

## **Toward Japan's Introduction of Mandatory Compliance on Buildings' Energy Efficiency Standards**

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On 24 March, 2015, Japan's cabinet decision was made regarding "the draft law on buildings' energy efficiency improvement" that mandates compliance with building energy efficiency standards for large-scale commercial buildings, including offices, retail stores, and hospitals, etc. This draft law will be enacted during the current 189<sup>th</sup> parliamentary session – scheduled to end on 24 June, 2015. The main elements of the draft law include: (1) mandatory compliance by newly constructed large-scale building owners on energy efficiency standards, (2) mandatory submission by middle-scale building owners of the energy efficiency plan, (3) special exemption on the floor area rate for new buildings with superior energy efficiency performance, and (4) provision of certified building energy efficiency performance labels for owners if their new building complies with the energy efficiency standards.

The law will come into effect sometime before 2018, while it is planned to expand the coverage to include middle-sized and residential buildings before 2020.

Current energy conservation law mandates building owners with a floor space above 300m<sup>2</sup> to submit a plan for building energy consumption. Nevertheless, compliance with the buildings' energy efficiency standards is not mandatory yet. Once the new law becomes effective, owners of large-scale buildings will be required to comply with the energy efficiency standards, and gradually the coverage will be expanded to small and middle-sized buildings and residential buildings in order to help save energy in the residential/commercial sectors and reduce CO<sub>2</sub> emissions.

Supporting measures need to be in place to assist building owners' compliance with energy efficiency standards. For example, provision of technology specifications by the government to builders and engineers will assist their understanding on the approaches to comply with the standards. Economic and financial incentives to building owners will be necessary at the early stage of this policy's implementation as it is necessary to stimulate their understanding and facilitate meeting the requirements.

Mandatory compliance on energy efficiency standards for renovations on existing commercial/residential buildings has been under discussion at the concerned ministries, while no

concrete target year or contents have been determined yet. A report prepared by the Ministry of Land, Infrastructure and Transport pointed out that energy efficiency improvements for existing residential/commercial buildings involve higher costs and may pose structural difficulties; therefore, setting energy efficiency standards for renovation should be determined separately from those of new buildings. Additionally, the report identifies the need for streamlining the approval process for existing buildings' renovation in view of the current administrative costs.

Energy savings from the renovations of existing commercial/residential buildings are relatively small in comparison with those of new buildings. Nevertheless, in view of the large number of commercial/residential buildings that do not comply with the latest standards, relatively small energy savings in each building will have a great impact at the macro level. In fact, 35% of total residential stocks are estimated to have no thermal insulation, while 50% of commercial buildings have no thermal insulation.

In some European countries, such as Germany and Denmark, compliance with energy efficiency standards – nearly as high as those of new buildings – is mandatory at the time of renovation. Non-compliance with the standards in some cases requires owners to follow the penalty provisions. In fact, such regulations increase consumers' awareness about the need for complying with building energy efficiency standards regarding thermal insulation, lighting, heating and heating/cooling.

Aside from the discussions over the mandatory compliance on energy efficiency standards at the time of residential/commercial building renovations for policy-making purpose, steady progress should be made to improve buildings' energy efficiency performance with the use of double-glazed glass or Low-E glass, and improvement of thermal insulation performance. In connection with this, from 10 March, 2015, the Ministry of Land, Infrastructure and Transport has started a subsidy program for residential buildings called the "residential energy efficiency point system." Under this program, those builders or owners could obtain money transferrable points depending on the introduced energy savings technologies or new residential buildings with superior energy efficiency performance. The coverage under the program includes: (1) new residential buildings, (2) improvement of thermal insulation for existing residential buildings, including windows, walls, roofs and floors, (3) introduction of water-saving type toilets, (4) introduction of high thermal insulated bathtubs, and (5) water-saving type showerheads. Such economic incentives are expected to improve the thermal insulation of residential buildings and renovations for the introduction of double-glazing glass. The economic incentives could also increase consumers' awareness about the effectiveness and importance of increasing thermal efficiency.