

Establishment of Systematic Basis for Activation of Green Building

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Chapter 1. Introduction

Whereas "Framework Act on Low Carbon, Green Growth" legislated in 2010 stipulates implementation of policies to expand green buildings, building energy is prescribed in "Energy Utilization Act", environment-friendly buildings partly in "Building Act", being treated as an individual policy. Also, diverse systems such as environment friendliness certification, housing performance rating system, energy efficiency rating, environment friendly housing construction criteria, are managed as an individual bill such as building act, housing act, energy utilization act, new and renewable energy development, use, spread promotion law, causing confusion and an increase in social cost due to non-systematic management, and hence requiring specialized ordinances for efficient pushing ahead of green buildings activation.

Chapter 2. Policy Issues related to Green Building

As for policy issues related to green buildings, although projects for enforcing energy criteria for buildings, and improving environment friendliness certification and energy efficiency of public buildings as well as 'inducing' energy savings by the users have been implemented, the issues of policy regulations related to green buildings in our country include that performance specifications for buildings are remarkably lower than foreign criteria and various government-led certification systems are evaluated to have a limited legal force accompanied by very low effectiveness.

In the case of new large buildings, a demonstration project of energy goal management for greenhouse gas In the case of is being implemented, through which recognition of the importance of managing energy and greenhouse exhaust is spreading throughout the society. However, management for existing housings and commercial facilities accounting for the most of buildings rather than a few large buildings is inadequate. Other attempts of energy management for housing than the demonstration project have not been made, and not only criteria enforcement such as standard energy use quantity of housing and carbon exhaust zero but a legal basis to implement this are required.

A system supporting construction of green buildings is represented by certification of environment friendly building(building act), housing performance rating(housing act), energy efficiency rating(energy utilization act), and energy goal management system. In the case of certification of environment friendly building, although the targets are expanded for public buildings, criteria on energy and carbon exhaust are relatively limited, and universal expansion for housing performance ration ar energy efficiency rating is rather difficult because of their limited advantages obtained by business or users through rating certifications.

Chapter 3. Oversea Case Examples

In the case of Japan, many environment-related policies are established and implemented to preserve earth environment, of which energy-savings- related legislation and policy of "energy savings law" has been established to regulate for energy usage by buildings that exerts much influence on degradation of earth environments. Among environment-related policies, the status of energy savings law is constituting a status as a detailed law to implement "regulation of energy savings and promotion of new energy utilization" in the parts of the circulatory society formation implementation framework act and the basic plan.

In the case off Great Britain, energy efficiency policy is based on the law, and provides a basis for energy efficiency of buildings by not only being interlocked with the laws on gas and electricity with a direct influence, but also being tied with building acts and housing acts to increase their utilization values. Great Britain is trying to achieve the goal of carbon zero through legislation, policy establishment, diverse systems, and utilization programs in order to activate green buildings. Inasmuch as the green buildings market in Great Britain has started early worldwide, various forms of applicable systems are not only in place, but also have reached at a stage where the actual users can readily apply them.

In the case of US, while she is trying to legislate forcible regulations for green buildings in response to global climate changes, she is experiencing difficulties in legislation as with the case of 'clean energy security act' that has failed to pass in the Senate after being passed tby he House of Representatives in 2009. At present, a voluntary certification system management plan such as Energy Star of Department of Energy in US constitutes the main axis. Civilian-led environment-friendliness certification systems represent by LEED have been widely disseminated and used to an extent where LEDED certification system and laws are

interlocked in use as in Washington D.C. There are states such as California that have its own system for applications.

Chapter 4. Major Contents in Construction Support Act for Green Buildings

Construction Support Act(Plan) attempts to respond to enforcement of energy criteria for buildings as required countrywide and include the contents to reduce greenhouse gas exhaust stepwise. Also, it has been prepared to elevate the national competitiveness to a professional worldly level and provide a basis pursuing sustainable development through construction of green building technology and infrastructures to support this.

For this purpose, the law(plan) stipulates so that high consumption type of buildings of energy and resources are converted to low-carbon green buildings stepwise, and has been prepared to include such contents as generation of new green buildings, conversion of existing buildings into green buildings, energy efficiency improvements at use stages of buildings, and liaison with related industries. The basic principles to implement all these is construction of green buildings through reduction in greenhouse gas exhaust, construction of environment friendly and sustainable green buildings, construction of green buildings with new and renewable energy utilization and resource savings, implementation of energy efficiency enhancement for existing buildings, and securing a balance between classes and regions for construction of green buildings.

Considering major contents in construction support act for green buildings, in sections 6 and 7, the minister of Ministry of Land, Transport and Maritime Affairs is to establish basic plans for construction of green buildings every 5 years to promote construction of

green buildings, and mayors and governors are to establish construction plans for green buildings according to the basic plan every 5 years. In section 10, the minister of Ministry of Land, Transport and Maritime Affairs is to construct an information system for building energy and greenhouse gas for management of information and statistics related to greenhouse gas exhaust and energy usage in the building area.

In section 11, the permit authority according to the building act can set the total quantity of energy consumption for buildings in his/her jurisdiction area, and the minister of Ministry of Land, Transport and Maritime Affairs will provide the corresponding local government with administrative and financial support when the permit authority establishes a plan to achieve the total quantity of energy consumption and sign the agreements. In section 12, the minister of Ministry of Land, Transport and Maritime Affairs will be allowed to limit the total energy consumption for new and existing buildings for the goal management of greenhouse gas exhaust for mid to long term and per period as stipulated for buildings in "Framework Act on Low Carbon Green Growth". In sections 15-17, certification systems for green buildings building's energy efficiency rating are to be implemented to expand the supply of environment friendly buildings and high energy performance buildings, and the permit authority shall be allowed to alleviate building criteria such as floor area ratio for buildings complying with criteria set by Presidential order.

In section 23, relevant professional organizations may be designated as the green building center to efficiently implement research development and dissemination of construction technology for green buildings, a part of the fund required for task execution may be appropriated or supported within a range of the budget, the government shall be able to provide necessary support such as the payment of grants, or the reduction in income tax, corporation tax, acquisition tax, property tax, etc.

Chapter 5. Conclusion

Since specific implementation regulations for energy goal management system, green building exhaust management, funding support addressed for green buildings in "Framework Act on Low Carbon Green Growth" need to be prepared, comprehensive and systematic institutional apparatus should be provided including setting of provisions required for construction of green buildings and planning for reduction of greenhouse gas exhaust of the building and expansion of green buildings.

Also, to support this, construction support act(plan) for green buildings for converting existing and new buildings into green is needed so as to enforce the national competitiveness to a professional worldly level through construction of green building technology and infrastructures, and materialize the basis for pursuing sustainable developments.

As for specific contents of the act, stepwise conversion and expansion of high-consuming buildings in energy and resources into low carbon green buildings through generation of new green buildings, conversion of existing buildings into green buildings, energy efficiency improvements at use stages of buildings, and liaison with related industries should be included.

In conclusion, major contents of construction support act(plan) for green buildings have been reviewed in the present study along with a basic plan for construction of green buildings, management measures for building energy and greenhouse gas, implementation of building rating system, bills for realization and support of green building construction. Main purpose of these contents is in expansion of green buildings. However, the construction of green buildings can be implemented by personal judgment and decision for realization of sustainable building and its social aspects should be given a priority.

System maintenance of public officials' organization involving

various ministries and departments is needed as an essential measure to guarantee an effectiveness on the basis of studies on construction plans based on systems with planning for reduction of building greenhouse gas exhaust and expansion of green buildings as well as setting of provisions required for construction of green buildings.

Keyword : Green Building, Activation