>
</tr>
<tr>
<td>Average outer shell heat transmission coefficient (UA)</td>
<td></td>
</tr>
<tr>
<td>Average solar heat gain coefficient during cooling period (ηAC)</td>
<td></td>
</tr>
</tbody>
</table>

* With regard to buildings in which compliance evaluations are mandatory, in most cases submissions are made together with the confirmation application to the registered energy efficiency certification institution (Article 15-1 of the Act). Currently, the buildings in which the City of Yokohama has implemented compliance evaluations consist only of public buildings where the confirmation application (plan notification) was also submitted to the City.
Following the enforcement of the Building Energy Efficiency Act (after April 2017), the energy efficiency standards compliance rates have improved.

- The compliance rate of housing with a scale of 2,000 m² or greater increased from around 50% before the revision to more than 70% after the revision.
- The compliance rate of buildings with a scale of 300 m² or greater and less than 2000 m² increased from less than 80% before the revision to approximately 90% after the revision.

Improvement of compliance rates is thought to be attributed also to the fact that, following the enforcement of the Building Energy Efficiency Act, written instructions are given to construction clients who submitted non-compliant notifications to consider improvement.

### Compliance rate according to building scale and application

<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017 April to September</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of notifications (with the exception of mandatory compliance subjects)</td>
<td>933 cases</td>
<td>808 cases</td>
<td>913 cases</td>
<td>370 cases</td>
</tr>
<tr>
<td>[Specified buildings] 2,000 m² or larger (Non-residential)</td>
<td>98%</td>
<td>100%</td>
<td>100%</td>
<td>Mandatory compliance</td>
</tr>
<tr>
<td>2,000 m² or larger (Residential)</td>
<td>53%</td>
<td>39%</td>
<td>49%</td>
<td>75%</td>
</tr>
<tr>
<td>300 m² or larger, less than 2,000 m² (Non-residential and residential)</td>
<td>53%</td>
<td>76%</td>
<td>73%</td>
<td>90%</td>
</tr>
</tbody>
</table>
Details of non-compliance and building scales and applications in non-compliant notifications

All of the non-compliant notifications were for condominiums or complex buildings with condominiums, and the representative dwelling unit scales of these condominiums was also less than 45m².

In all the non-compliant notifications, items not compliant with the energy efficiency standards consisted of the following.

- The building envelope performance of one or more of the dwelling units was non-compliant.
- Residential overall primary energy was both compliant and non-compliant depending on the case.
Compliance with the energy efficiency standards of representative dwelling units of different scales in condominiums

There is a tendency towards non-compliance in housing where the dwelling unit area is small, such as single-room apartments.

- Housing in which the representative dwelling unit is less than 40 m² has a compliance rate of less than 40%.
- Housing in which the representative dwelling unit is 40 m² or larger has a compliance rate of around 80%.
Measures for encouraging “compliance” for cases where notification is mandatory (City of Yokohama)

(1) Provision of guidance (advice) using information desks
   • When non-compliant notifications are submitted, the fact that written instructions will be issued is conveyed, and reconsideration is requested.

   → There were 5 cases where improvements were made to achieve compliance and notifications were submitted as a result of the guidance given at information desks.

(2) Issuing of instructions relating to non-compliant cases (Article 19 of the Act)
   • Using written instructions issued to the construction clients, the submission of reports for the details of measures are requested.

   → Instructions were issued in 38 cases.
   → Reports for the progress of measures were submitted in all the cases.

(3) Implementation of encouragement measures
   • Exception of floor ratio according to the certification of the energy consumption performance for buildings (Article 30 of the Act)

   → Two cases of certification (Floor-area ratio exceptions were not received)

   [The figures show the results between April and September 2017]
<table>
<thead>
<tr>
<th><strong>Energy Conservation Act</strong></th>
<th><strong>Building Energy Efficiency Act</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Until March 31, 2017</strong></td>
<td><strong>From April 1, 2017</strong></td>
</tr>
<tr>
<td><strong>Mandatory notification when newly constructing or renovating buildings</strong></td>
<td><strong>Mandatory compliance of non-residential portions 2,000 m² or greater in scale</strong></td>
</tr>
<tr>
<td>Type 1 Specified Buildings (2,000 m² or larger)</td>
<td><strong>Mandatory notification for new construction and renovations</strong></td>
</tr>
<tr>
<td>Type 2 Specified Buildings (300-2,000 m²)</td>
<td><strong>When notifications are non-compliant:</strong></td>
</tr>
<tr>
<td><strong>When there are noticeable insufficiencies,</strong></td>
<td><strong>Instructions → Orders</strong></td>
</tr>
<tr>
<td>Type 1: Instructions</td>
<td><strong>Recommendations:</strong></td>
</tr>
<tr>
<td>→ Announcements and orders</td>
<td>20 cases issued during FY2016 (Results in the City of Yokohama)</td>
</tr>
<tr>
<td>Type 2: Recommendations</td>
<td><strong>Instructions:</strong></td>
</tr>
<tr>
<td><strong>Mandatory notification when repairing or remodeling, or when installing or renovating facilities</strong></td>
<td>38 cases issued between April and end of September 2017 (Results in the City of Yokohama)</td>
</tr>
<tr>
<td><strong>Mandatory periodical reporting of maintenance condition every 3 years following the notification of energy efficiency measures</strong></td>
<td><strong>Discontinued</strong></td>
</tr>
<tr>
<td><strong>Discontinued</strong></td>
<td><strong>Discontinued</strong></td>
</tr>
</tbody>
</table>
Instructions given for non-compliant notifications (City of Yokohama)

Article 19 of the Act
(2) [Omitted] ...when the plan pertaining to this notification does not conform with the building energy consumption performance standards and it is found to be necessary to secure the energy consumption performance of the building, the administrative agency with jurisdiction may give instructions to the person who made the notification to change the Plan pertaining to the notification or to take other necessary measures... [Omitted].

(3) When persons that received instructions as stipulated in the preceding Paragraph have not implemented measures pertaining to the instructions without valid reasons, the administrative agency with jurisdiction may order the person to implement measures pertaining to the instructions... [Omitted].

In the City of Yokohama, instructions are issued to the construction clients to reconsider the measures required to achieve compliance (but the City does not necessarily demand compliance).
Improvement situation relating to instructions for non-compliant notifications (City of Yokohama)

Report for the details of measures

Construction client name and seal

Description of the results of the consideration
(Explanation of why improvements could not be made.)
Improvement situation relating to the instructions (City of Yokohama)

- Instructions issued: 38 cases
- Reasons why improvements could not be made
  1. The project income and expenditures do not balance, due to the increased costs resulting from realizing compliance. (Because the plan has been developed over several years, it is difficult to change now)
  2. From a design point of view, it is not possible to affect the room arrangements.
  3. Due to being rental apartments, the facilities and specifications of each room are equally selected.

**Promotion of understanding among construction clients regarding the realization of building energy efficiency**

- (1) Investigations at the project planning stage
- (2) Investigations at the construction stage into improving the performance without affecting the room arrangements

**Creation of real estate value due to visualization of the energy efficiency performance**

- (3) Building of mechanisms that link the environmental performance to the creation of real estate value
  (The labeling of the energy efficiency performance in the real estate is insufficient)
By 2020, the compliance of newly constructed housing and buildings with the energy efficiency standards will be made mandatory in stages.

Activities will also take place to realize ZEHs.

*ZEH: Net Zero Energy House

Schedule for mandatory compliance of new housing and buildings with the energy efficiency standards

<table>
<thead>
<tr>
<th>Scale</th>
<th>Current/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>Mandatory compliance (Non-residential)</td>
</tr>
<tr>
<td>Medium</td>
<td>Enhancement of regulatory methods</td>
</tr>
<tr>
<td>Small</td>
<td>Examination of measures for rationalizing reviews, handling of traditional construction techniques, etc.</td>
</tr>
</tbody>
</table>

Realization of ZEHs for standard newly constructed housing

*Created referencing the Process Chart relating to Energy Efficiency Measures in Housing and Buildings (Ministry of Land, Infrastructure, Transport and Tourism: January 2015)
### Actions for buildings that are not subject to notification under the Building Energy Efficiency Act (City of Yokohama)

1. **Encouraging compliance with the energy efficiency standards for buildings that are not subject to notification using other systems**
   - CASBEE Yokohama, certification of long-life quality housing, certification of low-carbon buildings

2. **Positioning in the Administrative Plan (Mid-term Four-year Plan), and setting of numerical targets**
   - Promotion of global warming countermeasures for housing and buildings

3. **ZEH (Net Zero Energy House) Subsidy System**

4. **Realization of energy efficiency in existing buildings**
   - [Public buildings] Implementation of ESCO projects
   - [Private housing] Eco-renovation promotion projects for housing

5. **Popularization and education**
   - For technical experts, business persons, end-users, and children
Encouraging compliance with the energy efficiency standards for buildings that are not subject to notification using other systems

<table>
<thead>
<tr>
<th>Building Energy Efficiency Act</th>
<th>CASBEE Yokohama</th>
<th>Long-life quality housing</th>
<th>Low-carbon buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required performance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Energy efficiency standards</td>
<td>• Energy efficiency standards</td>
<td>• Energy efficiency standards (Only for building envelope)</td>
<td>• High energy efficiency standards</td>
</tr>
<tr>
<td>(Thermal insulation performance, primary energy consumption)</td>
<td>• Comfortable living and working environments</td>
<td>• Seismic resistance</td>
<td>• Measures for realizing low-carbon buildings (Water-saving, change to wood construction, HEMS, etc.)</td>
</tr>
<tr>
<td></td>
<td>• Consideration of natural disasters</td>
<td>• Measures to prevent deterioration</td>
<td>(Limited to urbanized areas)</td>
</tr>
<tr>
<td></td>
<td>• Regional contributions, etc.</td>
<td>• Maintenance plans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*The items described above are self-assessed and notified.</td>
<td>• Dwelling unit area of 75m² or greater</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inducements</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Certification by authorities (Buildings smaller than 300m² are also subjects)</td>
<td>• Authentication by authorities (Free of charge)</td>
<td>• Certification by authorities</td>
<td>• Certification by authorities</td>
</tr>
<tr>
<td>→ Special exceptions of floor-area ratios</td>
<td>• Announcement of results</td>
<td>→ Tax reductions and exemptions</td>
<td>→ Special exceptions of floor-area ratios</td>
</tr>
<tr>
<td>→ Tax reductions and exemptions</td>
<td>• Use of labeling in advertisements</td>
<td></td>
<td>→ Tax reductions and exemptions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Labeling system</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e-Mark</td>
<td>BELS</td>
<td>Use of labeling in advertisements</td>
<td></td>
</tr>
</tbody>
</table>

*BELS: Building Environment Performance Evaluation System*
Promotion of global warming measures for housing and buildings

Basic Measure 33

Promotion of energy measures appropriate for an environmental FutureCity and low-carbon city planning

“Promotion of global warming measures for housing and buildings”

<table>
<thead>
<tr>
<th>Index</th>
<th>Current (FY2013)</th>
<th>Target value (End of FY2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out of the newly constructed housing, percentage of housing which gives consideration to energy efficiency</td>
<td>* 20%</td>
<td>30%</td>
</tr>
</tbody>
</table>

(FY2013: Approx. 6,000 households/ Approx. 30,000 households)

* No. of condominium households complying with the energy efficiency standards from among those submitting energy efficiency notifications + No. of households that are certified as low-carbon buildings + No. of households that are certified as long-life quality housing

Promotion of CASBEE Yokohama, low-carbon buildings, long-life quality housing, etc.
Promotion of global warming measures for housing and buildings

Proportion of housing that gives consideration to energy efficiency among newly constructed housing (as of the end of FY2016)  Units: Households

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion</td>
<td>10%</td>
<td>23.5%</td>
<td>25.7%</td>
<td>28.0%</td>
<td>19.5%</td>
<td>27.7%</td>
<td>29.6%</td>
<td>29.9%</td>
</tr>
<tr>
<td>No. of construction starts*1</td>
<td>23,497</td>
<td>28,124</td>
<td>28,980</td>
<td>27,548</td>
<td>30,892</td>
<td>25,030</td>
<td>28,285</td>
<td>28,933</td>
</tr>
</tbody>
</table>

*1: No. of construction starts: the number of households in the City of Yokohama whose construction has newly started, which is included in the Kanagawa Prefecture construction starts statistics
Promotion of global warming measures for housing and buildings

- Tax reductions due to compliance with the energy efficiency standards

For newly constructed housing that complies with the energy efficiency standards, the city planning tax will be reduced by half as in the case of the municipal real estate tax.

<table>
<thead>
<tr>
<th>Reduction rate</th>
<th>General housing</th>
<th>Housing with energy efficiency measures</th>
<th>Long-life quality housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal real estate tax</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
</tr>
<tr>
<td>City planning tax</td>
<td>—</td>
<td>1/2</td>
<td>1/2</td>
</tr>
<tr>
<td>Reduction period</td>
<td>3-5 years</td>
<td>3-5 years</td>
<td>5-7 years</td>
</tr>
</tbody>
</table>
Prevention of heat shock by realizing thermal insulation, which also improves prevalence rates

The annual number of deaths caused by heat shock while taking a bath is estimated to be around 17,000 persons nationwide, which is more than three times the number of deaths due to traffic accidents.

Improving the thermal insulation performance can alleviate changes in temperature, which is also reputed to have an effect in preventing heat shock.

In addition, there are also research results stating that, by changing to houses that have a high thermal insulation performance, the prevalence rates of allergies and heart disease reduced from approximately 76% to approximately 44%.

*1: Tokyo Metropolitan Institute of Gerontology “Approximately 17,000 persons died while taking a bath during 2011” (December 18, 2012)
*2: From the website of the Japan Center for Climate Change Actions “Improvement in prevalence rates due to improving thermal insulation performance” (http://www.jccca.org/)
Overview of the ZEH (Net Zero Energy House) subsidy system operated by the state

<table>
<thead>
<tr>
<th>Core organization</th>
<th>Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact organization for application</td>
<td>Sustainable open Innovation Initiative (SII)</td>
</tr>
<tr>
<td>Subsidy amount</td>
<td><strong>Fixed amount of 750,000 yen</strong></td>
</tr>
</tbody>
</table>

**City of Yokohama ZEH Subsidy System**

(Upper limit) **500,000 yen**
Realization of energy efficiency among existing buildings in the City of Yokohama

(1) [Public buildings] Implementation of ESCO Projects

These projects intend to realize energy efficiency and reduce the maintenance and administration costs through improving equipment in existing facilities while making use of private sector know-how.

After the construction work, the business operators guarantee and report the proposed energy savings over a defined period. In response, the city pays compensation.

(2) [Private buildings] Eco-renovation promotion projects for housing

(1) Yokohama eco-renovation (energy efficiency renovations) of housing subsidy system

This system aims to popularize housing which has few temperature differences inside, which is the basis for housing that is both “energy efficient” and “healthy”, without rebuilding existing housing.

Cost is partially subsidized for housing owners who implement thermal insulation work which leads to “securing the housing’s overall thermal insulation”.

(2) Special courses at Yokohama Eco Renovation Academy

By holding courses at the Academy, which will become a location for studying eco-renovation, homes and lifestyles which realize the smart use of energy will be popularized among citizens, etc.

Distribution of the “Tender Textbook” which summarizes the basic know-how and actual practices of eco-renovation
# Overview of Eco-Renovation (energy-saving renovations) subsidy system

<table>
<thead>
<tr>
<th>Subsidy classification</th>
<th>General improvement housing</th>
<th>Specified improvement housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsidy amounts</td>
<td>One third of the amount required for the improvement work including eco-renovations</td>
<td>*Amounts less than 1000 yen are omitted.</td>
</tr>
<tr>
<td></td>
<td>(Upper limit amount) 400,000 yen</td>
<td>(Upper limit amount) 800,000 yen</td>
</tr>
<tr>
<td>No. of subsidies paid</td>
<td>Approximately 30 cases</td>
<td></td>
</tr>
<tr>
<td>Requirements</td>
<td>—</td>
<td>All of the openings in the housing shall have thermal insulation improvement</td>
</tr>
<tr>
<td></td>
<td>Cooperation such as by providing energy consumption (electricity and gas) data and answering questionnaires</td>
<td></td>
</tr>
</tbody>
</table>
Popularization and education

◆ Popularization and education from three perspectives

① For technical experts and workers
   …Lecture courses and seminars

② For end-users
   …Housing exhibitions and events

[Lecture course for technical experts and workers (in 2016)]

[Event for end-users (in 2014)]
Popularization and education

◆ Popularization and education from three perspectives

③ Environmental education
  …Environmental lecture courses held at schools
  …”Children’s Adventure”

[Environmental education lecture course held at a school (in 2017)]

[“Children’s Adventure” (in 2017)]
Issues and actions for realizing energy efficiency in buildings

[Notification subjects under the Building Energy Efficiency Act]
◆ Creation of conditions where compliance becomes a matter of course
◆ Promotion of understanding among construction clients  Ex.: Popularization and education, instructions, etc.
◆ Building of mechanisms in which the merits of the energy efficiency performance are evaluated in the market  Ex.: Standardization of labeling systems, etc.
◆ Provision of guidance using information desks, and improving the capabilities of staff members required for giving guidance. Enable staff to approach applicants and resolve their issues.
◆ Issuing of appropriate instructions, and thorough acceptance of the reports for the details of measures.

[Not subject to notification under the Building Energy Efficiency Act]
◆ Newly constructed buildings
  Utilization and promotion of other systems that employ tax reductions and exemptions according to compliance with the energy efficiency standards.
◆ Existing buildings
  Utilization of popularization and education, and subsidy systems
  Creation of mechanisms that improve asset values by realizing energy efficiency
◆ Conducting follow-up activities to designers to expand the energy efficiency standards mandatory compliance subjects

Reduction of the energy consumption in the commercial and residential sectors by improving the building energy consumption performance