

Regarding CASBEE Osaka (Comprehensive Assessment System for Building Environmental Efficiency for Osaka City)

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1. Introduction

In realizing a sustainable society, the role that the architecture field plays is extremely large, since it consumes vast amounts of resources and energy; it has become important to promote construction of buildings that are comfortable as well as environmentally friendly.

Against such backdrop, Osaka City has established CASBEE Osaka (Comprehensive Assessment System for Building Environmental Efficiency for Osaka City) in May 2004, and has been enforcing it since October 1 of the same year.

CASBEE is a system where those commencing construction of buildings larger than a certain scale conducts a comprehensive environmental self-assessment regarding the building and submit the plan including the assessment results to Osaka City, and Osaka City then discloses the overview of the construction plan via website etc.

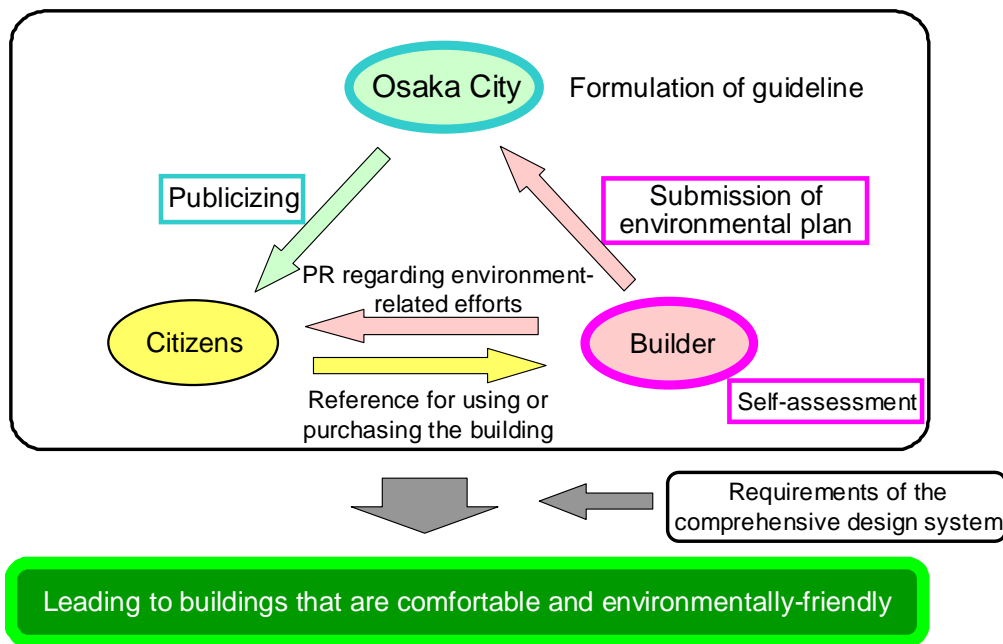


Figure 1: Image of CASBEE Osaka

2. About CASBEE

Movement for promoting sustainable building has been spreading, and many assessment methods regarding environmental efficiency of buildings have been developed, representative of which is the BREEAM of the UK; in Japan, the Comprehensive Assessment System for Environmental Efficiency (CASBEE^{*1}) was developed by the industry-academic-government collaboration with the support of the Ministry of Land, Infrastructure, Transport and Tourism.

CASBEE evaluates the environmental efficiency of the building by considering two spaces divided by the virtual boundary of premises borders etc. of the building, and designates Q for Quality to indicate environmental quality and efficiency of inside

of the boundary, i.e. inside the building and within the premises, and L for Loading for environmental burdens outside the boundary. Assessment items for Q are related to interior environment such as room temperature and ventilation, functionality, building life, and greening, and assessment items for L are related to conservation of energy and resources, heat island countermeasures, and control of burden to infrastructure.

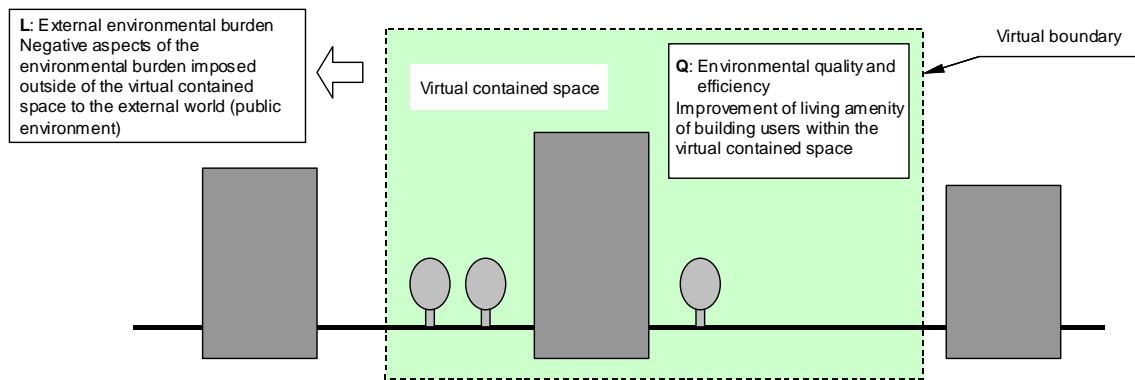


Figure 2: Classification of assessment area of “Q: Environmental quality and efficiency of buildings” and “L: External environmental burden of buildings”

Further, as an index integrating these two areas, figure called Building Environmental Efficiency (BEE) will be used for comprehensive assessment. BEE is a figure found by dividing Q by L, and will increase as the environmental quality and efficiency of the building (Q) is improved and as the external environmental burden of the building (L) is reduced. Also, buildings are assigned one of five levels (labeled) according to the BEE figure,

allowing easier understanding of the assessment results.

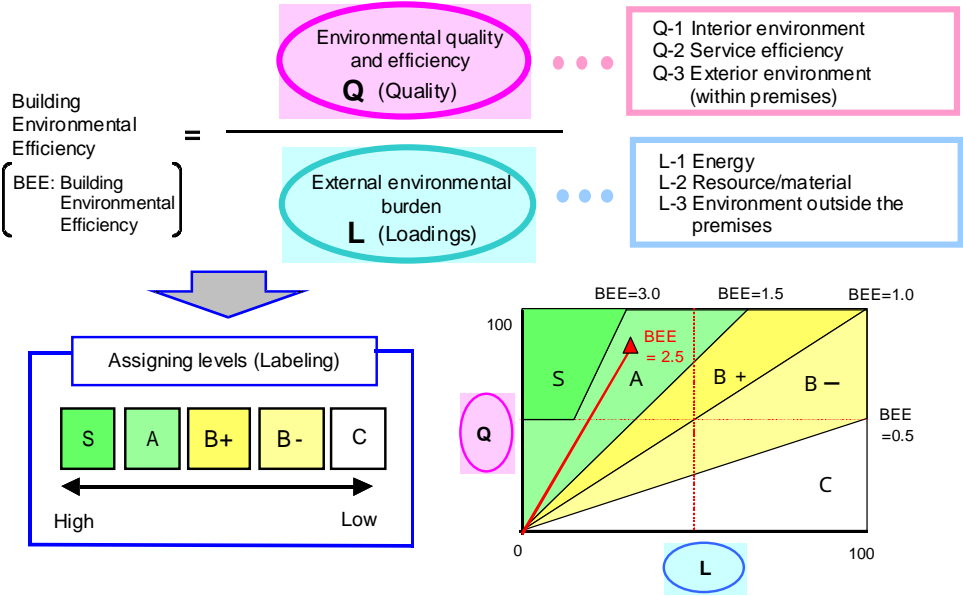


Figure 3: Building Environment Efficiency and Assignment of Levels (Labeling)

3. Overview of CASBEE Osaka

CASBEE Osaka is an environmental labeling system using CASBEE as an assessment tool; with this system, the builder will conduct a comprehensive environment self-assessment of the building and submit the plan including the assessment results by 21 days before commencement of construction of new buildings etc., and Osaka City discloses the overview of this plan via website etc. Targeted buildings are those with floor area used for FAR calculations exceeding 5,000 m², and buildings with application of comprehensive design system etc. of which the premises area is or exceeds 1,000 m². Assessment standard is unique; it is based on “CASBEE – New

Construction (abridged edition) *2,” and in addition, standards employed by Osaka City such as barrier-free, greening and provision of parking spaces are incorporated as a standard for rating. Also, importance of greening effort assessment has been increased.

Also, regarding buildings with application of comprehensive design system in increasing floor space etc., one requirement for permission is that the building is rated B+ or higher in assigned levels (labeling) in this assessment. Osaka City was the first in Japan to include the building's comprehensive environmental efficiency as requirement for permission.

Since FY 2005, to promote provision of private apartment buildings that are environmentally friendly and equipped with excellent living environment that supports child-rearing, the “Osaka City Project for Provision of Residences with Excellent Environment” was established to subsidize a part of the construction costs etc.; its approval requirement is that the building is rated A or above in assigned levels (labeling) of CASBEE Osaka.

Further, to increase awareness of citizens, builders, etc. regarding efforts toward environmental efficiency of buildings, giving awards to superior buildings according to CASBEE Osaka is planned to start this fiscal year 2009.

Number of building plans disclosed from October 2004 to end of March 2006 is shown below.

Sustainability ranking \ Building Usage	S	A	B+	B-	C	Total
Office	1 (1)	6 (1)	6 (1)			13 (3)
School	1	1				2
Retail shop		1	2	1		4
Restaurant			1			1
Assembly place						0
Hospital			2			2
Hotel			1 (1)			1 (1)
Housing complex		17 (8)	48 (26)	3		68 (34)
Factory		1	2	5		8
Total	2 (1)	26 (9)	62 (28)	9	0	99 (38)

* Figure inside () is number of application of comprehensive design system (part of previous number)

* For buildings with multiple uses, it is categorized under the use with most floor space

4. In conclusion

With this system, Osaka City aims to promote construction of comfortable and environmentally friendly buildings and to create a good urban environment where citizens can maintain a healthy and comfortable lifestyle.

<Website URL for Building Guidance Division,
Housing Bureau, Osaka City>

http://www.city.osaka.jp/jutaku/kentiku_sido.html

Note)

- *1 Comprehensive Assessment
System for Building
Environmental Efficiency
- *2 Of all the tools of CASBEE,
developed for the purpose of
simplified assessment of
CASBEE – New Construction.