

# PAQS2024 Sustainability Committee

## Information on Green Buildings Reported by Building Surveyors Institute of Japan (BSIJ)

24 August 2024

### 1. Green buildings assessment system adopted

#### I. About Institute for Built Environment and Carbon Neutral for SDGs (IBECs)



In order to contribute to the achievement of the Sustainable Development Goals (SDGs), Institute for Built Environment and Carbon Neutral for SDGs (IBECs) conduct a variety of research, technological development and outreach activities related to housing, architecture and cities, including the built environment and energy conservation.

#### II. Activities and Achievements (excerpt)

##### ■ BEST

BEST (Building Energy Simulation Tool) is an effective computer simulation program for building energy research and evaluation. BEST is capable to analyze not only the performance of building envelope and HVAC system, but also lighting, water use, and additional equipment loads such as elevators.

##### ■ CASBEE

CASBEE (Comprehensive Assessment System for Built Environment Efficiency) is a method for evaluating and rating the environmental performance of buildings and the built environment. CASBEE has been designed to both enhance the quality of people's lives and to reduce the life-cycle resource use and environmental loads associated with the built environment, from a single home to a whole city. Consequently, various CASBEE schemes are now deployed all over Japan and supported by national and local governments.



##### ■ J-CAT

J-CAT (Japan Carbon Assessment Tool for Building Lifecycle) is a tool (calculation software and manual) developed by the Zero Carbon Building Promotion Committee to calculate GHG (greenhouse gas) emissions, including CO<sub>2</sub>, throughout the entire building lifecycle. Its first edition (2024 trial version) was published in May 2024.



### III. Green Building Japan

GBJ is a forum connecting people interested in promoting a sustainable built environment.

The General Incorporated Association Green Building Japan (GBJ) was established in 2013 to promote sustainable building environments and communities in Japan. Initially, GBJ served as a liaison with the US Green Building Council (USGBC) for the global LEED certification system. The organization has significantly advanced LEED adoption in Japan by translating materials into Japanese, proposing technical equivalencies, and organizing symposiums and seminars on green building.



In addition to LEED, GBJ's scope now includes other global sustainability standards such as WELL certification for health and well-being, SITES for landscape performance, Arc for operational energy and water performance, and GRESB for real estate investment. Supported by over 70 corporate members and many individual members, GBJ aims to address energy consumption, environmental impact, and worker health within the context of sustainability.

Through its activities and information dissemination, GBJ strives to contribute to the realization of a sustainable society.

### IV. supplementary explanation *【From last year's data】*

**Comprehensive Assessment System for Built Environment Efficiency (CASBEE)** is a method for evaluating and rating the environmental performance of buildings and the built environment. CASBEE was developed by a research committee established in 2001 through the collaboration of academia, industry and national and local governments, which established the Japan Sustainable Building Consortium (JSBC) under the auspice of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT).

CASBEE has been designed to both enhance the quality of people's lives and to reduce the life-cycle resource use and environmental loads associated with the built environment, from a single home to a whole city. Consequently, various CASBEE schemes are now deployed all over Japan and supported by national and local governments. The CASBEE assessment tools were developed on the basis of the following three principles:

- [1] Comprehensive assessment throughout the life cycle of the building
- [2] Assessment of the Built Environment Quality and Built Environment Load
- [3] Assessment based on the newly developed Built Environment Efficiency (BEE) indicator

CASBEE for the life cycle of buildings, and is utilized at each stage of the design process.

CASBEE - Planning

CASBEE - New Construction  
CASBEE - Existing  
CASBEE – Renovation

Number of CASBEE certifications: Provisional results for  
FY2024

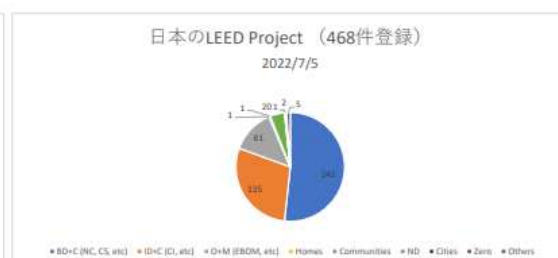
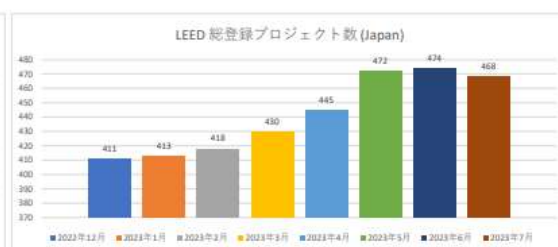
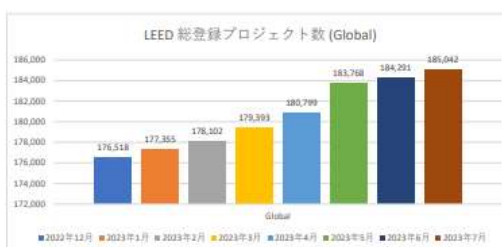
CASBEE building assessment certification: 930  
CASBEE certification for detached houses: 287  
CASBEE real estate evaluation certification 2166  
CASBEE Wellness Office Evaluation Certification: 18

LEED certification is also in progress. Since 2018, over 400-500 certifications have been identified. CASBEE and DBJ account for over 90% of the total number of acquisitions, while LEED is gradually increasing

国別のLEED登録件数と認証件数

2023年4月					
	登録件数	Platinum	Gold	Silver	Certified
Global	180,799	11098	34615	29665	26443
US	137,532	8030	24919	25463	22755
China (CN)	8,987	447	2011	926	1621
Canada (CA)	4,168	96	569	429	735
Germany (DE)	1,170	85	376	55	33
Korea (KR)	701	35	157	98	44
Japan (JP)	445	31	140	35	27

2023年7月					
	登録件数	Platinum	Gold	Silver	Certified
Global	185,042	11302	35279	30227	27138
US	139,385	8111	25149	25754	23229
China (CN)	9,910	482	2165	1056	1808
Canada (CA)	4,411	98	588	508	744
Germany (DE)	1,215	85	384	57	34
Korea (KR)	735	38	166	102	44
Japan (JP)	468	31	144	36	27



## LEED, Number of Certifications July 2023

WELL認証件数

認証件数

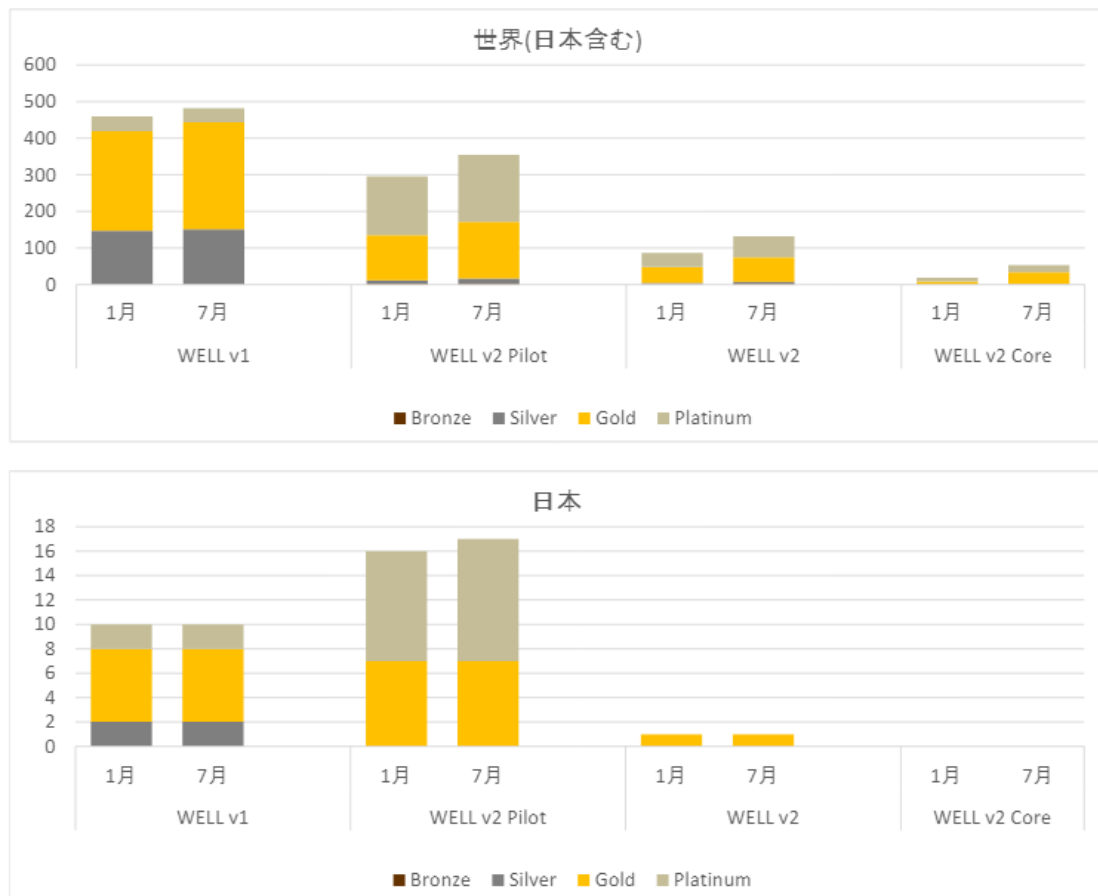
2023年1月

	世界					日本				
	Platinum	Gold	Silver	Bronze	合計	Platinum	Gold	Silver	Bronze	合計
WELL v1	40	272	147	0	459	2	6	2	0	10
WELL v2 Pilot	161	123	10	2	296	9	7	0	0	16
WELL v2	38	44	3	1	86	0	1	0	0	1
WELL v2 Core	10	9	0	0	19	0	0	0	0	0
合計	249	448	160	3	860	11	14	2	0	27

認証件数

2023年7月

	世界					日本				
	Platinum	Gold	Silver	Bronze	合計	Platinum	Gold	Silver	Bronze	合計
WELL v1	39	292	151	0	482	2	6	2	0	10
WELL v2 Pilot	184	154	15	2	355	10	7	0	0	17
WELL v2	57	67	6	2	132	0	1	0	0	1
WELL v2 Core	19	33	1	0	53	0	0	0	0	0
合計	299	546	173	4	1022	12	14	2	0	28



<https://account.wellcertified.com/directories/projects>

WELL, Number of Certifications July 2023

## 2. Statutory requirements on the following elements of green buildings

In principle, the subject building is total floor area is more 300 m<sup>2</sup>.

Some local governments require notification when building over a certain size, e.g., 2000 m<sup>2</sup> or more

For example, if a city achieves an S rank in the CASBEE evaluation, it will be able to receive up to 250% of the floor area ratio relaxation

## 3. Government incentives for providing new green buildings and existing green buildings

The Ministry of Economy, Trade and Industry (METI) has compiled a list of measures for homes and buildings to achieve carbon neutrality by 2050.

〈The goal of housing and buildings〉

2050: The energy-saving performance of the ZEH/ZEB standard is secured on average in the stock, and the introduction of renewable energy such as photovoltaic power generation equipment becomes common in houses and buildings where the introduction is reasonable.

2030: Energy-saving performance at the level of ZEH/ZEB standard is secured for newly constructed houses/buildings, and 60% of newly constructed detached houses are equipped with photovoltaic power generation facilities.

**〈How to proceed with energy conservation measures,〉**

Mandatory compliance with energy conservation standards, including for residences, by 2025

Raise energy efficiency standards to the level of ZEH and ZEB standards and make compliance mandatory by 2030 at the latest.

Promote the installation of photovoltaic power generation equipment by considering all possible means, including the future obligatory installation of such equipment as an option.

#### **4. Updated developments of green buildings**

The Institute for the Promotion of Housing and Building SDGs (IBECs) established the "Zero Carbon Building (LCCO2 Net Zero) Promotion Council" to develop evaluation methods and promote the spread of buildings that comprehensively reduce LCCO2 to virtually zero ("zero carbon buildings") through collaboration among industry, government and academia.

Contribution to DX, including the use of BIM. In order to secure high quality building stock that can be used by the international community and the next generation, an evaluation method for embodied carbon should be developed as soon as possible, while also taking into account the contribution to DX such as the use of BIM.

In addition, the objective is to promote and disseminate so-called "zero carbon buildings," buildings that comprehensively reduce LCCO2 to virtually zero, including energy conservation and energy creation during use. The objective is to promote and disseminate so-called "Zero Carbon Buildings (LCCO2).

The project is funded by a subsidy from the Ministry of Land, Infrastructure, Transport and Tourism's "Environmental Stock Utilization Promotion Project.

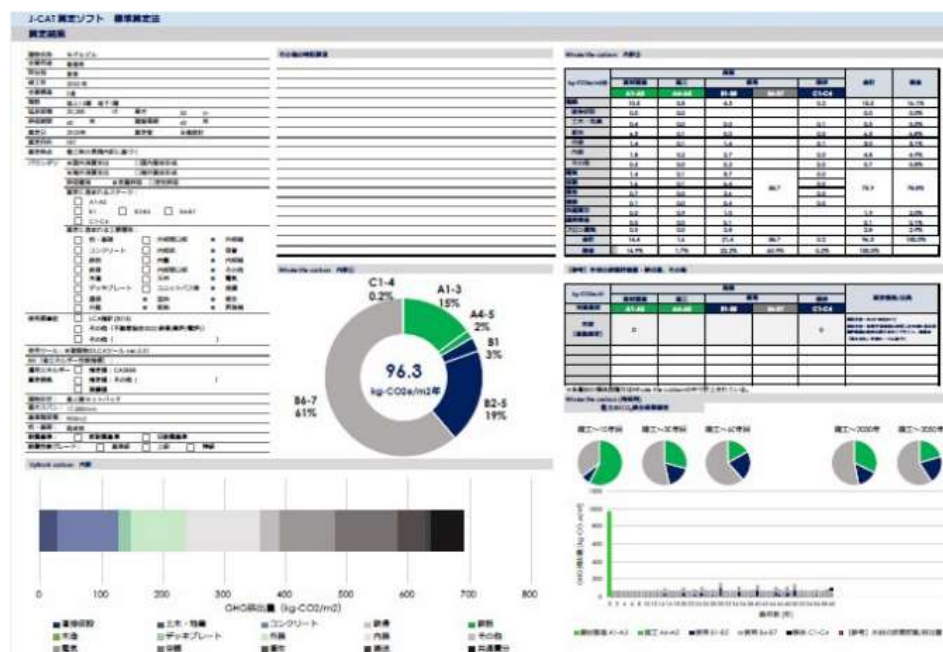
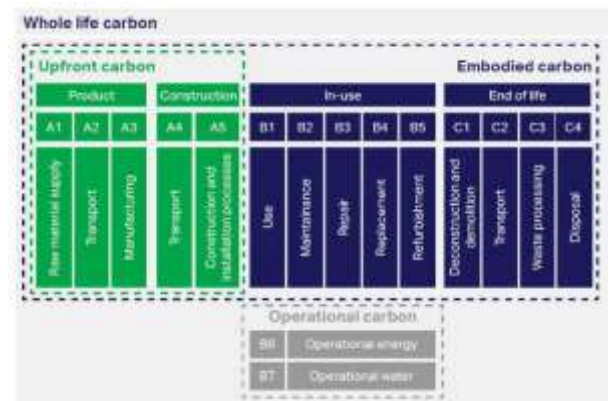
1. Develop a method to calculate Embodied Carbon and explore decarbonization strategies for buildings.

3. Involve a wide range of supply chain industries and collaborate with ministries, local governments, industry, and academia to create a forum for addressing WLC issues.

## ■ Calculation Tool and Policy for Maintenance of Utilization Data

2. Provide a versatile calculation tool for both detailed and simple calculations, applicable to new and existing buildings of all sizes (e.g., CASBEE's LCCO and LCCM tools).

3. Enhance Embodied Carbon databases, like EPD and Japan's IDEA, through collaboration between the private sector, academia, and relevant ministries.



## ■ International trends and related technologies

1. Investigate international WLC standards and collaborate on broader decarbonization disclosures, including in finance.
2. Research the need and best practices for carbon offsetting.
3. Consider measures for existing buildings from a circular economy perspective.
4. Promote the use of digital technology and BIM for DX.
5. Develop human resources specialized in WLCA..



## 5. Useful links relating to green buildings

(IBECs) <https://www.ibecs.or.jp/english/index.html>

(CASBEE) <https://www.ibec.or.jp/CASBEE/english/>

(Number of CASBEE certifications: Provisional results for FY2021 (as of March 2022))

<https://kansa.bvjc.com/column/2022/220419.html>

(Legal requirements for CASBEE)

[https://www.ibec.or.jp/CASBEE/local\\_cas.htm](https://www.ibec.or.jp/CASBEE/local_cas.htm)

(Green Building Japan about LEED )

[https://www.gbj.or.jp/leed/about\\_leed/](https://www.gbj.or.jp/leed/about_leed/)

(LEED Number of certified registrations)

<https://www.gbj.or.jp/leed-well-202307/>

(The Ministry of Economy, Trade and Industry (METI) compiled)

<https://www.meti.go.jp/press/2021/08/20210823001/20210823001.html>

(Zero Carbon Building (LCCO2 Net Zero) Promotion Conference)

[https://www.ibec.or.jp/zero-carbon\\_building/](https://www.ibec.or.jp/zero-carbon_building/)

[https://www.ibec.or.jp/zero-carbon\\_building/files/document1-2.pdf](https://www.ibec.or.jp/zero-carbon_building/files/document1-2.pdf)

(Claims Code of Practice Building integrity in voluntary carbon markets)

<https://vcmintegrity.org/wp-content/uploads/2023/11/VCMI-Claims-Code-of-Practice-November-2023.pdf>