

# Design Features of LEED Commercial Interior Certified Projects in Korea

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## Background and Purpose

As climate change becomes more serious, the need for the construction of green buildings increases. Korea has begun to introduce LEED certification in line with this global trend, and the Korean government has adopted Green Building Certification Criteria (GBCC), now the Green Standard for Energy and Environmental Design (G-SEED).

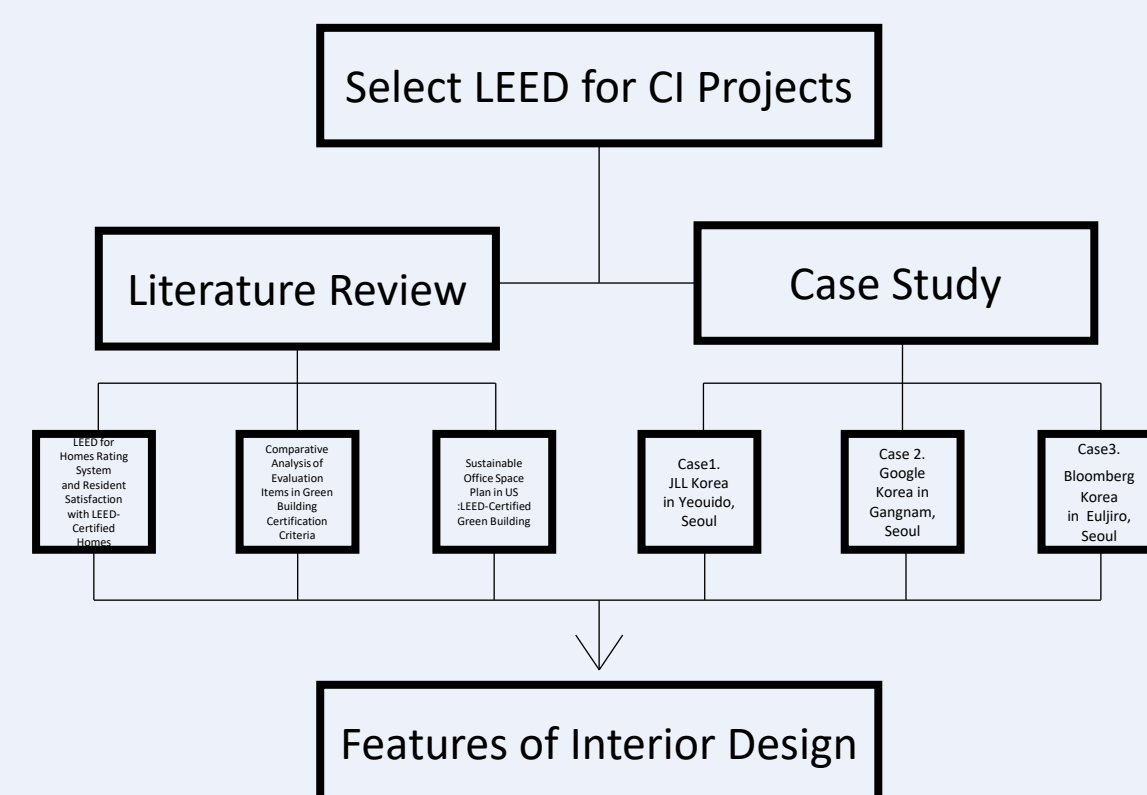
The purpose of this study is to analyze the LEED Commercial Interior (CI) certified projects to differentiate them from Korea's domestic building certification system and suggest improvements.

## Research Method

The researcher investigates 20 cases focusing on the LEED CI certified design projects in Korea for the past ten years. Each case is compared and analyzed according to the LEED Rating system checklists, and also suggests direction to draw up LEED evaluation items that are drawing attention from Korea and supplement them with G-SEED.

Research methods involved Case Study and Interview. However, due to COVID 19, companies did not allow to open their workspaces. Only one place allowed to visit. Cases are selected as follows. The researcher looked for projects with LEED for CI in USGBC website.

### Process



- Open Space Plan
  - Window Layout
  - Biophilic Design
  - Public Transportation
- Figure1. Research Method Process

## Results and Discussion

### Findings

#### 1. LEED for CI Certified in Korea

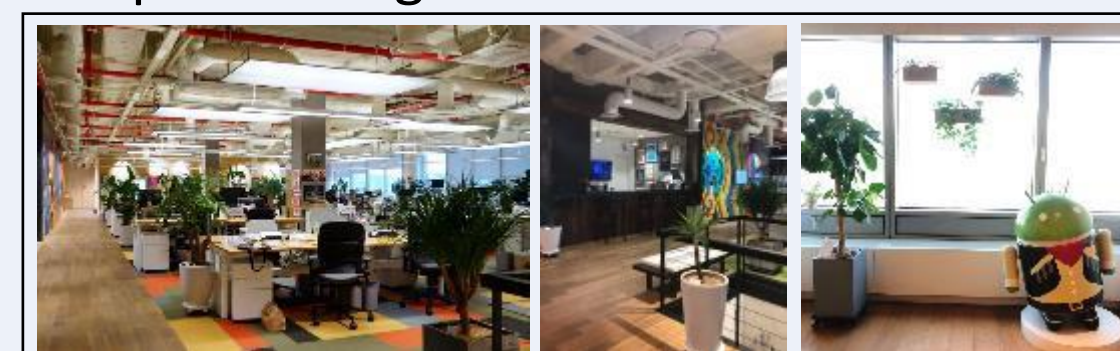
Korea has been certified 20 LEED for CI projects since 2011. Most of them are certified in Banks and Office spaces. Design Features of Interior Spaces are Biophilic Design, Open Floor Plan and Big Window Layout.

No.	Project Name	City	CertLevel	CertDate	IsCertified	Regis.Date
1	CHANEL Korea Office Relocation	Seoul	Gold	7/11/2017	Yes	6/27/2016
2	HP Printing Korea Alplhadom 6.3	Seongnam-si	Silver	2/13/2020	Yes	9/25/2019
3	Chanel DC Bucheon Kendall Square	Bucheon	Gold	3/26/2020	Yes	8/14/2019
4	JLL Seoul office at ONE IFC	Seoul	Gold	2/2/2021	Yes	3/16/2020
5	EPN Korea	Seoul	Silver	8/27/2012	Yes	3/9/2012
6	Korea Green Building Council	Seoul			No	3/25/2012
7	Facebook Seoul	Seoul	Gold	7/16/2014	Yes	1/28/2014
8	Google KR Renovation with Addtn on 23F	Seoul	Silver	8/24/2015	Yes	4/7/2014
9	CIH Korea LEED CI	Seoul	Silver	11/18/2011	Yes	6/27/2011
10	Bureau Veritas Korea CPS	Anyang	Platinum	3/2/2016	Yes	4/6/2015
11	BoA ML Seoul Office 27th Floor LEED CI	Seoul	Gold	12/30/2011	Yes	4/5/2011
12	SAB Miller	Yongin-si	Gold	3/28/2016	Yes	2/23/2015
13	Medidata	Gangnam Gu			No	1/1/2017
14	GGGI HQ Green Office Renovation	Seoul	Gold	11/30/2018	Yes	10/15/2018
15	Citibank Korea at CBC Building	Seoul	Silver	8/14/2020	Yes	3/2/2020
16	MGL Seoul Relocation	Seoul	Gold	11/17/2020	Yes	5/12/2020
17	Bloomberg Seoul	Seoul	Platinum	9/7/2012	Yes	11/13/2011
18	Credit Suisse Seoul Office Relocation	Seoul			No	8/12/2020
19	Susterra Partners/ Accolade Office	Seoul	Silver	6/12/2012	Yes	11/9/2010
20	Google Campus Seoul	Seoul	Gold	8/23/2015	Yes	11/13/2014
21	Citibank Korea at Young City Building	Seoul	Gold	2/21/2020	Yes	1/21/2019
22	UBS Seoul New Office	Seoul			No	8/2/2020
23	Tetra Tech International Korea Inc	Seoul	Silver	3/17/2011	Yes	7/23/2010
24	IBM Korea HQ Relocation to 31FC	Seoul	Gold	6/3/2015	Yes	12/2/2014

Chart 1. List of LEED for Commercial Interior Projects in Korea

#### 2. Interior Design Features

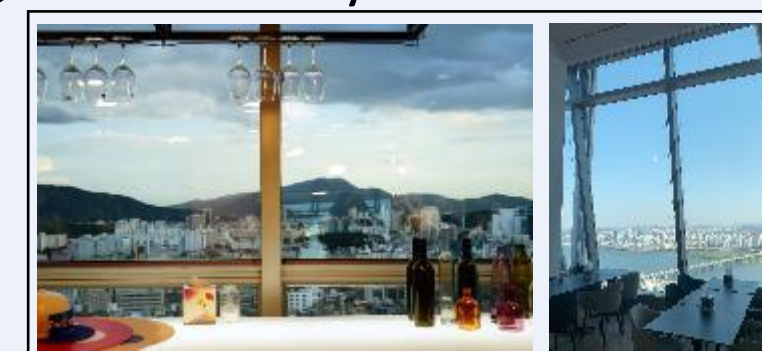
##### ① Biophilic Design: Contact to Nature



Picture 2. Facebook Korea, Google Korea

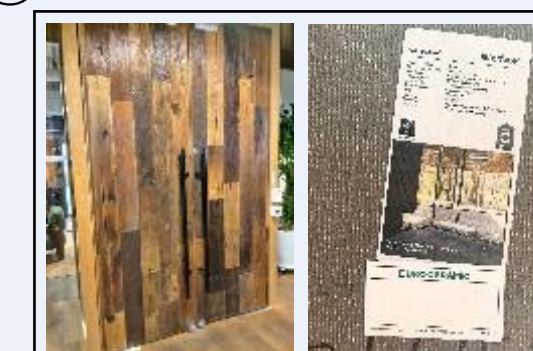
- Interior Green Garden
- Vertical Arrangement
- Small Plants

##### ② Window Layout



Picture 3. Facebook Korea, JLL Korea

##### ③ Green Materials



Picture 4. Facebook Korea, JLL Korea

##### ④ Office Spaces & Public Spaces



Picture 5. Facebook Korea, Google Campus Seoul

- Open Floor Plan
- Free Seating
- No Partition
- Provide Snacks for Users

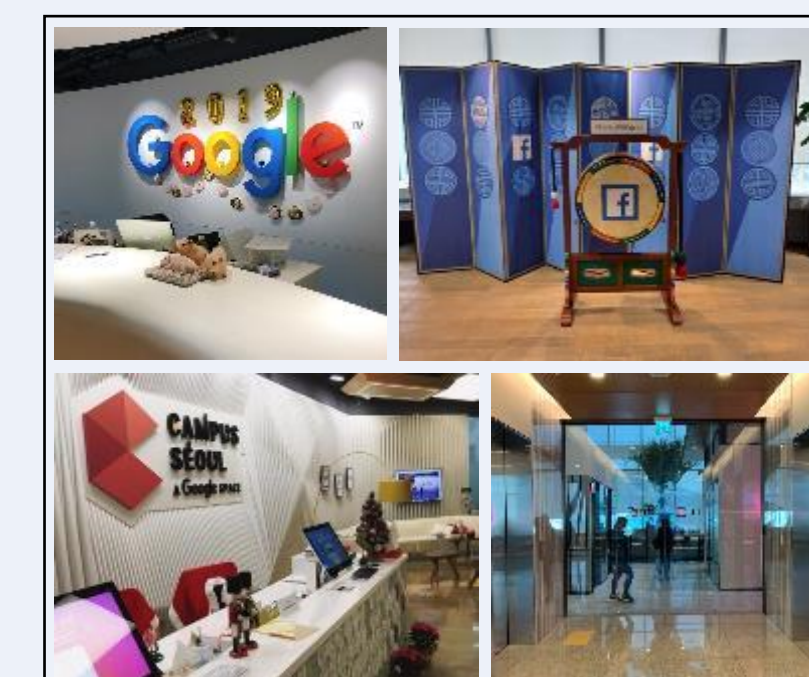
##### ⑤ Others



Picture 6. JLL Korea

#### 3. Score Card and Analysis

There is no typical pattern in LEED for CI score cards. While most countries got high scores in MR and IEQ, Korea got high scores in Sustainable Sites(v2009) and Location & Transportation(v4). Because most of the commercial projects in Korea are located in urban areas which have higher density development. Also, public transportation is very advanced in Korea.



Picture 1. Commercial Spaces in Korea

## Case Study: JLL Korea

### Site Visit

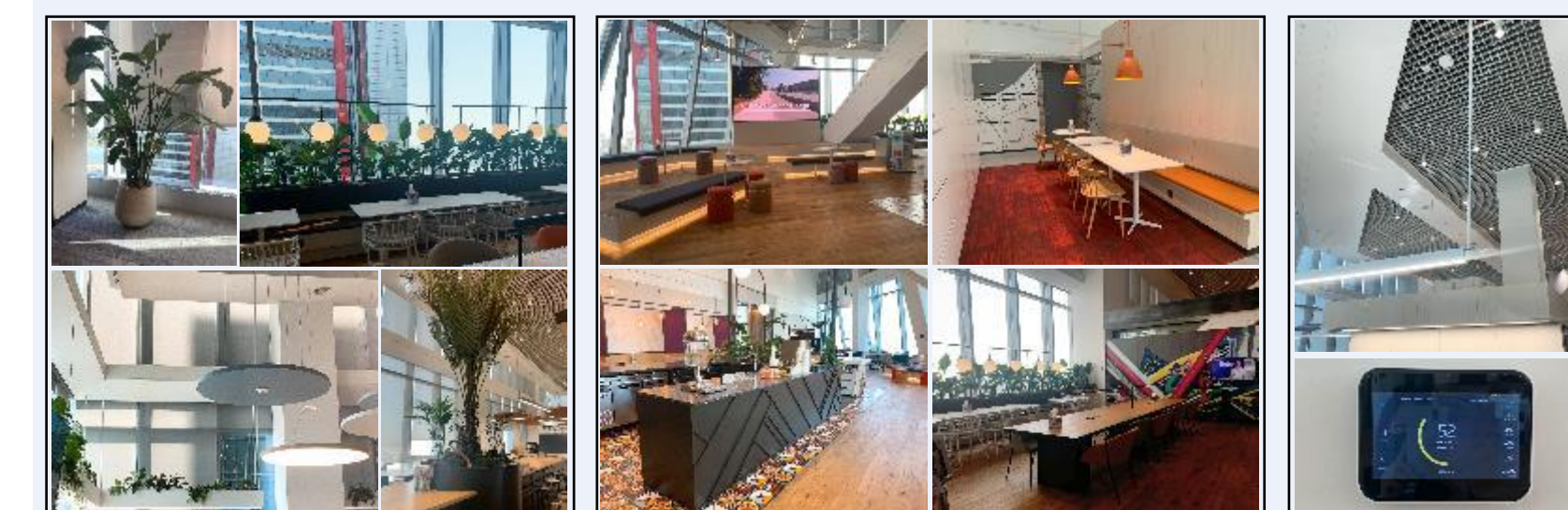
#### 1. Features of JLL Korea



Picture 7. Gold Certification

- LEED Gold, Awarded FEB 2021
- Score 65 points (65/110)
- Divided into Office Space and Public Space
- WELL Certification

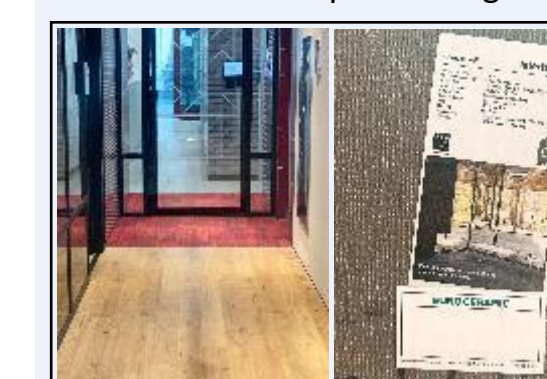
#### 2. Interior Design Features



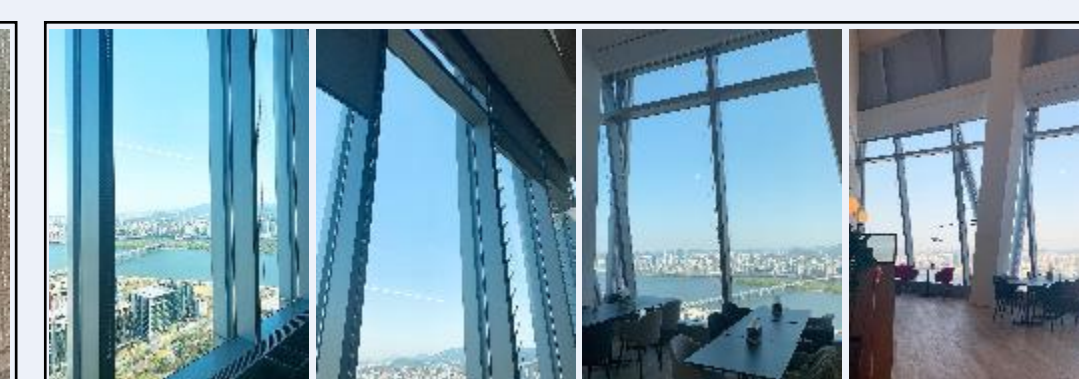
Picture 8. Biophilic Design

Picture 9. Public Spaces

Picture 10. HVAC System



Picture 11. Green Materials



Picture 12. Big Window Layout

#### 3. Score Card and Analysis



Picture 13. JLL Korea Score Card

- Got High Scores in Location & Transportation
- Credits: WT(4/12), EA(16/38), MR(7/13), IEQ(11/17), LT(17/18), RPC(2/4), IPC(2/2), INNOVATION(6/6)

## Suggestions and Conclusion

The result from the case studies showed that LEED CI-certified projects in Korea presented unique design features and solutions. As Korea's G-SEED began its evaluation of apartment complexes, detailed standards for commercial spaces were found to be insufficient. Although LEED began around 2000 when G-SEED started in Korea, not many projects have been LEED for CI certified in Korea. Because there are many G-SEED certified commercial projects in Korea, more LEED for CI certified could be attempted. Most LEED CI certified projects in Korea are banks and offices. We did not have enough variety among the LEED CI certified projects in terms of their facility type. More diverse commercial projects are needed to apply for the LEED CI for the future. Case studies show the major features from the LEED CI certified projects in Korea: Those are biophilic design, big windows to bring more daylight, and open floor plans. Among the categories based on the scorecard for LEED, most certified projects in Korea obtained higher scores under Sustainable Site from the LEED v3 and Location and Transportation under the LEED v4. Because most of the commercial projects in Korea are located in urban areas which have higher density development, they might be able to achieve more credit scores under these categories. Therefore, it is recommended the more commercial interior design projects in Korea should apply for the LEED CI and showcase our efforts in green and sustainable design to more interior designers and researchers in the world.

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