

2022 LH ESG SUSTAINABILITY REPORT



About this Report

Report Overview

Korea Land and Housing Corporation (LH) publishes an annual Sustainability Report to share and communicate our economic, environmental, and social activities and achievements with various stakeholders. This 10th Sustainability Report was organized such that readers can understand how stakeholder interests are reflected in LH's ESG management by reporting ESG management strategies and important issues. LH will continue to publish annual reports to disclose its ESG management activities in a transparent manner.

Reporting Period

- January 1 - December 31, 2021 (based on the fiscal year)
- Qualitative Performance: Some activities in the first half of 2022 are included considering stakeholders' interests or timely issues.
- Quantitative Performance: Data from the previous three years are included to enable the identification of trends.

Scope of Reporting

- Domestic headquarters and all regional headquarters where LH workplaces are located
- Financial Information: Criteria set by K-IFRS (Korean International Financial Reporting Standards)
- Social/Environmental Information: When data collection is restricted, the reporting scope of the relevant information is indicated separately.

Reporting Standards and Principles

- This report has been compiled in accordance with the Core Option of the Global Reporting Initiative (GRI) Standards, the SASB (Sustainability Accounting Standards Board) Standards, the TCFD (Taskforce on Climate-related Financial Disclosures) recommendations;
- K-ESG Guideline v1.0 (released in December 2021) and assessment criteria;
- ISO 26000, the 10 Principles of the UN Global Compact (UNGC), and the 17 UN SDGs.

Third Party Verification

- Purpose: Ensuring the accuracy, objectivity, and reliability of procedures and data
- Verifier: KOSRI (Independent verifier)
- Principles: Matters and opinions related to verification are provided on pages 110~111 in accordance with AA1000AS v3 and AA1000AP (2018). GHG emissions and energy consumption are verified in accordance with the 'Verification Guidelines for Management of GHG Emissions Trading Scheme' and 'Guidelines on Reporting and Certification of Emissions under the GHG Emissions Trading Scheme'.

Website www.lh.or.kr
YouTube www.youtube.com/c/LH에[비]내[비]
Blog blog.naver.com/bloglh
Address Korea Land and Housing Corporation, 19, Chungui-ro, Jinju-si, Gyeongsangnamdo, 52852, Republic of Korea

Department In Charge ESG Improvement Department, Future Strategy Office
Email esg@lh.or.kr



Hello!
I am LH's ESG character, 'RZ' Researcher.
In this ESG Sustainability Report,
I will explain the various ESG activities
conducted by LH.

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CEO Message



Dear Esteemed Stakeholders,

LH has been leading efforts to achieve housing stability and balanced national development, and to improve people’s quality of life through economic development. In line with changing times, LH has carried out balanced development by launching the era of apartment construction, creating new towns, and developing innovative cities such as Sejong City. Recently, the standards for assessing companies have been undergoing changes. In addition to traditional financial criteria such as assets and net income, how much a company strives to achieve environmental (E) value, social (S) value, and transparent governance (G) for a sustainable society is becoming a very important criterion in corporate evaluations.

To respond to these environmental changes, LH is making a major transition in management to improve policy performance and practice ESG values. We declared our first year of ESG management and completely revised our sustainability report based on ESG. This report contains LH’s activities and achievements, in partnership with the public, and collects opinions from various stakeholders.

LH will promote ESG management to create results that satisfy public demands as follows.

First, we will spread environmental values that reduce carbon emissions and increase the energy welfare of residents.

The Third Phase New Town will be developed as a low-carbon green city to save energy for the public good. LH will implement improvements in energy welfare to save housing costs and promote carbon reduction by improving housing performance through the expansion of zero energy housing and green remodeling of rental housing. In addition, we will actively explore projects directly related to environmental values in daily life, such as carbon offset forest projects.

Secondly, we will faithfully realize social values by improving peoples’ residential lives, which is the original mission of LH.

LH will implement housing supply measures such as the Government’s "Public Housing Stability Realization Plan" (August 16, 2022), which aims to supply 2.7 million housing units over the next five years. Moreover, we will strive to improve peoples’ quality of life by strengthening housing welfare for vulnerable groups. In addition to expanding the supply of housing, we will do our utmost to improve the quality of public housing and prevent serious accidents by managing the safety of our construction sites.

Thirdly, we will establish a clean and transparent management system through innovation that exceeds public expectations.

We not only implement the Government’s LH innovation plan, but also promote our own innovation plan. To this end, we have established the LH Innovation Committee, composed of external experts, to monitor the status of implementation. Further, to enhance the function of the Board of Directors, four BOD subcommittees are operated with a focus on independent directors. We are also strengthening accounting transparency through separate accounting for each business. In a first for a domestic public corporation, we have introduced a compliance officer and a company-wide property registration system to eradicate real estate speculation by our employees. At LH, 9,000 executives and employees promise to continue LH innovation to restore public trust.

LH has enriched the lives and workplaces of Korean citizens and will continue to work for a Better Korea. We will actively practice ESG management with stakeholders and become a new LH that the public can trust and rely on.

We ask for your continued interest and support for the changing LH.
Thank you.

September 2022

Acting CEO **Lee Jung Kwan**

Lee, JungKwan

LH, your reliable partner








LH Overview

We acquire, develop, reserve, and supply land; construct, supply, and manage housing; develop cities; and carry out housing welfare projects for socially vulnerable groups. These activities are part of our efforts to improve quality of life for the public and lead balanced regional development through the realization of a stable public housing supply system and efficient land use.

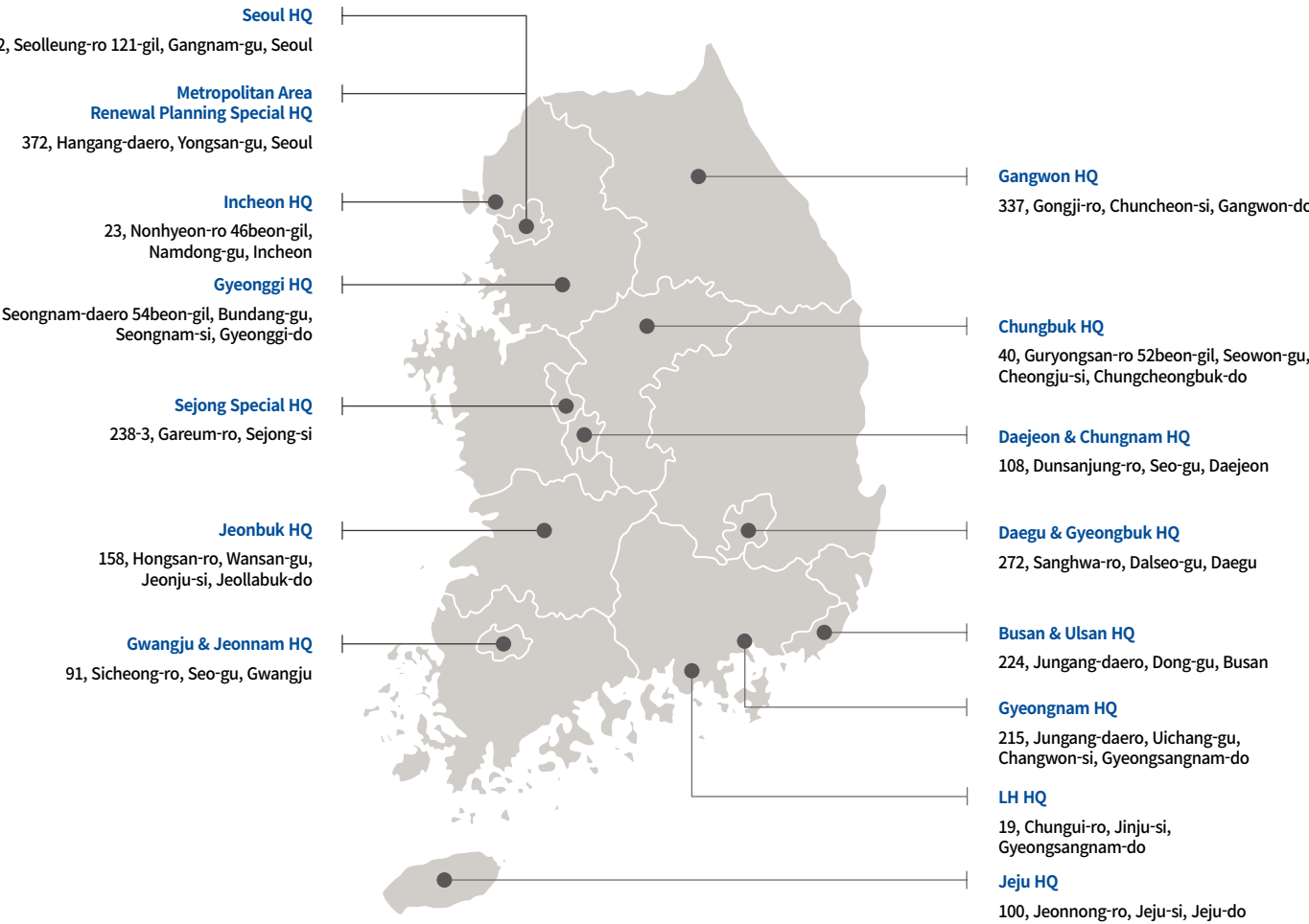
Assets		KRW	201.7	trillion
Liabilities		KRW	138.9	trillion
Capital		KRW	62.8	trillion
Sales		KRW	27.3	trillion
As of December 31, 2021				
Organization		Korea Land and Housing Corporation		
Headquarters		19, Chungui-ro, Jinju-si, Gyeongsangnam-do, Republic of Korea		
Industry		Development and supply of real estate		
CEO		Kim Hyun Jun		
Date of Foundation		October 1, 2009		
Legal Grounds for Foundation		Act on Korea Land and Housing Corporation (Legal No. 9706)		
Competent Authority		Ministry of Land, Infrastructure and Transport		
Ownership		Government (88.82%), Korea Development Bank (9.33%), The Export-Import Bank of Korea (1.85%)		
Investors		Korea Housing Management Co., Ltd., LH Housing Welfare Information Co., Ltd., LH Building Management Co. Ltd., and others		
Employees		10,078		



LH History

						
1960's	1970's	1980's	1990's	2000's	2010's	2020's
Modernization of Residential Culture	Beginning of the Apartment Era	Resolving Overcrowding in Large Cities	New Town Development and Housing Construction	Realization of Balanced Development and Housing Welfare	A Reliable Partner to the Public	A Sustainable Future Together
1962 • Founded the KNHC / Constructed Korea's first apartment complex (Mapo)	1971 • Constructed Korea's first rental apartments (Gaebong-dong) / Constructed the Banpo Apartment Complex (7,906 houses)	1980 • Constructed Gwacheon New Town (13,522 houses)	1992 • Started large-scale housing site development projects (Daejeon Dunsan, Gimhae Jangyu, Yongin Suji)	2000 • Participated in South-North economic cooperation projects, including the development of the Kaeseong Industrial Complex	2015 • Relocated the HQ to Gyeongnam Innovation City (Jinju) / The first Happy Housing residents moved into housing units	2020 • Established the LH 2050 Sustainable Development Strategy
1965 • Secured land for mass construction of housing (132,232,000㎡ in Hwagok-dong)	1975 • Constructed apartments in Jamsil (19,180 houses) / Founded the Land Bank	1986 • Constructed Sanggye New Town (42,874 houses)	1996 • Marked the construction of a total of 1 million houses	2001 • Constructed Second-phase New Towns in the Seoul Metropolitan Area (Pangyo, Dongtan, Gimpo, Paju, etc.)	2017 • Supplied 1 million rental housing units	2021 • Innovation of management and business
1969 • Commenced construction of the Namsan Foreign Apartment	1979 • Expanded and reorganized the KLC / Started projects for the development of industrial complexes such as the Anseong Industrial Complex	1989 • Constructed the First-phase New Towns in the Seoul Metropolitan Area (Bundang, Ilan, Pyeongchon, Jungdong, and Sanbon)	1998 • Approved construction of Korea's first National Rental Housing (341 houses in Jeongja, Suwon)	2003 • Performed FEZ projects	2018 • Commenced the construction of the Third Phase New Towns (Wangsook, Gyosan, Gyeongang, Changneung, Daejang)	2022 • Declared LH ESG Management
		• Constructed the first permanent rental complex (Bundong, Seoul)		2007 • Started construction of Sejong City and Innovation Cities / Completed the first stage of Kaesong Industrial Complex project	• Selected 'Sejong Smart City' as a national pilot city	
				2009 • Launched LH / Marked the construction of a total of 2 million houses	2019 • Our 10th anniversary	

LH Network





LH, creating a better future for people and cities

1 Children and Adolescents

We at LH are aware that housing and learning rights must be guaranteed for children and adolescents. LH supports care and education through various housing welfare programs, and protects abused children and adolescents who are preparing for self-reliance.

Guaranteed housing & learning rights

- Eco-friendly remodeling of playgrounds
- Meal service project for children in rental complexes
- Support for the establishment of local childcare centers
- Local community co-parenting centers
- Support with students' school expenses
- Small libraries and digital libraries in rental complexes
- Youth start-up project for self-reliance
- Child protection shelters for abused children



2 Young People

LH reduces housing costs for young people, supports start-ups, develops industrial complexes, and creates jobs through the creation of innovative spaces such as campus innovation parks. We supply a variety of housing units for college students and newlyweds who need residential spaces near schools and workplaces.

Job creation

- Young Affordable Housing
- Support for young people and university students' start-ups
- Purchased rental housing for young people, purchased dormitory type rental housings
- Happy Housing (for college students, social rookies, newlyweds)
- Leased rental housing for young people
- Scholarship for college students living in rental housing
- Creation of campus innovation parks on unused university sites



Self-Reliance Support by Youth Start project



Purchased rental housings for young people (near Kyunghee University & Euljiro)



LH is with you on the long journey of life.

Everyone undergoes life cycle changes. They grow up, acquire education, go to work or start a business, get married and have children. After spending their middle-aged years on this journey, they finally reach the twilight of their lives. Each person's life is different, but LH always provides support for happy lives and a better future.



3 Middle-aged People

LH operates an online and offline counseling center and supplies various types of housing for middle-aged people who are thinking about buying a house of their own. We provide customized residential living services through safety assessments, management of civil complaints, dispute resolution, health care, and community revitalization support through the management of apartment housing, and support housing repair costs for low-income families.

Housing supply & Residential living service

- Supply of public rental housing
- Supply of public sales housing
- My Home one-stop housing support services
- Outreach rental housing job counseling service
- Green remodeling and repair maintenance benefits for rental housings



Outreach job counseling

4 Senior Citizens

LH provides housing and living services for senior citizens, as well as jobs for senior citizens who want to work.

Elderly care service

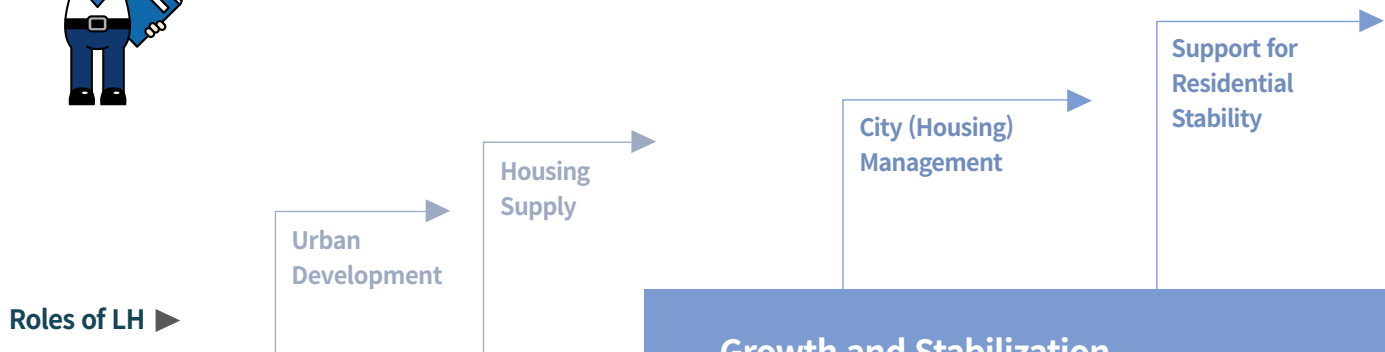
- Welfare housing for senior citizens
- Public Silver Welfare Center
- Senior employees
- Housing support for senior citizens who live alone
- Elderly care service (Helpers for senior citizens living alone / Safety Call)
- Sharing activities for the elderly in rental complexes
- Support for Senior Group Home



Agreement between LH and local governments on welfare housings for senior citizens



LH, creating a better future for people and cities



Formation and Development

A city is a sustainable space where people can communicate and coexist to create a better tomorrow, connected to yesterday and today. LH develops people-centered sustainable cities that connect the past and future between people.

Urban development and housing construction

- Housing land and urban development
- Industrial complexes
- Smart cities
- Supply of public rental housings and public sales housings
- Supply of land for private residential land



Hanam Misa District

Growth and Stabilization

The greatest power driving the development of a city is the people who live in it. LH is leading the stable growth of cities by creating people-centered residential spaces and opening a new residential paradigm for future generations.

Urban and Housing management

- Operation and management of rental housings
- Support for apartment management
- Spatial information system

Support for Residential Stability

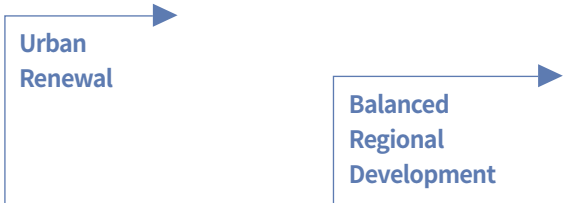
- Permanent rental housing / National rental housing / Happy Housing
- Purchased rental housing and leased rental housing
- Housing benefit and life support services



Hwaseong Dongtan 2 A4-1 Block (Happy Housing)

Today and Tomorrow of Your City, LH is with you.

The city we live in also changes along a life cycle curve, just like people. The newly born city gradually declines and stagnates as it goes through phases of development and growth, population gathering, and stabilization, in which the population grows and industries develop. LH not only builds a city and manages it for stable development, but also considers the city's present and future and strives for sustainable growth, from caring for the lives of residents to revitalizing the city for recovery from decreasing prosperity.



Decline and Depression

LH enriches people's lives through three-dimensional urban regeneration and balanced regional development by revitalizing urban jobs and local communities.

Urban Regeneration

- Innovation District Regeneration Project
- Urban Public Housing Complex Project
- Small-scale Housing renewal Project
- Regeneration of old industrial complexes

Balanced Regional Development

- Sejong City and Innovative Cities
- Specialized local industrial complexes
- Research and Development Special Zone Project
- Downtown Convergence Special Zone Project



Hwaseong Dongtan 2 Industrial Complex

Exporting Smart Cities

We have formed Team Korea with the Korean Government and domestic companies to contribute to the growth of developing countries by exporting Smart Cities and creating overseas industrial complexes.



Signed MOU for Overseas Smart City

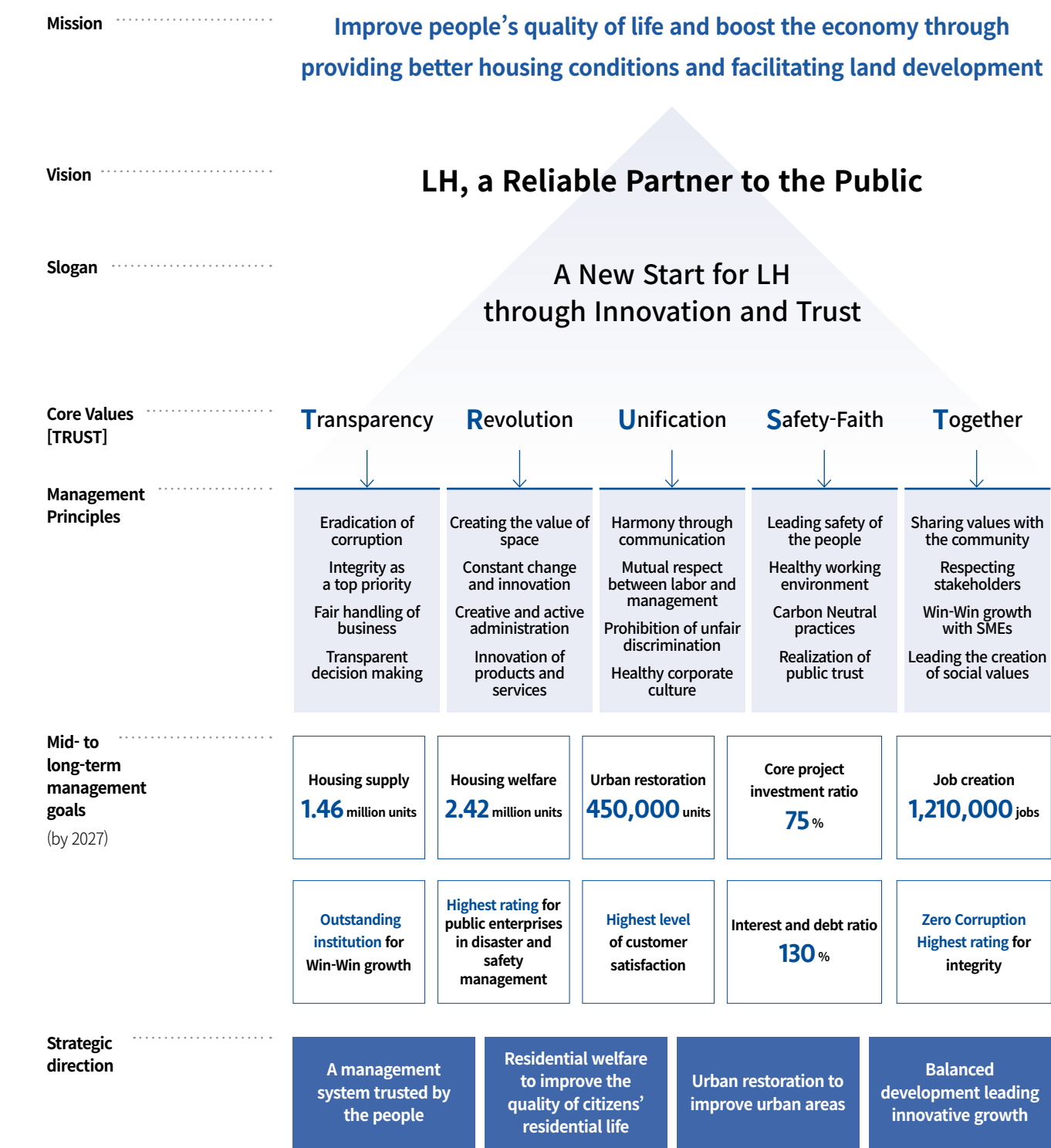
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Goals for LH

LH has reorganized its slogan, core values, and management goals to restore public trust by focusing on its original role and to actively practice social values in terms of jobs, safety, and shared growth. In addition, we have established a new management principle that embodies our core values and established a code of conduct for our employees. We respond to changes in the business environment and implement government policies in a systematic manner.

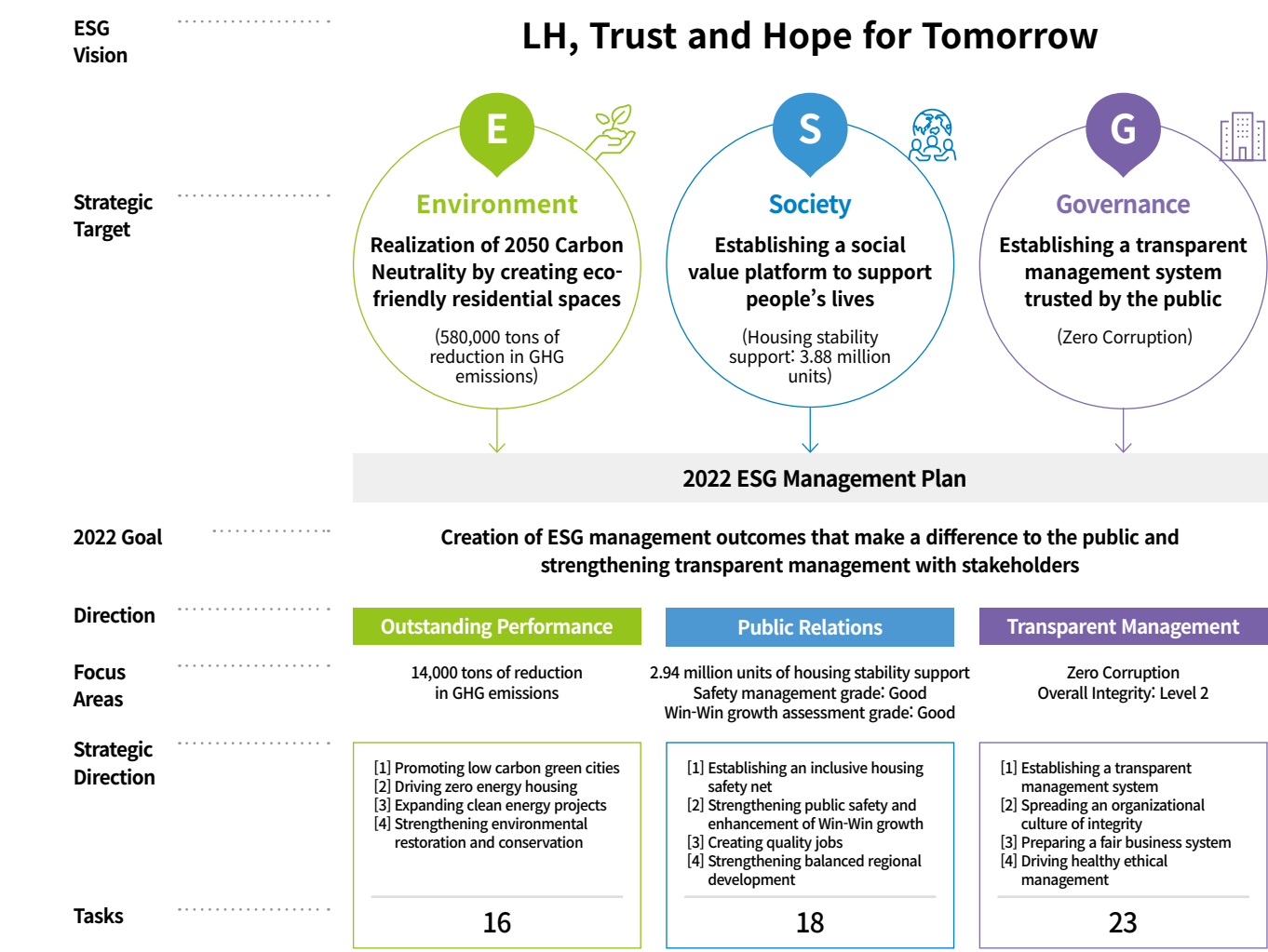
LH Management Strategy



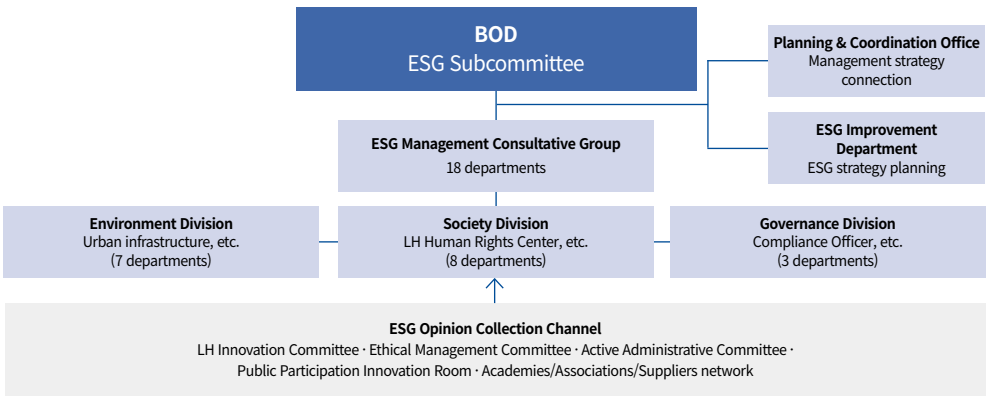
LH ESG Management

We set 2022 as the first year of ESG management to establish our ESG vision and strategic goals and directions for each ESG area. Based on various stakeholders’ opinions, detailed tasks are established through review and decision-making by the ESG subcommittee within the board of directors, then implemented by the ESG management consultative group and the environment, social, and governance divisions.

Strategy and Plan for ESG Management



ESG Promotion System



Stakeholder Engagement

LH Stakeholder Engagement Policy

Here at LH, we define stakeholders as those that influence and are influenced by the decisions necessary for the operation of our company in terms of economic, environmental, and social factors. Beyond simply restoring trust, LH strives to build a continuous relationship of trust by identifying the needs and expectations of stakeholders, including the people engaged in management and innovation activities, through various online and offline communication channels.

LH Stakeholder Communication Channel

We are striving to enhance mutual communication, collaboration, and transparent disclosure of information through the diversification of communication channels that meet the characteristics and communication goals of each stakeholder group.



Shareholder Group	Communication Goals	Communication Channels	
Residents / People	<div><div>• Collection of customer feedback</div><div>• Provision of information to the people</div></div>	<div><div>• LH Innovation Committee</div><div>• Active Administration Committee</div><div>• Ethical Management Committee</div><div>• Public Participation Innovation Room</div><div>• My Home Ownership portal</div><div>• The 3080+ Integrated Support Center</div></div>	<div><div>• Pre-subscription website and Call center</div><div>• Leased rental chatbot</div><div>• A/S Kakao Talk</div><div>• Satisfaction survey for residents</div><div>• LH Housing Support Committee</div><div>• Relocation Support 911 Center</div></div>
Government / National Assembly	<div><div>• Communication and consensus for the implementation of government policies</div></div>	<div><div>• Government/LH Council</div><div>• Public meeting</div></div>	<div><div>• Policy forums/Seminars</div></div>
Suppliers / Local communities	<div><div>• Strengthening mutual trust and Win-Win growth</div></div>	<div><div>• Discussion with construction companies/associations</div><div>• Construction Cultural Innovation Center</div><div>• LH Housing Expert Meeting</div></div>	<div><div>• Briefing for local residents</div><div>• Expert forums/seminars</div><div>• LH Civil Integrity Auditor System</div></div>
Employees	<div><div>• Interest and empathy</div><div>• Improvement of the organizational culture</div></div>	<div><div>• Labor-Management Council</div><div>• System to enable laborers to attend BOD meetings</div><div>• Integrity Junior Board</div></div>	<div><div>• The CEO Communication Meeting</div><div>• LH Innovation Proposal Room</div><div>• Corporate newsletter (with LH)</div></div>
Investors and Evaluation agencies	<div><div>• Expansion of information disclosure</div><div>• Management analysis</div></div>	<div><div>• LH website/SNS channel</div><div>• Disclosures through ALIO (All Public Information In-One)</div><div>• IR/Investment briefings</div></div>	<div><div>• ESG management disclosure</div><div>• Sustainability Report</div><div>• ESG level diagnosis</div></div>

LH Innovation Committee

The LH Innovation Committee is an advisory council comprised of eight outside experts and internal members who have a good understanding of the public sector – including academia, civic groups, and labor groups – to oversee innovation in all areas of LH's management and business. Since its launch in May 2021, the LH Innovation Committee was convened 8 times to specify the innovation plans adopted by LH and the status of their implementation every month through discussions on issues such as the LH self-innovation plan, ESG strategy system, and core projects. Starting from 2022, the committee has been expanded and reorganized into the 'LH ESG Management Innovation Committee' to take charge of not only the existing innovation function but also ESG management advisory.



Ethical Management Committee

The Ethical Management Committee is attended by management and five civil integrity auditors, consisting of outside experts such as lawyers and professors. In 2021, the Ethical Management Committee was convened two times to review issues related to integrity and ethical management, such as anti-corruption and integrity policies, and to provide advice on ethical management from the perspective of the public. The civil integrity auditor presents recommendations to reflect the voice of the people in LH management. LH completed the implementation of 12 recommended cases in 2021.



Construction Cultural Innovation Center

LH has operated the Construction Cultural Innovation Center since 2017 to improve the construction industry and eliminate unfair practices. An advisory committee was formed with the participation of experts in the construction industry, including academics, researchers, and the media to handle 50 proposals received at the Construction Cultural Innovation Center. When a proposer submits an opinion for improvement of the system or business at the Construction Culture Innovation Center, the Center reviews it within 5 working days and returns the primary feedback to the proposer. System and business improvement is carried out by revising standards and guidelines, replying to the proposer regarding the improvement results, and disseminating the improvements.



System to enable laborers to attend BOD meetings

The system to enable laborers to attend BOD meetings ensures that labor representatives can attend the BOD, and that they have the right to speak on various issues at the BOD meetings. In 2020, the Labor-Management Council agreed to introduce the system, which was then implemented in June 2021 through a decision by the committee. In 2021, labor representatives attended the BOD 7 times and the BOD proposed 28 issues. The labor union independently recommends one observer, and the observer can be changed by a recommendation at each BOD meeting so that labor representatives with expertise can participate to resolve each BOD issue.



Materiality Assessment

Materiality Assessment Process

LH conducts an annual materiality assessment to identify ESG trends and respond to business risks by analyzing ESG issues that have a significant impact on stakeholders and business operations, as well as to reflect them in the company’s strategic tasks in line with LH’s ESG management strategy. To this end, we are expanding communication to listen to opinions from various stakeholders, including employees, the government, investors, suppliers, local communities, academics and experts. In addition, issues identified through the materiality assessment and related LH activities are reported to the ESG Committee. The actual implementation of risk management is enhanced by setting management goals and promoting activities for improvement.

STEP 1
Analyzing the Internal / External Environment

- Analyzing the external environment
 - Sustainability management standard indicators
 - : Domestic and foreign standards such as the GRI Standards, SASB (Home Builders), TCFD, ISO 26000, UNGC, UN SDGs, DJSI, K-ESG Guidelines, SustinVest, etc.
 - Public organization performance indicators:
 - : Detailed criteria in the Public Organization Management Guidelines for 2021, Key Task Operation Plan for 2021 (Ministry of Land, Infrastructure, and Transport)
 - Media analysis
 - : 4,277 ESG-related media articles out of a total of 28,613 media articles relating to LH in 2021
 - Topics covered in reports of major peer companies in the same industry
 - : Sustainability Reports of major companies in the construction industry and public sector (10 companies)
- Analyzing the internal environment
 - LH management policy and direction, strategy and major business, management performance, and reports published in three years, etc

STEP 2
Identification of Issues / Organizing the Issue Pool

- Identifying the issues
 - Topic-specific core criteria commonly identified in sustainability management standard indicators and performance indicators for public organizations
- Establishing the issue pool
 - Selecting from among the identified issues based on internal strategy and management goals derived from analysis of the internal environment
- Finalizing the issue pool
 - Review of external requirements and policy trends based on an external environment analysis

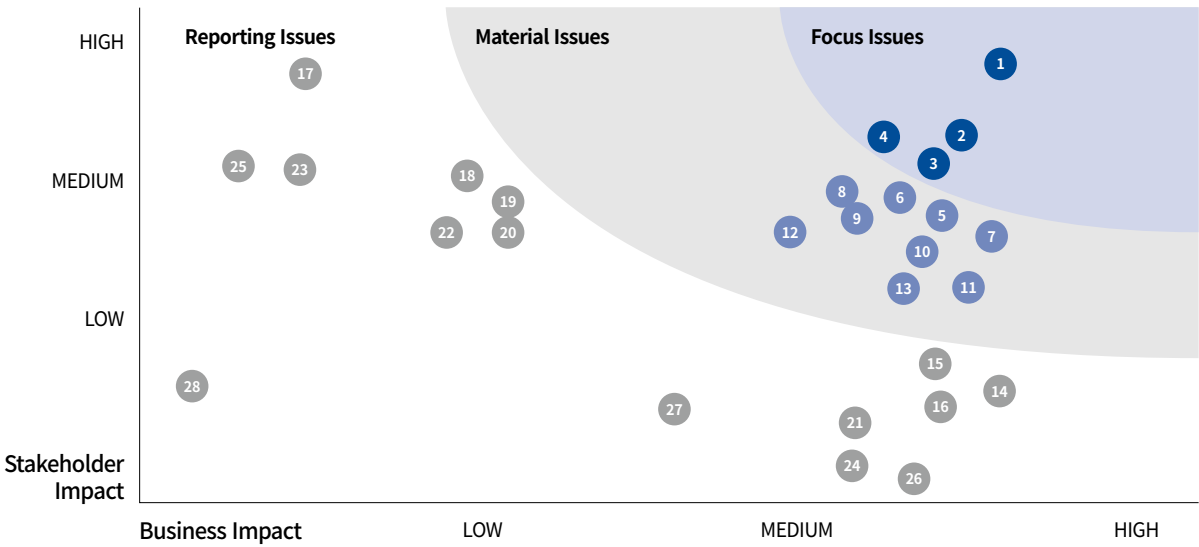
STEP 3
Materiality Assessment

- Prioritizing issues through a stakeholder survey and expert feedback(May 18-27, 2022)
 - Stakeholder Impact: Major interests and ripple effects of internal and external stakeholders
 - Business Impact: Issues affecting business operations and the impact of implementing government policy
- Reviewing whether an issue is related to the business and setting the strategic direction for sustainability management

STEP 4
Determining Focus Issues / Organizing the Report

- Based on the materiality assessment, issue pools are classified into focus issues, material issues, and reporting issues.
- Focus, material, and reporting issues derived from the materiality assessment are connected to LH's strategic direction and tasks for ESG management.
 - Focus Issues (4): The top 4 issues are classified into a special section (Our Focus Issues).
 - Material Issues (9): Organizing content into relevant ESG areas
 - Reporting Issues (15): Organizing content into relevant ESG areas

Materiality Analysis Results



Focus Issues Material Issues

High Medium Low

Classification	Focus and Material Issues	Stakeholder Impact				Business Impact			Reporting Page
		Government	Suppliers	Local Communities	Employees	Cost	Sales	Risk	
1	Timely supply and expansion of housing for the Public	○	○	○		●	●	●	26~29
2	On-site safety and health management to prevent safety accidents	○	○		○	●	◐	●	34~37
3	Anti-corruption activities to strengthen ethical management	○	○	○	○	◐	●	●	38~41, 86~87
4	Responding to climate change to realize carbon neutrality	○		○		●	●	●	30~33
5	Fair trade culture		○			◐	◐	◐	84~85
6	Energy efficiency and reduction of energy consumption	○	○	○		●	●	◐	50~53
7	Detecting corruption and taking action	○		○	○	◐	●	●	38~41
8	Win-Win growth policies and activities		○			●	◐	◐	64~65
9	GHG emission management and reduction	○				●	●	●	30~33, 46~49
10	Establishment and enhancement of a sustainable management system	○			○	◐	◐	◐	12~13
11	Healthy workplace environment				○	●	◐	◐	66~69
12	Clean energy business	○				●	◐	◐	54~55
13	Promoting the reporting system for unethical behavior		○	○	○	○	◐	●	76~81, 82~83, 86~87

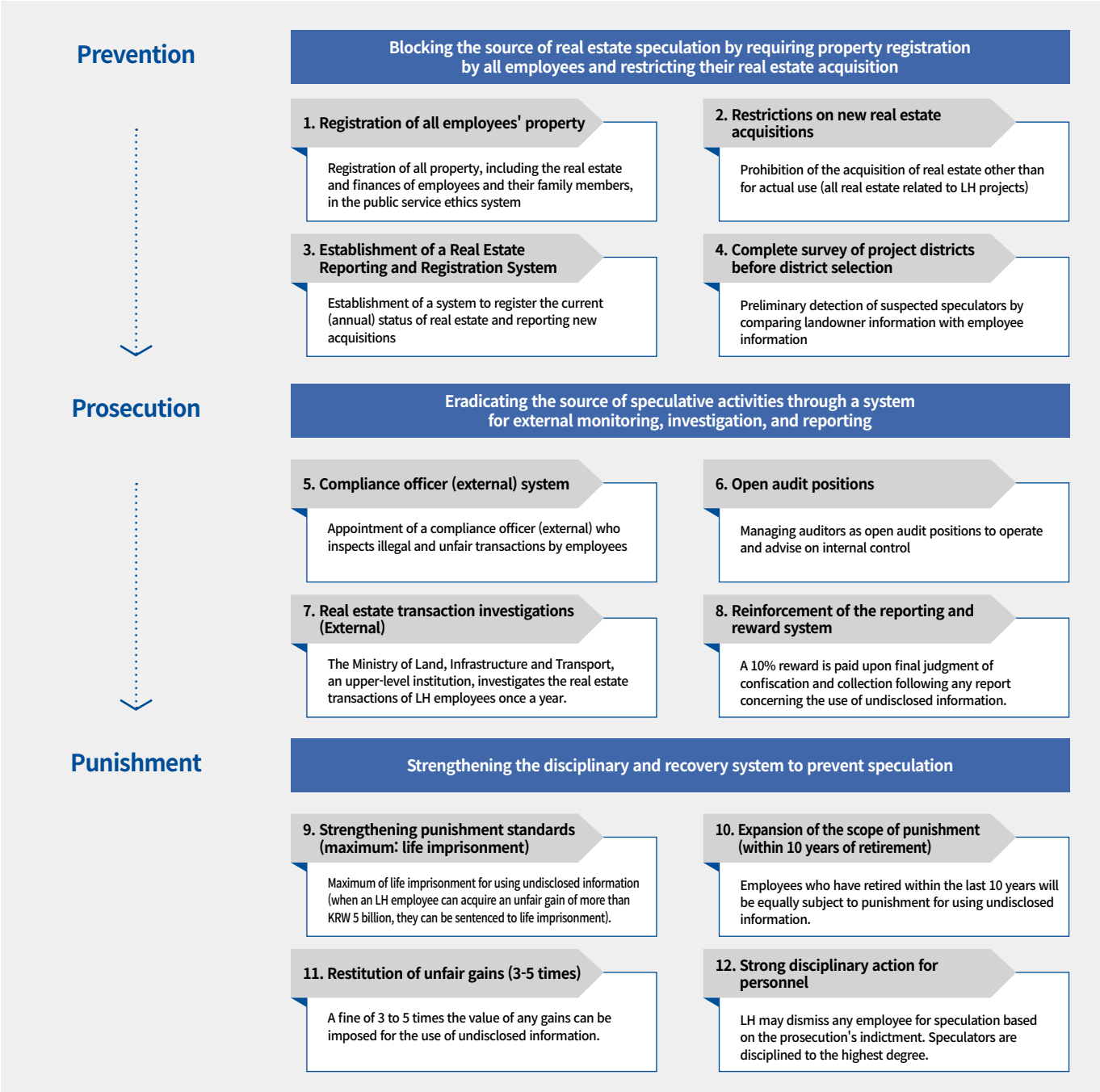
Sincere Promises and Efforts of LH

Promise of LH

We will regulate real estate speculation through strong internal control.

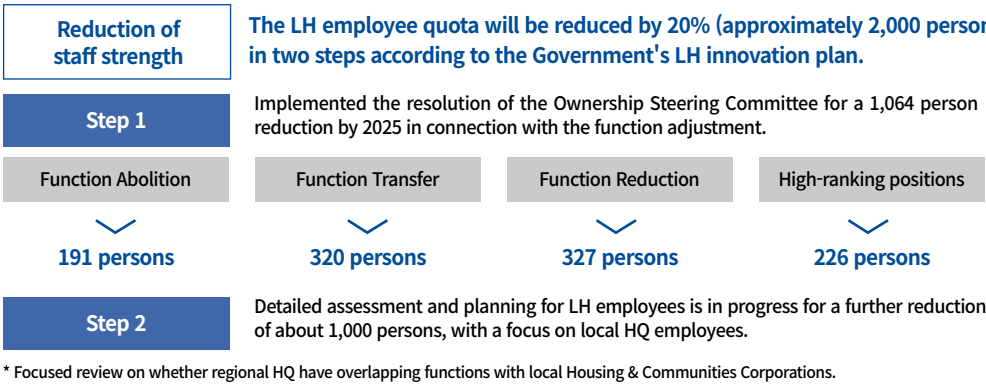
LH will eradicate wrong practices from the past and make bold innovations. We will continue to introduce innovation to meet public needs and focus on our original role of improving residential life for citizens through solid achievements.

LH will focus on our original role and promote innovation to restore public trust. We are pursuing high-intensity innovation by faithfully implementing the Government's innovation plan for LH and establishing an action plan to achieve our goals. We will restore public trust by not only preventing the recurrence of speculation, but also enhancing transparency through a strong internal control system.



We will take the lead in improving management efficiency.

Local organizations will be strengthened by drastically reducing the HQ organization. The nine divisions that existed previously have been reduced to six, and the first-level organizations of the HQ have been merged. In addition, we will eliminate non-core tasks and transfer and adjust functions, which can be performed by other organizations, to focus on LH's policy projects to actively promote management efficiency.

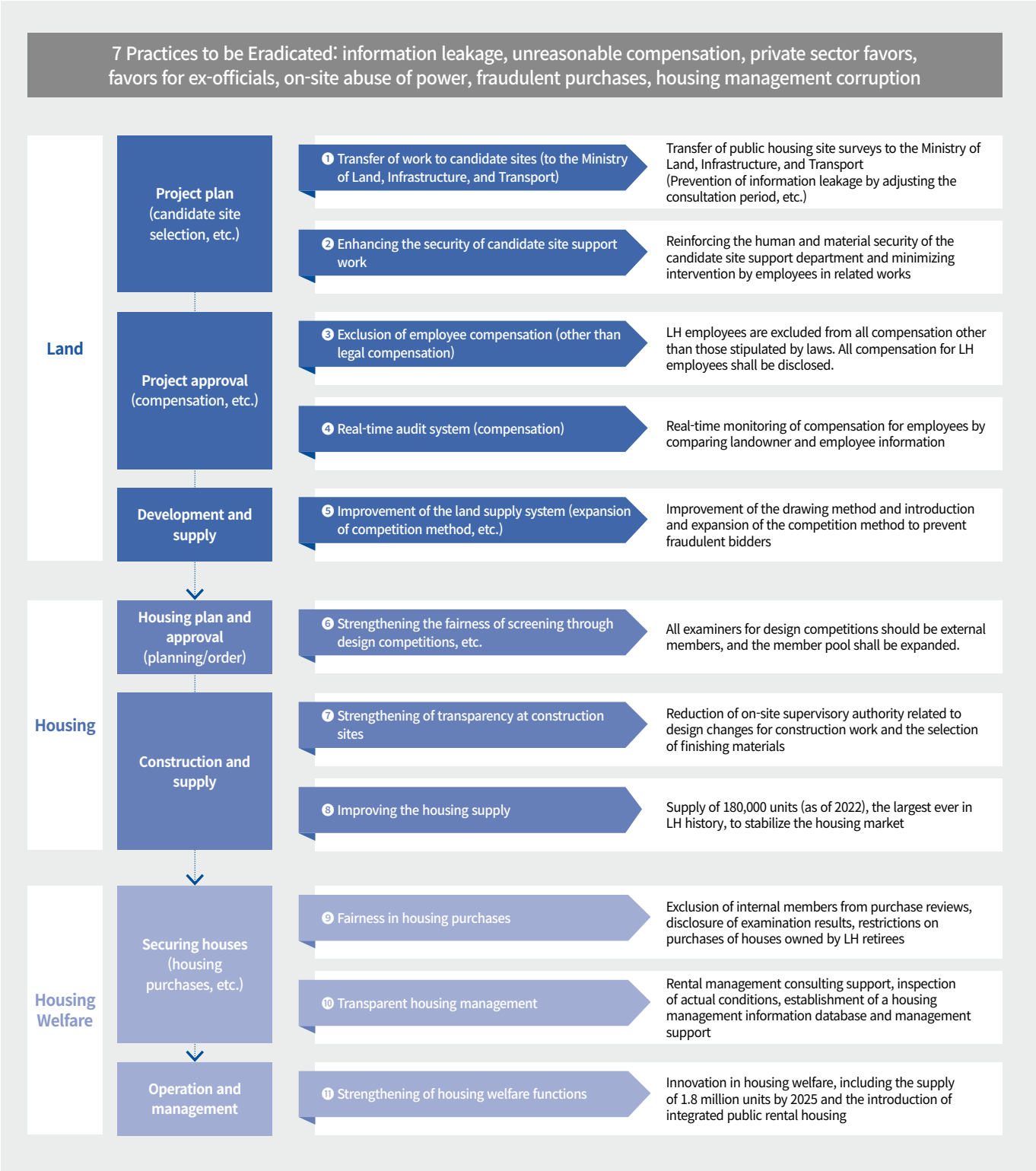


Sincere Promises and Efforts of LH

LH's efforts

We have actively collected stakeholders’ opinions and make systemic improvements for fair business performance across our work.

Further, we are pursuing total change for the better to establish LH as a fair and transparent organization, trusted by the people, through a 7-step clean business system.

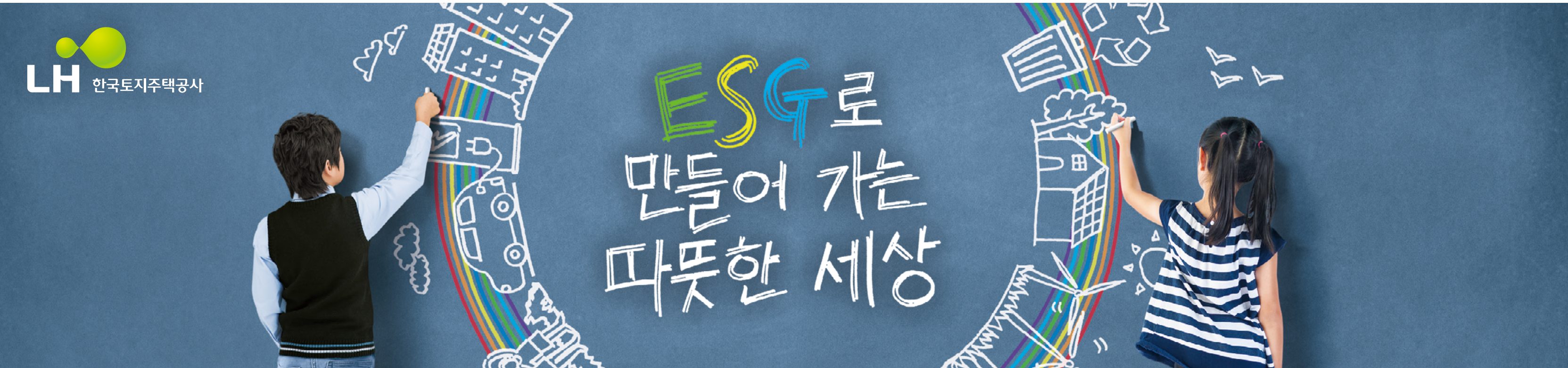


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- 030** Climate Change Response to Realize Carbon Neutrality
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OUR FOCUS ISSUES

Management Approach for ESG Focus Issues



Determination of Focus Issues

The ESG management strategy was established to enhance our sustainability by fully reflecting domestic and overseas ESG laws, regulations, and government policies. We reviewed the connection between the ESG strategy and issues to determine the focus issues to be prioritized.

Analysis of crisis and opportunity factors

Reflected domestic and foreign laws and systems, government policies, etc.

- Unstable property market and higher housing burden for the working class due to rising housing prices
- A stricter global legal system backed by the EU and the U.S. to achieve Carbon Neutral goals
- Transition to a Carbon Neutral society, starting with the Government's announcement of the Carbon Neutral policy for 2050
- Increased need to manage non-financial risks (safety and Win-Win) under ESG regulations and shifting management paradigms
- Enactment of the Act on Prevention of Recurrence of Real Estate Speculation by LH Employees and Conflicts of Interest /Amendment of the Public Official Ethics Act

Identification of focus issues

Materiality assessment and review of connection with the ESG management strategy

- Identifying major issues and prioritizing them in consideration of the impacts on stakeholders and business through materiality assessment
- Final priority evaluation and classification of issues through reviewing their connection with the LH ESG management strategy (focus, material and reporting issues)

Determination of focus issues

Determining the focus issues through decision-making by management

- Timely Supply and Expansion of Housing for the Public
- Responding to Climate Change to Realize Carbon Neutrality
- On-Site Safety and Health Management to Prevent Safety Accidents
- Anti-Corruption Activities to Strengthen Ethical Management

Management of Focus Issues

Specific directions and targets for the four focus issues were established to improve achievements and the measurability of goals. The plan for managing the issues was submitted, reported, and decided upon as an agenda item for the BOD. In addition, a department in charge of managing the relevant issues has been designated to systematically carry out implementation activities in line with the management plan.

Direction and Goals	Establishing and Confirming the Management Plan	Designation and Activities of the Dedicated Department
Establishing goals that the public can relate to	Resolution and Reporting of the BOD	Activities by dedicated departments to manage each focus issue
Number of housing stability support cases 2.94 million units (2022) → 3.88 million units (2027)	· Business management plan	· General Project Planning Office, Marketing Strategy Office
Reduction of GHG emissions 14,000 tons (2022) → 580,000 tons (2027)	· The LH ESG management system (draft)	· Urban Infrastructure Office, Urban Landscape Architecture Office
Zero death accidents / Safety management grade Good (2022) → Excellent (2027)	· Plan for responsible safety management	· Safety Planning Office, Construction Safety Office
Zero Corruption / Comprehensive integrity grade Level 2 (2022) → Level 1 (2027)	· Plan for innovating ethical management	· Compliance Officer, Audit Office

OUR FOCUS ISSUES 01 | Society

Timely Supply and Expansion of Housing for the Public

ESG Strategic Goal

S

Housing stability support: **2.94** million units (2022) → **3.88** million units (2027)

The housing burden has increased due to the increased monthly rent conversion and reduced leased rentals in line with continually rising house prices and investment overheads. LH strives to stabilize the housing market and residential stability by focusing on the expansion and timely supply of housing through close cooperation with local residents, central government, and local governments.

Timely Housing Supply

Early Approval of the Third Phase New Towns District Plan

We obtained early approval for the Third Phase New Towns District Plan and have identified and introduced a pre-subscription system and a new housing supply method for consumers, relieving anxiety about the unstable housing market and distributing housing supply in a timely manner in accordance with demand.

The approval period for the Third Phase New Towns District Plan for public housing (Namyangju Wangsuk, Hanam Gyosan, Incheon Gyeyang, Goyang Changneung, Bucheon Daejang) was shortened by 22 months (in November 2021) to expand housing supply in the Seoul Metropolitan Area. A total of 176,000 units (for 400,000 people) will be supplied one to two years earlier than scheduled in an area of 32 million square meters in accordance with the district plan. Once the compensation process for the Third Phase New Towns is completed in 2022, housing construction will commence after completion of the follow-up licensing process.

Third Phase New Towns Project

Classification	Namyangju Wangsuk	Hanam Gyosan	Incheon Gyeyang	Goyang Changneung	Bucheon Daejang	Total
Area (㎡)	11,040,000	6,310,000	3,330,000	7,890,000	3,420,000	32,000,000
Number of housing units	68,000	33,000	17,000	38,000	20,000	176,000
Population (persons)	158,000	78,000	39,000	83,000	43,000	401,000

Preview of the Third Phase New Towns

The Third Phase New Towns are smart cities with convenient transportation, developed in consideration of the environment and childcare.



Eco-friendly energy-saving city

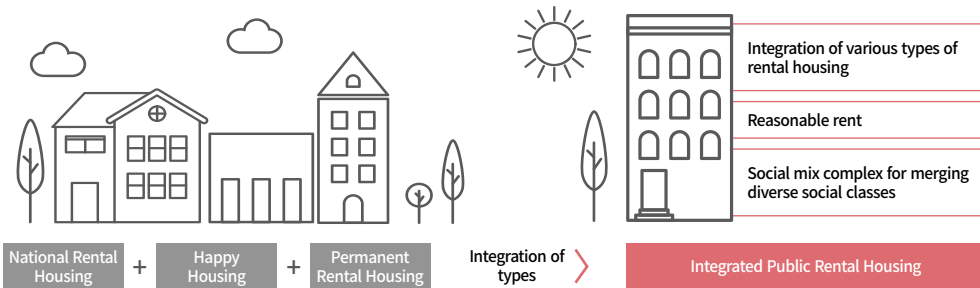


Easy childcare city

New Methods of Rental Housing Supply from the Consumer's Point of View

LH was the first to recruit residents of integrated public rental housing that integrates construction rental housing, such as permanent, national, and Happy Housing (1,181 units in Gwacheon and Namyangju). Resident qualifications have been standardized at 150% of the median income, and various classes live together with an appropriate rent (35 to 90% of the market price for each income level) charged according to income. In addition, we promote the public leased rental housing system, by which we purchase new houses in cities and supply them at 80-90% of the market rental price (available for 6 years of residence) for middle-class end-users without a home. The system will be operated as a temporary project for two years (2021 ~ 2022) to supply 15,000 publicly leased rental housing units.

Introduction of New Integrated Public Rental Housing for Consumers



Resolving Market Instability through Pre-subscription and Housing Information

We carried out four pre-subscriptions (July, October, November, and December 2021) to receive housing subscriptions earlier than the designated period for supplying public housing in the Third Phase New Towns and public housing sites. Pre-subscription is a system to give the opportunity for end-users without a home to have a house of their own and to solve the issue of waiting for housing subscriptions in the Seoul Metropolitan Area. We opened a website, provided a subscription notification talk, operated a call center, and promoted multi-channels before the approval of the district plan. As a result, we achieved a high pre-subscription rate (highest competition rate of 381 to 1) and a total of 22 million visits (accumulated). We provided information on the housing supply plan for LH business districts over the next 10 years (103 places and 890,000 units) through the LH comprehensive real estate information platform (LH Bizmap), and also created a virtual experience service allowing prospective consumers to view pre-subscription districts through a 3D environment simulation (LH Digital Twin) – thus reducing public anxiety regarding the housing supply shortage.



Pre-subscription exhibit hall



Pre-subscription consultation



Pre-subscription website



Third Phase New Towns website

Expanding the Housing Supply

Securing Large-Scale Public Housing Sites

Housing Construction and Supply

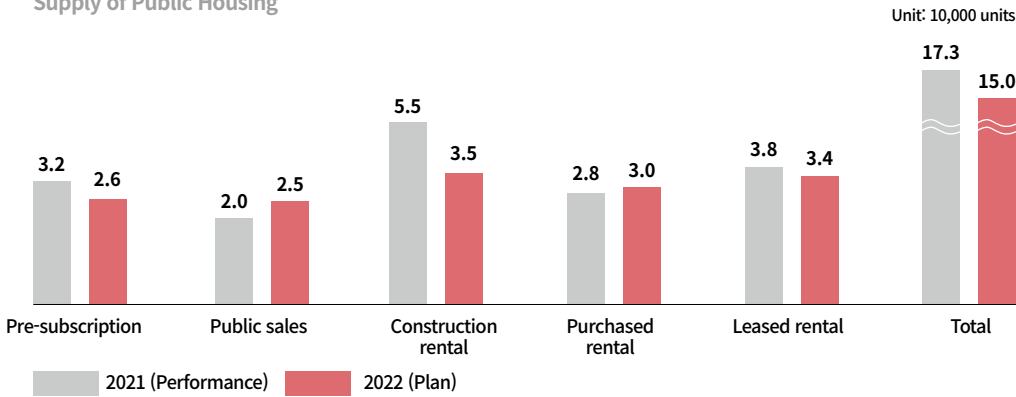
Expansion of Housing Supply through Urban Redevelopment

We contributed to an expansion of the housing supply and stabilization of the housing market by not only constructing and supplying public housing, but also by securing large-scale sites necessary for the construction of housing, supplying housing through urban regeneration, and facilitating the conditional supply of pre-subscription housing at public housing sites in cooperation with private companies.

We have secured adequate public housing sites in order to continuously expand the housing supply in the metropolitan area and to lay the foundation for a stable housing supply. The 1st phase covers 16.8 k㎡ (101,000 households) across 3 sites including Gwangmyeong, the 2nd phase covers 2.1 k㎡ (18,000 households) across sites including Ulsan, and the 3rd phase covers 16.9 k㎡ (120,000 households) across 8 sites including Uiwang, Gunpo, and Ansan.

In 2021, LH constructed 123,000 public sale and rental houses (49,000 houses approved, 25,000 houses commenced, and 49,000 houses completed). The supply of public houses in 2021 was 173,000 houses (32,000 pre-subscribed houses, 20,000 public sales houses, 55,000 construction rental houses, 28,000 purchased rental houses, and 38,000 leased rental houses), representing an increase of 55,000 houses compared to the previous year. In 2022, LH plans to supply 184,000 houses in total, including 150,000 public houses and 34,000 pre-subscribed private houses built on private land.

Supply of Public Housing



In addition to securing new sites for public housing projects and housing construction, we are promoting housing supply through the redevelopment and reconstruction of existing old residential areas or downtown areas where private development is difficult. We have proposed a new business model that meets local characteristics, such as location and size, to implement the Government's Property Policy (a public-led policy of supplying a total of 836,000 housing units from 2021 to 2025 in areas where private development is difficult, such as station areas, semi-industrial areas, and low-rise residential areas in the city center) quickly and efficiently. The revision of related laws (Special Act on Construction for Public Housing, Urban Redevelopment Act, and Urban Regeneration Act, etc.) provided the institutional foundation for these projects. Business regulations were relaxed by reducing the land owner acquisition tax and excluding project operators from comprehensive real estate tax. We have achieved results including the selection of large-scale candidate land areas (in 135 locations for 115,000 housing units) and designation of districts (in 22 locations for 19,800 housing units) through cooperation with the Korea Housing and Urban Guarantee Corporation and the Korea Real Estate Board, as well as operating the Public-led 3080 Integrated Support Center to listen to the opinions of residents and local governments, carry out public relations, meet construction companies, and hold briefing sessions for residents.

Housing Supply through Urban Regeneration

Classification	Description	Selection of candidate sites		District selection	
Urban Public Housing Complex Project	Station areas, Semi-industrial areas, and Low-rise residential areas	61	80,000 units	7	10,000 units
Public Renewal Project	Public housing redevelopment, Public housing reconstruction Public direct renewal	17	19,000 units	6	7,000 units

Classification	Description	Selection of candidate sites		District selection	
Small-scale Housing Renewal Project	Small-scale housing housing redevelopment/reconstruction Street houses/voluntary housing renewal project Small-scale housing renewal area	50	12,000 units	8	2,400 units
Urban Regeneration Project	Residential regeneration innovation district	7	4,000 units	1	400 units

Conditional Supply of Pre-subscription Housing at Public Housing Sites in Cooperation with Private Companies

We implemented a new public housing site supply system on the condition that private companies make the pre-subscription within six months of the date of the pre-subscription contract (since November 2021). For public housing sites owned by a company, preferential treatment is provided to the company when making pre-subscription (including subscription). Land provided for the conditional supply of pre-subscription housing includes public housing land (excluding townhouse land) and residential and commercial land supplied by LH by 2023. Starting with the supply of 30 lots (for 15,000 units), pre-subscription housing land will be supplied for the construction of 88,000 units by 2023 (Hwaseong Dongtan 2: 2,950, Suwon Dangsu: 1,149, Seongnam Bokjeong: 1,510, Namyangju Jinjeop 2 1,431 units, etc.). Through public-private cooperation, this is the first case of introducing the pre-subscription system to supply by private sales to absorb the demand to wait for subscriptions, and contributes to stabilizing the housing market.

Comprehensive Housing Supply Inspection

We have checked the housing supply policy, the Third Phase New Towns, and pre-subscription of housing.



Housing supply policy meeting



Third Phase New Towns project review



Pre-subscription district review



Pre-subscription exhibit hall review

OUR FOCUS ISSUES 02 | Environment

Climate Change Response
to Realize Carbon Neutrality

ESG
Strategic
Goal

E

GHG emissions reduction **14,000** tons (2022) → **580,000** tons (2027)

Climate change crises, such as energy poverty and damages incurred from extreme heat or cold, have become more significant around the world. Accordingly, legal regulations stipulated by the international community, as well as pressure from stakeholders to reduce GHG emissions and contribute to Carbon Neutrality, are growing more powerful. LH supports the Government's Green New Deal policy and the 2050 Carbon Neutral declaration, and has established a climate change response system for low carbon and eco-friendly competitiveness in buildings and cities.

LH 2030 Zero Energy

We have established the 'LH 2030 Zero Energy' vision, goals and strategies for each sector, and a roadmap for targets to be achieved by 2025, 2030, 2040, and 2050, respectively, to implement national GHG reduction targets and respond to the global climate change crisis.

Vision and Goals

LH has expanded its scope from buildings to cities and spaces. We have also established key goals, 'energy welfare, reduction of energy use and greenhouse gas emissions, clean energy, and Carbon Neutrality', to achieve our zero energy vision, 'strengthening energy welfare and leading Carbon Neutrality'.

Strategy and Roadmap

We strive to identify zero energy projects, such as introducing urban energy infrastructure, building zero energy public housing, improving energy efficiency in public housing, and expanding participation in new energy industries. In addition, we will develop core technologies for zero energy housing and present a distribution model through performance verification and pilot projects for quality improvement, while also promoting financial support and policy proposals for the rapid expansion of zero energy buildings and cities. To this end, we have established a mid- to long-term roadmap and action strategies.



LH 2030 Zero Energy Vision

"LH, strengthening energy welfare and leading carbon neutrality by expanding zero energy!"

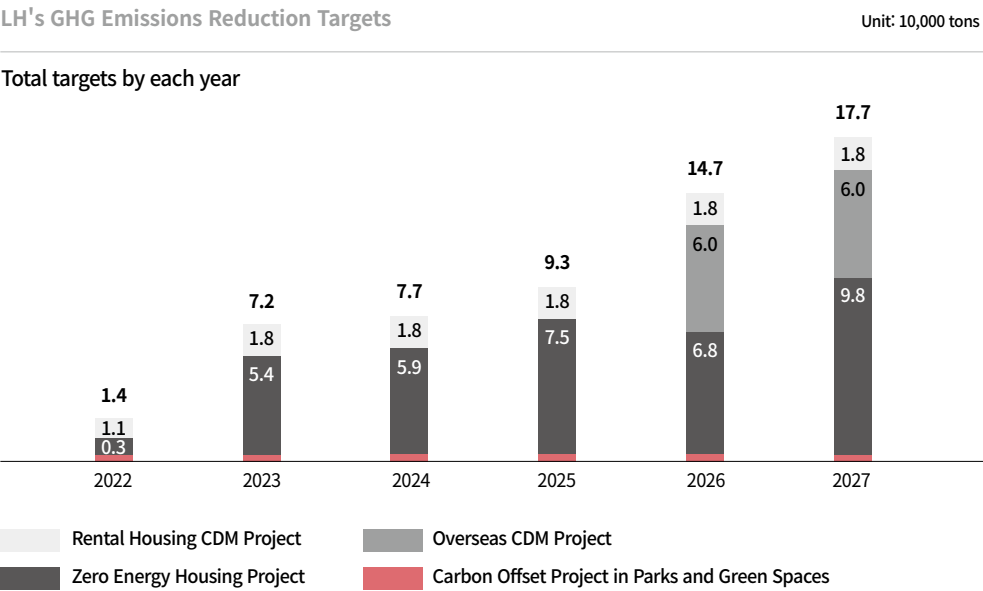
Classification	Goal	KPI	Key strategy	Roadmap					
Energy welfare	Energy welfare architecture and city	Zero households with energy poverty 2030	Strengthening support for the long-term repair of old houses to achieve zero energy	Climate change vulnerability / long-term repairs		2025	2030	2040	2050
				Long-term repairs for zero energy	Reinforcement of covering insulation	20%	57%	100%	→
					Replacement of windows and doors	20%	57%	100%	→
					Replacement with high-efficiency boilers	55%	77%	100%	→
				Adapting to the climate crisis	Additional installation of air conditioners	20%	57%	100%	→
					Additional installation of heat recovery ventilation systems	20%	57%	100%	→
Reduction in demand	Low energy demand architecture and city	Achieving international-standard passive buildings 2030	Achieving 15kWh of annual heating demand per m² of passive application by 2030	Energy demand reduction		2025	2030	2040	2050
				Urban	Urban peak load reduction (external power supply)	10%	20%	40%	60%
				Building	Heating energy demand (reduction compared to 2017)	3ℓ apartments 29kWh/m²yr (40%)	2.5ℓ apartments 23kWh/m²yr (50%)	2ℓ apartments 19kWh/m²yr (60%)	1.5 apartments 15kWh/m²yr (70%)
Clean energy supply	Clean energy architecture and city	100% energy independence in new buildings 2040	Making ZEB Grade 1 mandatory for new buildings by 2040	Energy independence rate		2025	2030	2040	2050
				Urban	Urban energy independence rate	20%	40%	60%	100%
				Building	Energy independence rate of zero energy buildings	Grade 5 20%	Grade 3 60%	Grade 1 100%	Above Grade 1 Plus
Carbon neutrality	Carbon neutral architecture and city	Realization of a carbon-neutral city 2050	Implementation of the 2050 carbon neutral city goal	GHG emissions reduction		2025	2030	2040	2050
				Urban	Urban GHG emissions	-20%	-40%	-60%	-100%
				Buildings	Building GHG emissions	-40%	-70%	-90%	-100%

Plan and Activity to Reduce GHG Emissions

GHG Reduction Target

We lead the realization of 2050 Carbon Neutrality by creating eco-friendly residential spaces based on annual targets for the reduction of GHG emissions, in line with the LH 2050 Zero Energy strategy and roadmap.

We plan to achieve 580,000 tons of GHG emissions reduction by 2027, which is a strategic goal for the environment sector (E), by establishing annual targets for GHG reduction based on domestic and overseas clean development mechanism (CDM), zero energy housing, and carbon offset projects.



Realization of a Carbon Neutral City through the Reduction of GHG Emissions

We are carrying out Carbon Neutral activities, such as zero energy housing projects and the green remodeling of aging public rental housing, to make Sejong a Carbon Neutral city by 2040.



Business agreement on carbon-neutral cities



On-site inspection of old public rental housing green remodeling

GHG Emissions Reduction Activity

Clean Development Mechanism (CDM) Project

We reduce greenhouse gases by registering the installation of solar power generation facilities in rental housing in Korea as Clean Development Mechanism (CDM) projects under the United Nations Framework Convention on Climate Change (UNFCCC). Reduction of 11,000 tons for 149 districts, completed by 2018, was registered, and an additional 10,000 tons for 130 districts completed by 2020 will be registered. The residential environment improvement project in Pakistan's slum area, in cooperation with UN Habitat, will be recognized for our GHG emissions reduction efforts beginning in 2026 once the initiative is registered as a CDM project.

Zero Energy Housing Project

Reduction in GHG emissions is calculated by multiplying the number of houses with zero energy certification by the average energy savings per household (1,856.79kWh) and the greenhouse gas emission factor (Tons of CO₂ equivalent announced by the Ministry of Environment in 2022: 0.4781 t CO₂eq/MW).



Grade 3 Bird's-eye view (Happy Housing 6-3) of Zero energy housing in Sejong City



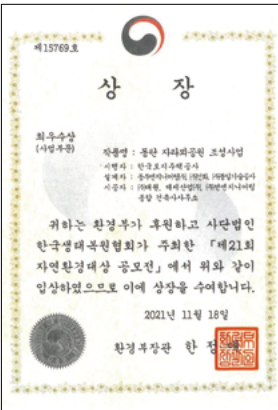
Zero energy single housing in Sejong City (Lauren House)

Carbon Offset Project in Parks and Green Spaces

The reduction in GHG emissions is estimated by calculating the amount of carbon offset forest absorption among the orders for construction of park and green spaces every year. The carbon offset forest area is 3% of the project district area. The average carbon absorption of the Forest Carbon Offset Project (vegetation restoration type) (11.7 tons/ha) is applied to the carbon offset forest area (10,000㎡). Carbon absorption sources are provided by reflecting carbon offset forests in the annual volume of construction orders to promote mid- to long-term carbon offset projects.



Carbon offset forest in Jaramoe Park



Minister of Environment Award for Jaramoe Park Construction Project

Direction of Environmental Management

Since 2009, we have acquired and maintained ISO 14001 certification for our environmental management system to promote company-wide environmental strategies and management activities. In addition, we are analyzing and inspecting environmental policies and overall construction projects, as well as establishing directions for environmental management to minimize adverse environmental impacts in our business areas, such as land, housing, and housing welfare (2022).

Application for the Energy Management System (ISO 50001 Certification)

We have an efficient system to manage environmental load and improve energy efficiency, and our energy consumption is verified by a third party agency. In 2022, we have applied for the energy management system (ISO 50001) certification that assesses technologies and management systems for energy savings and efficiency improvements.

OUR FOCUS ISSUES 03 | Society

On-Site Safety and Health Management to Prevent Safety Accidents

ESG

Strategic Goal



Zero deaths / Safety management grade **Good** (2022) → **Excellent** (2027)

Social interest in safety has been growing since the enactment of the Serious Accident Punishment Act (January 2022), and the responsibility of companies for serious accidents is being emphasized. LH aims to prevent accidents at large scale construction sites with diverse management facilities.

Safety Management System for Zero Disasters

We are upgrading our disaster and safety management system and strengthening our disaster management capabilities in the areas of prevention, preparation, response, and recovery in order to prevent serious disasters, protect lives, and ensure safety from disasters and accidents.

Disaster and Safety Management Strategy

‘Safety quality’ is included in the four management policies (April 2021) of LH. We are promoting activities to upgrade the disaster safety management system, expand the residential safety net for residents, realize zero industrial accidents for workers on site based on safety rules, and increase the safety of facilities and sites. In addition, we have established and distributed safety and health guidelines and practical manuals for preventing serious accidents to employees and suppliers in accordance with the Serious Accident Punishment Act. In December 2012, we revised the safety management guidelines for construction sites in accordance with the Construction Technology Promotion Act and established the disaster management guidelines to respond to natural and social disasters in accordance with the Framework Act on Disaster and Safety Management. Furthermore, the most current safety and health management regulations were enacted in January 2022. Safety and health management guidelines according to the Industrial Safety and Health Act and the Serious Accident Punishment Act are also being established.

LH Disaster and Safety Management Strategy

Management goals	Achieving the highest standard for public enterprises in disaster and safety management			
Management policy	Integrity and fairness	Safety quality	Future innovation	Communication and collaboration
	Compliance with safety rules, prevention of serious accidents, eradicating fatal accidents, and strengthening residential safety management			
Strategy	Disaster management system	Public safety	Workforce safety	Facility and site safety
	Advancement and internalization	Residential safety net	Zero fatal industrial accidents	Improving facility safety
	Strengthening the disaster management system (prevention-preparation-response-recovery)	Customized protection system for socially vulnerable groups	Reducing fatal accidents at construction sites and improving the working environment	Securing safety in the process of facility management and construction

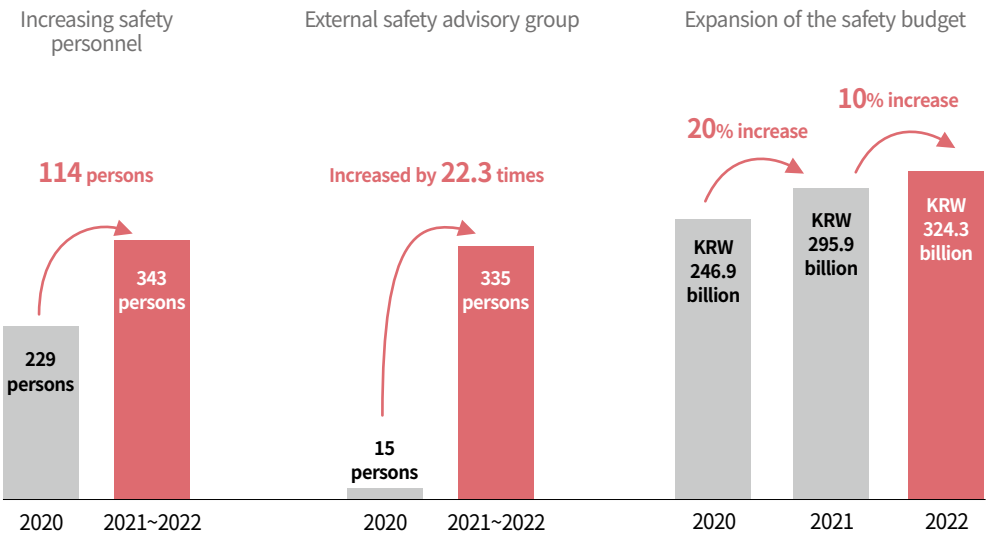


Safety Management Ceremony and On-Site Visit

Disaster and Safety Management System

We significantly increased the number of safety personnel and external safety advisors for regional headquarters, and emphasized safety management for construction sites, residents, and facilities based on the CEO-led safety management system. We also established a standard for rapid budget execution while increasing the related budget by 20%. A safety management ceremony was held to disseminate safety management policies and goals and thereby reduce industrial accidents at construction sites (May 2021), and the CEO visited sites to declare his commitment to strengthen safety management.

Strengthening Disaster and Safety Management Capabilities



Safety Consulting Cases and Safety Construction Technology

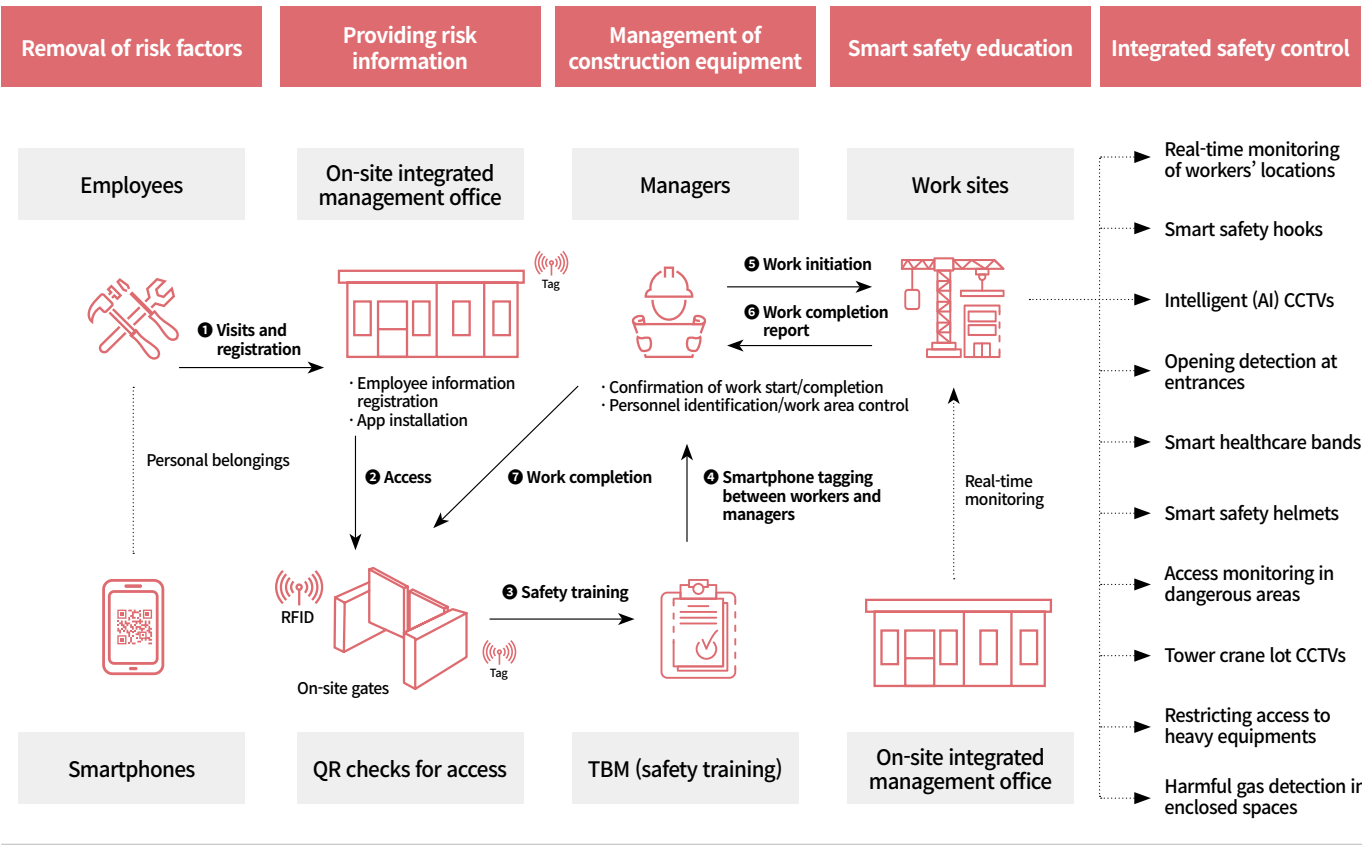
On-Site Safety Management and Activities to Prevent Safety Accidents

Safety Management for On-site Workers

We are leading the safety and Win-Win construction culture by helping on-site workers to practice safety management in their daily work, while strengthening responsibility for the safety management of contractors, and improving the working environment and protecting the rights and interests of subcontract workers.

LH introduced 15 types of smart safety equipment at construction sites (171 sites), and the integrated smart safety platform for real-time monitoring has been applied to enable field workers to practice safety management. The Drone Works platform automatically collects data across the design, construction, and management processes, and analyzes drone photography images to streamline site management.

Integrated smart safety platform



We strengthened safety standards and education regarding construction equipment through distance campaigns (April and September 2021) and Safety Inspection Day events (May and October 2021) at all sites. We prevent suffocation accidents with toxic gas detection sensors and protect workers from seasonal hazards, including heat and respiratory diseases, through smart remote thermometers, periodic rest facilities, health check-ups, and the Buddy System.

Safety Management at Construction Sites and Workplaces

Construction Sites

Safety management expenses include the standard amount plus preliminary safety management expenses (more than KRW 13 billion per year) and expenses for safety facilities and monitoring (more than KRW 6.1 billion per year), based on the results of analysis of 50 sites. It is mandatory to review the adequacy of the construction period during the design stage.

A realistic standard for adjusting the construction period has been established based on non-working days (holiday) and the likelihood of infectious diseases, abnormal weather, and instability in the demand and supply of materials .

In order to enhance the safety capabilities of small construction companies and field workers, we conducted safety consulting for small construction sites in collaboration with external experts (at 187 sites in 2021), and developed and applied a standard risk assessment model for small-scale construction in downtown areas. As a result, we achieved zero fatal workplace accidents in small-scale construction projects of under KRW 5 billion (among 1,736 cases in 2021). We published and distributed safety management handbooks, safety and health preparation manuals, accident case books and safety management manuals, and provided training to enhance safety awareness and capabilities in areas such as safety and health education for high-risk construction machinery, and VR safety education.



Winter Safety Inspection of Gyeongnam HQ



Winter Safety Inspection of Daegu & Gyeongbuk HQ

Office Buildings and Energy Plants

We diagnosed the safety and health systems and activity levels of office buildings, developed the Office Building Safety Management Manual, and reinforced safety facilities such as additional safety railings and non-slip pavement. We also operate a safety and health proposal reward system and conduct regular joint inspections during thawing seasons and typhoons. Moreover, the head office building has established an occupational health and safety management system (KOSHA-MS). The energy plants at Daejeon and Asan have improved their systems through self-audits for Process Safety Management (PSM), and reinforced safety facilities such as safety and health/safety range labels for hazardous materials, protective covers for machinery, and insulation. Furthermore, we conduct regular safety activities such as safety and health proposals, rewards for excellent activities (4 people), emergency rescue training in enclosed spaces, and special safety inspections.

Rental Housing

We are conducting special safety inspections for rental housing (31 complexes) that are over 30 years old, as well as expanding the operation of Residential Safety Doctors (61 experts). Facility safety has been reinforced by replacing old elevators that have been operating for 15 years (328 units in 22 complexes), strengthening the functions of firefighting and evacuation and rescue facilities, adjusting supply systems to support the increase in electricity consumption during the summer season, and evaluating the seismic performance of purchased rental housing.



Joint Inspection of Residential Safety Doctors

OUR FOCUS ISSUES 04 | Governance

Anti-Corruption Activities to Strengthen Ethical Management

ESG Strategic Goal

G

Zero Corruption/ Comprehensive integrity grade Level **2** (2022) → Level **1** (2027)

The credibility of the public sector has been undermined due to LH employees' pursuit of private interests, such as real estate speculation (March 2021). LH received the lowest rating on integrity measurement by the Anti-Corruption & Civil Rights Commission due to low internal integrity and deductions for corruption. With a strong will to overcome this setback, LH will undergo a complete renewal to become a public organization that realizes integrity, fairness, transparency, and public values.

Reorganization of the Ethical Management System

LH Ethics Management Innovation System

In order to establish an efficient internal control system and procedural fairness throughout the work process, and to secure ethical awareness and professional ethics as a public institution that serves the public, we have innovated the ethical management system and prohibited unfair practices and privileges.

LH has established an autonomous innovation plan (including 88 tasks) through the internal control system, management, and organizational and manpower adjustment, and promoted "Two Tracks" innovation to carry out the innovation tasks (35 tasks) recommended by the government, focusing on measures to eradicate real estate speculation and prevent recurrence. We have established the Innovation Committee, Compliance Committee and Compliance Ethics Observer Group (a dedicated organization to monitor ethical management and real estate speculation activities), and a real estate speculation reporting channel. For the first time among public companies, LH has also completed registration of employees' properties.



Property registration training for all employees



Registration of Property in the Government Public Official Ethics System

Elimination of Unfair Practices/ Privileges Granted due to Previous Office

In order to enhance the transparency of the screening process for design competitions and tenders and to establish a transparent work system, the Screening Committee is composed of external members. Further, the number of members has been expanded (2 internal members and 5 external members → 15 external members). The Committee membership is diversified to include university professors, public officials and employees of public institutions. We have expanded the disclosure of the screening process through live broadcasting, and have been recording the screening process and collecting opinions for improvement from the citizen inspection group. Furthermore, we have prepared measures to punish corruption amongst members and misconduct by bidders. In addition, we have improved the procedures for material selection management for construction work to prevent unfair intervention by executives and employees, and come up with measures to eradicate suspicions of providing work to retired LH employees. We have completely improved the business procedures to prevent irregularities and to increase fairness and transparency in purchased rental projects.

Improvement of Unfair Practices/Privileges Granted due to Previous Office

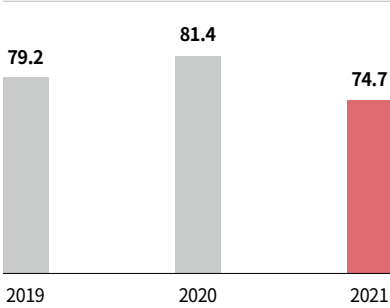
Mandatory selection of key material suppliers upon bidding	Conversion of approved materials to declared materials	Improving review fairs for finishing materials
The constructor selects key suppliers of finishing materials prior to the start of construction work	Reduction of the supervisor approval process when selecting materials, excluding key materials (33%→6%)	Excluding supervisors and directors in charge of relevant construction work when selecting internal examiners
Restrictions on the appointment of appraisers and legal scriveners	Strengthening the standards for private contracts with judicial scriveners relating to compensation	Improvement of the judicial scrivener selection method
· Newly established a one-year limit on the appointment of appraisers and legal scriveners for retired LH employees · Increased the weighting of the appointment equity index*	· (Area) 330,000 m ² → 100,000 m ² · (Owner) 200 persons → 50 persons · Mandatory consultation with LH HQ before announcement of selection	· Expansion of external judges · Improvement of the evaluation method (non-metric: 100% → metric: 80% + non-metric: 20%)

Detection of Corruption and Strengthening Countermeasures

We conduct an annual self-inspection based on the ethical management index to diagnose the level of ethical management, activate internal and external monitoring and reward systems for corruption, such as speculation and bribery, and have introduced a system of reduction/exemption of disciplinary action for voluntary reporting. In addition, the level of disciplinary standards has been raised through introducing a provision for dismissal from position in the event of a violation and dismissal from office in the event of prosecution.

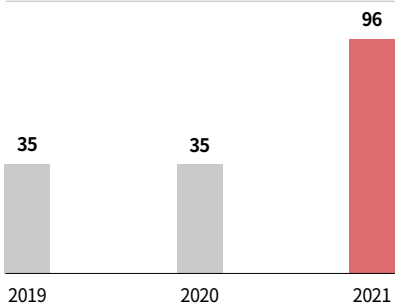
Ethical Management Index

Unit: Point



Action against Violation

Unit: Case



Classification	Measures taken (cases)						
	Expulsion	Dismissal	Degradation	Suspension	Pay Cut	Reprimand	Total
2019	8	4	2	9	5	7	35
2020	1	-	1	4	3	26	35
2021	10	5	1	5	24	51	96

Spreading a Culture of Integrity and Ethical Practices

24-Hour Real-Time Monitoring System

We are spreading ethical awareness and promoting a culture of integrity and ethical practices through a real-time monitoring system by preventing corruption, sharing changes in the ethical environment such as revision of laws due to speculative cases, and listening to and improving on-site risks and grievances reported by working-level staff in various positions and duties.

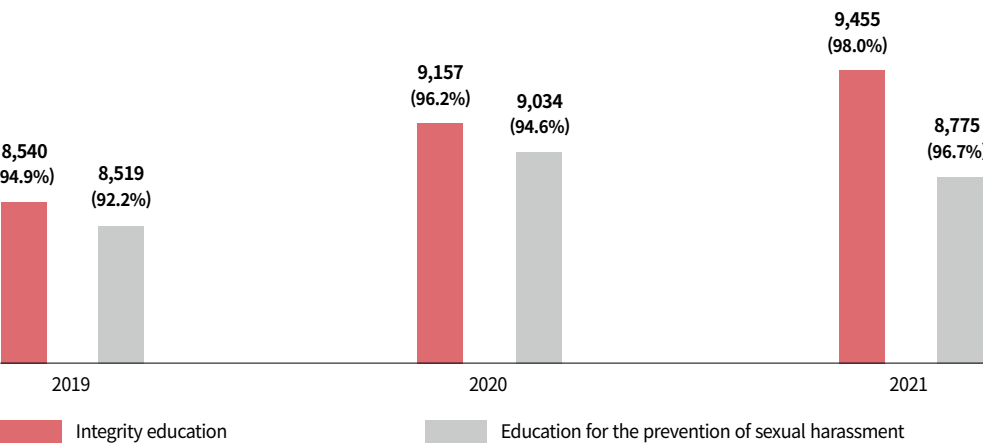
Real estate speculation, contracts with sanctioned companies, internal transactions with stakeholders, and employment risks are selected as the four major areas of vulnerability in terms of corruption. Inspections in these areas are carried out by the 24-hour real-time monitoring system (RAS). When abnormalities are detected through intensive monitoring in areas vulnerable to corruption, the data are extracted and persons in charge are notified automatically (detected warning data for 63 cases, including contracts and recruitments in 2021). Abnormal data is monitored and reported to the Audit Committee after verifying the violation of regulations and taking immediate action.

Education and Communication

We have developed new LH education contents that reflect real estate risks, covering topics such as anti-speculation, code of conduct, bidding review, prohibition of concurrent positions, and digital ethics, and provided integrity education for all employees for two weeks. Employees are required to complete anti-corruption education (8,837 people over 7 sessions) and ethics education (3,394 people over 45 sessions) during their position and job training. In addition, education for the prevention of sexual harassment is regularly provided.

Integrity Education and Sexual Harassment Prevention Education

Unit: persons, (%)



Integrity education for employees



Gender sensitivity education

Internalization of Ethical Awareness

We held a discussion forum on job and regional topics to listen to on-site public opinion on risk management plans regarding compensation, sales, civil engineering, and construction, and contact management of outsiders. We have formed consensus at the job unit and regional level and identified tasks for improvement through on-site training and consultation. Local experts are trained to enhance the impact of communication. As a result, we were able to raise employees' awareness of changes in the ethical environment, such as amendments to laws and regulations, and listen to grievances regarding vulnerabilities on site.

Customized Integrity Training for All Employees

Classification	Trainees	Topics Covered
Outreach Anti-Corruption Education	Instructors or Level 2 or higher employees at regional headquarters (200 persons)	Institutional changes such as the Public Official Ethics Act and the Public Corporation Act
Outreach Counseling	Volunteers and Code of Conduct Officers at regional headquarters	Code of conduct / Guidance on how to respond in case of grievances
Customized Integrity Talks	CA staff by department (73 persons, 18 times in 2 weeks)	Management plan for corruption risks, case sharing, listening to opinions
Integrity academy	Integrity Junior Board members (33 persons)	Discussion on anti-corruption improvement tasks with participation by young people



Integrity Resolution Meeting and Integrity Campaign



Junior Integrity Board



Outreach anti-corruption education

OUR ESG PERFORMANCE

- ECO LH 046 Promoting Low Carbon Green Cities
- 050 Driving Zero Energy Housing
- 054 Expanding Clean Energy Projects
- 056 Strengthening Environmental Restoration and Conservation

- HOPE LH 060 Establishing an Inclusive Housing Safety Net
- 062 Strengthening Public Safety
- 064 Enhancement of Win-Win Growth
- 066 Creating Quality Jobs
- 070 Strengthening Balanced Regional Development

- CLEAN LH 076 Establishing a Transparent Management System
- 082 Spreading an Organizational Culture of Integrity
- 084 Preparing a Fair Business System
- 086 Driving Healthy Ethical Management

- 088 ESG Activities with Stakeholders



ECO LH

Management Approach for ECO LH

Environment(E) Management System



Analysis of Crises and Opportunities

- Global legal regulations strengthened by the EU and U.S. in pursuit of Net Zero
- Mandatory disclosure of ESG performance and strengthened ESG evaluation and investment by financial and investment institutions
- Transitioning to a Net Zero society in line with the government’s 2050 Net Zero Policy
- LH in the early stage of promoting pilot projects for GHG reduction

LH’s Approach

- Promoting projects with a view to accomplishing Net Zero by 2050 and making a transition to a low carbon economy
- Expanding the scope of carbon reduction and energy projects from individual buildings (old and new) to entire cities
- Restructured the LH New Deal according to the Korean New Deal 2.0 (July 2021)
- Detailed action tasks of the Green New Deal planned according to Net Zero (6 → 7 tasks)
- Applying strict environmental standards throughout design, investment review, and construction

ECO LH in Numbers (2021)



13,000 tons of GHG reduction (certified)	5,128,334 kWh Energy saved by zero energy housing	Grade 3 First public housing with zero energy housing certification	25% Carbon reduction plan for the smart green industrial complex
8,327 households Supply of photovoltaic generation facilities for old houses	75,497 houses Green remodeling of public rental housing	69 tons Carbon absorption by the Hwaseong Dongtan Carbon Offset Forest	30% Increased energy efficiency of automatic DR
97.5% Waste recycling rate	KRW 630 billion Green bonds issued	3.2db Noise reduction by Louver system	22 habitats Alternative habitats for narrow-mouthed toads

Major Activities

- Accomplishing 60% energy independence rate for zero energy cities (by 2050)
- Creating city models based on hydrogen energy and investing in eco-friendly future mobility
- Stepwise reduction of carbon emissions in smart green industrial complexes (35 complexes) (by 2030)
- Achieving carbon absorption (CO₂ 69 tons) by creating a Carbon Offset Forest in Hwaseong Dongtan 2 Jaramoe Park
- Promoting projects for the improvement of the housing environment in slums in Pakistan in connection with Clean Development Mechanism (CDM) projects
- Supplying 690,000 zero energy houses (by 2030)
- Green remodeling of public rental houses and public buildings (energy reduction rate improved by 30% or more)
- Expanding the supply of renewable energy and finding new sources of clean energy
- Preparing alternative habitats to protect endangered wild animals (narrow-mouthed toads) at construction sites



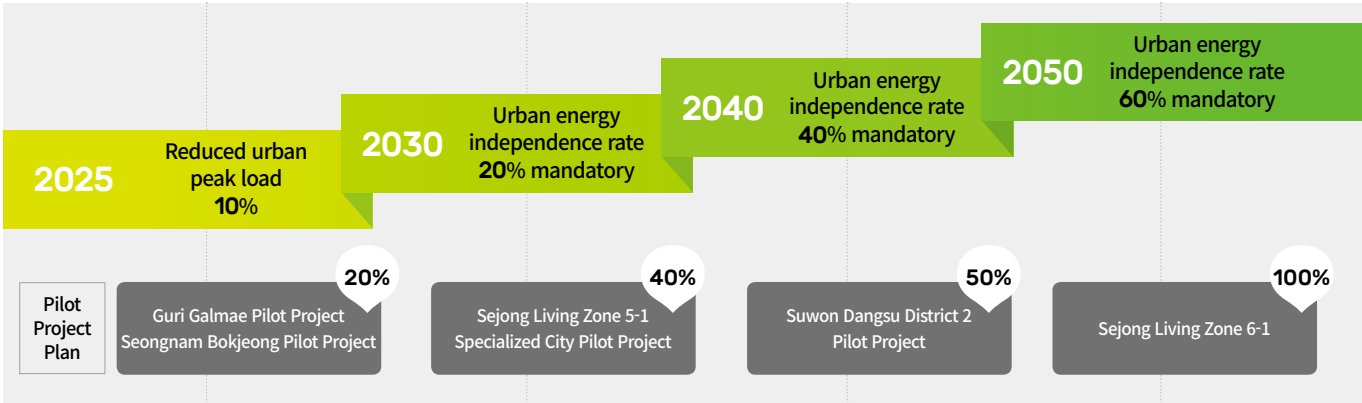
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Promoting Low Carbon Green Cities

Zero Energy City and Energy Independence

LH promotes a business model to increase the energy independence of each city and thereby build zero energy cities that fulfill eco-friendly and low carbon policies. LH is in the process of building zero energy, hydrogen, and green transportation cities based on this model.

Zero Energy City Pilot Project Roadmap for the Zero Energy City Pilot Project (by 2050)



Creating zero energy cities to accomplish Net Zero

- Pilot project (Guri Galmae Station Area): Planning (2021); commencement (2022); completion (2027)
- Pilot project (Seongnam Bokjeong District 1): Planning (2021); commencement (2021); completion (2024)
- Special city (Suwon Dangsue District 2): Planning (2021); commencement (2023); completion (2026))

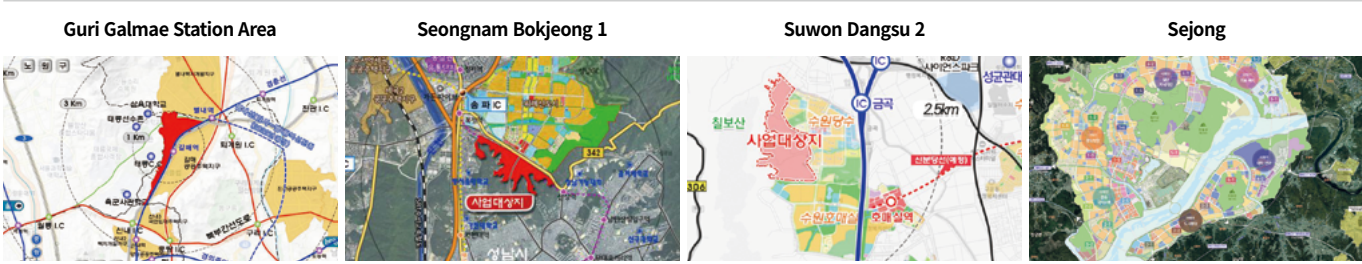
Introducing new/renewable energy sources to buildings, roads, green belts, and parks that can be used as urban infrastructure with zero energy building certification

- Energy independence rate (ratio of production to consumption): 20% in pilot districts and 50% or higher in special cities

Establishing a living zone plan for Sejong Happy City to attain zero energy grade 1 (100% energy independence)

Targets for each pilot project set based on the rate of energy independence, aiming for 50% or higher for Sudon Dangsue District 2

→ Reorganizing cities into urban structures that can efficiently utilize energy by applying renewable energy (solar, geothermal, fuel cell, etc.) and urban energy reducing factors (wind path, reuse of rainwater, etc.)



Efforts to Create Hydrogen Energy Cities

Building infrastructure for hydrogen energy cities

- Establishing district plans considering user access to hydrogen charging stations (Hanam Gyosan, Namyangju Wangsuk, etc.)
- Preparing Bus Rapid Transit (BRT) operation models for hydrogen buses and researching ways to reduce energy costs for residents using fuel cells (2021)
- Building hydrogen infrastructure (2022) → Proposing a hydrogen pilot city contest (2023) → Master and execution plans for a hydrogen city (from 2024)

Building an Eco-friendly Mobility Base

Projects for the revitalization of eco-friendly future mobility

- Proactive investment to generate new industrial demand for future mobility and innovate urban structures (KRW 632.2 billion for 5 years)
- Promotion activities (from 2021)

Cities specialized in Urban Air Mobility (UAM)	Implementing shared Personal Mobility (PM)	Building HV charging infrastructure	Building EV charging infrastructure
<ul style="list-style-type: none">· Introduced a vertical terminal in Yeongjong Stage 3 Reservation Area (July 2021)· Creating cities specialized in UAM, such as Third Phase New Towns (by 2035)	<ul style="list-style-type: none">· Operating a shared PM pilot project in Wirye New Town· Analyzing operational information and preparing standards for the implementation of PM	<ul style="list-style-type: none">· Planning models for exhibition and experience of mega charging stations· Completed implementing the district plan at eight sites in Third Phase New Towns	<ul style="list-style-type: none">· Development of complexes by expanding solar power, fuel cell, and ESS· Established detailed promotion plans for EV charging infrastructure (November 2021)

Creating a Smart Green Industrial Complex

Smart green industrial complex: An industrial complex that promotes digitalization, energy independence, and eco-friendliness (Industrial Sites Act, Article 2)

- Planning to reduce carbon emissions by 25% by introducing smart green elements in new industrial complexes and reducing energy used by occupants (by 2030)

Specialization

- Energy independence: Reducing carbon emissions by 25% or more by increasing the share of renewable energy and applying ESS and fuel cells
- Digitalization of infrastructure: Innovation of transportation, logistics, and safety areas like Data, Networks, and AI (D.N.A) and smart plants
- Eco-friendliness: Creating eco-friendly spaces based on Low Impact Development (LID), urban forests, and the reduction of particulate matter



	Energy independence		Digitalization		Eco-friendliness	
Directions for smart green industrial complex	Zero carbon emissions through the use of renewable energy and high-efficiency structures		Driving innovation of the company through D.N.A smart infrastructure		Realizing pleasant and clean industrial complexes through sustainable spaces	
	Zero energy	Common ESS	Smart plants	Smart infrastructure	Low Impact Development	Smart garden

Promotion activities

- Pilot projects (2021): Reducing carbon emissions by at least 25% through two pilot projects (Daegu Yulha Industrial Complex and Jeonju Carbon Material National Industrial Complex)
- Expanded application to industrial complexes (by 2030): Expanding the application to 35 industrial complexes by 2030, with stage-wise increase in carbon reduction

Promotion outcomes

- Selected Jeonju Carbon and Daegu Yulha as candidate sites for a national pilot project (June 2021)
- Signed a joint agreement with LH, Gyeongsangnam-do and KEPCO to develop Miryang Nano National Industrial Complex with a view to accomplishing Net Zero (September 2021)

	Jeonju Carbon Material (655,000 m ²)		Daegu Yulha Advanced City (167,000 m ²)	
Cases Promoted by LH	Green industrial complex that secured an energy independence rate of 15% or higher		A smart green convergence industrial complex geared toward future innovation	

Managing and Reducing Carbon Emissions

Carbon Emission Reduction Activities

LH conducts carbon reduction activities, such as the supply of modular (assembly) houses, the development of smart green industrial complexes, and the introduction of earth and stone management systems, to help bring down carbon emissions at construction sites and industrial complexes. In addition, LH secures carbon credits through a carbon offset project involving the Carbon Offset Forest and projects for the improvement of the housing environment linked to clean development system projects in developing countries.

Supply of perpetual modular (assembly type) housing (from 2017)

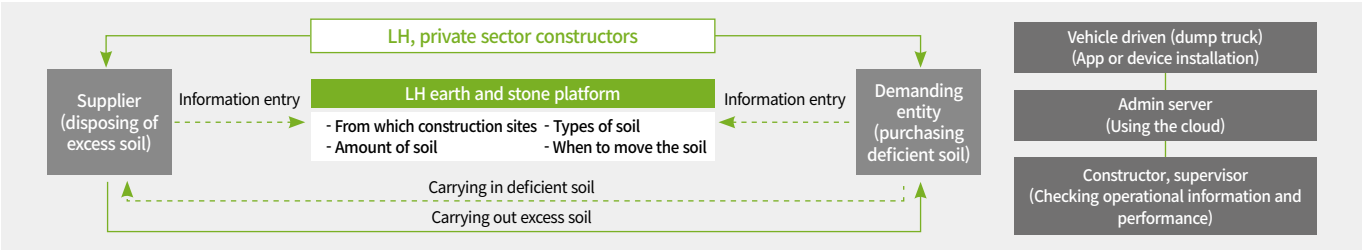
- Bringing down carbon emissions by reducing construction periods, human labor, and material use through the application of standardized materials in small-sized downtown areas
- Completed four modular housing complexes: Busan Yongho (2017), Cheonan Dujeong (2019), Sejong Love House (2020), Ongjin Baengnyeong (2020)
- Current status of modular housing projects (2022)

Region	Incheon Sinmun District	Sejong 6-3 UR1	Sejong 6-3 UR2	Buyeo Dongnam
No. of households (floors)	130 households (4 floors)	200 households (7 floors)	216 households (7 floors)	150 households (3 floors)
Stage	Preparing for commencement	Preparing for commencement		Preparing for project approval
Order method	Responsibility for construction and project management	Public housing bidding with private participation		Private sector bidding

Built an earth and stone platform and introduced an earth and stone transportation management system (2021)

- Earth and stone platform (tss.lh.or.kr)
Efficient management of resources by sharing information on the earth and stone material stored, such as the amount and period of carry-in, and carry-out earth at construction sites
- Earth and stone transportation management system
Real-time management of the entire transportation process, including the loading and unloading status, transportation vehicle routes, and aggregation of driving records using a smartphone app or GPS device
→ Shortened distance between the construction sites: Expenses reduced by KRW 5.5 billion and GHG emissions reduced by 966 tons by shortening the distance by 5 km (1,000,000 m³)

Earth and Stone Platform and Earth and Stone Transportation Management System of LH



Carbon Offset Project

Registered carbon absorption target (2022): 2,000 tons (10 districts)

Development of LH's Carbon Offset Forests: Gwacheon Knowledge Town, Jinju Gajwa Mountain

Carbon Offset Forest in Hwaseong Dongtan 2 Jaramoe Park (76,000 m², 2021)

- Planting of 3,871 species of trees with high carbon absorption rates → Calculation of carbon absorption → Registration on the Forest Carbon Registry → Monitoring and verification (after 5 years) → Certification → Social contribution donation of earnings from carbon absorption
- Registered carbon absorption (CO₂ 69 tons) on the Forest Carbon Registry of the Korea Forest Service
- Won the Grand Prize at the Vegetation Restoration and Natural Environment Contest hosted by the Ministry of Environment

Expected effects

Easing climate change	Reducing noise on roads	Purifying the atmosphere	Providing resting spaces	Preserving biodiversity
Lowering 3°C in the summer	Reducing noise with multi-layer planting	Absorbing CO ₂ and particulate matter	Eco-friendly resting spaces	Healthy ecological environment



Carbon Offset Forest in Jaramoe Park

Clean Development Mechanism (CDM) Projects

Clean Development Mechanism (CDM): A system that acknowledges the carbon reduction outcomes of carbon reduction projects in Korea and other countries

- CDM projects implemented by LH in Korea and overseas, linked to the issuance of actual carbon credits

Established an integrated method for the management of carbon credits, responded to the trading scheme, and identified new projects (from 2021)

Continually identifying and working on CDM projects after registering the renewable energy project for Pyeongtaek Sosabeol District on the UNFCCC (from 2009)

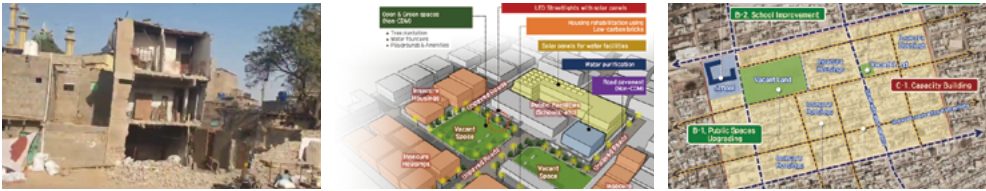
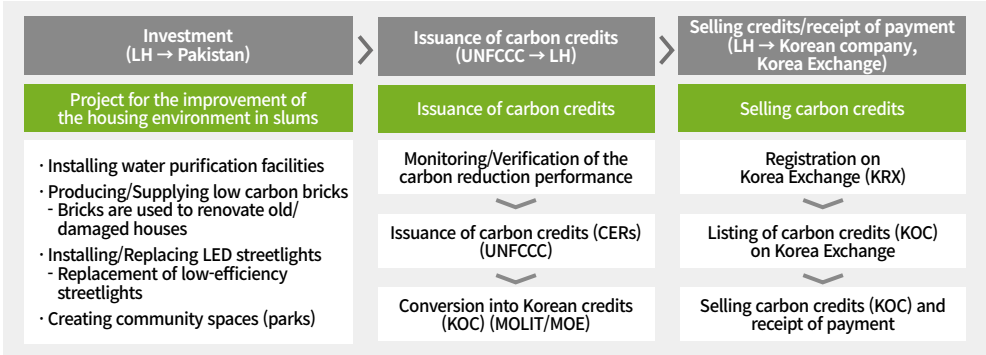
Korea: CDM projects for solar power generation in public rental houses

- Supplied solar power facilities for rental houses (from 2009) → Secured 9,000 tons of CER (2016)
- Completed registration, certification, and credit issuance of GHG reduction (2021) based on solar power facilities (Started in 2009, completed in 2018) in 149 rental house districts → Secured annual CER of 8,788 tons (from 2022)
- Promoting the registration, certification, and credit issuance of GHG reductions (2022) based on solar power facilities (Started in 2018, completed in 2020) in 130 rental house districts → Additionally securing annual CER of 9,775 tons (from 2023)

Overseas: Promoting CDM projects in connection with the improvement of the slum housing environment in developing countries (reviewing a pilot project for Karachi, Pakistan)

- Signed an MOU (December 2020) and research agreement (May 2021) with UN Habitat / Signed an MOU with the Pakistan Ministry of Climate Change (August 2022)
- Reducing GHG emissions by 1,140,000 CO₂ over a period of 10 years [2022 Business Plan (PoA-DD) to be approved by the nation]

CDM Project Structure in Pakistan

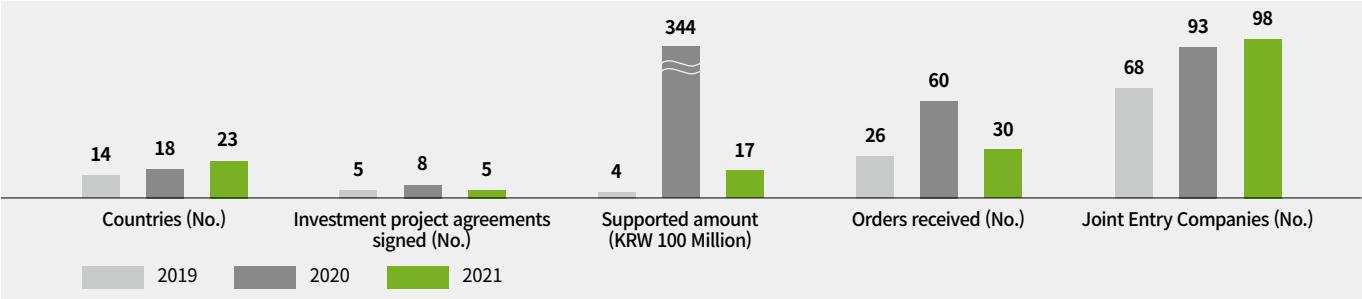


CDM Project Sites and Plan (Draft) in Pakistan

Global projects

- Serving as a platform that supports overseas cooperation projects of the government and overseas entry of Korean companies, in areas such as the implementation and expansion of smart cities

Status of Global Projects Implemented by LH



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Driving Zero Energy Housing

Energy Reduction and Efficiency

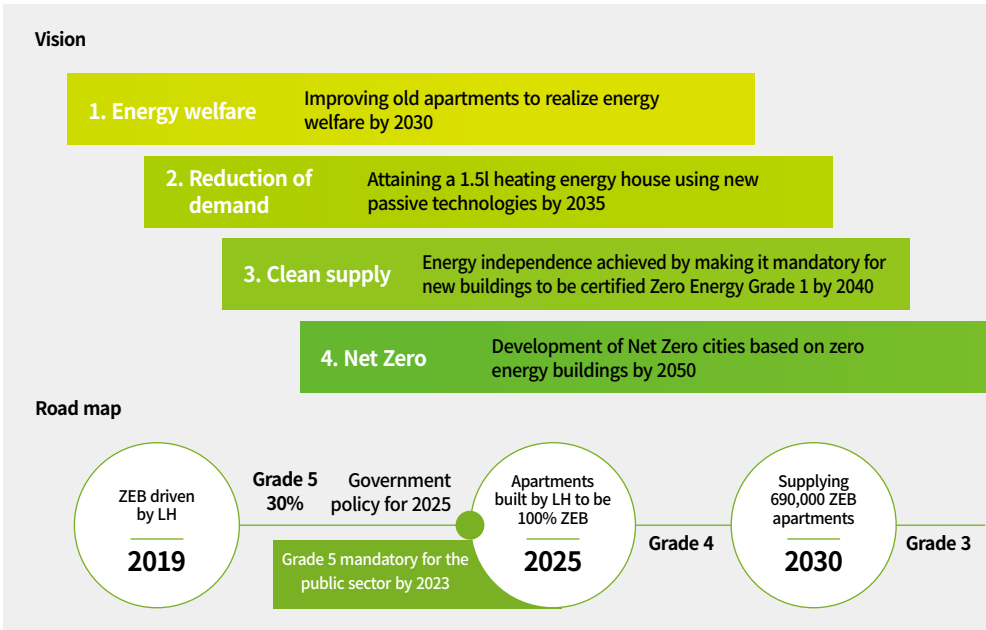
Zero Energy Housing Projects

LH contributes to energy reduction and GHG reduction while strengthening the energy independence rate of buildings. We do this through zero energy housing projects that minimize total energy consumption by reducing energy use in buildings, as well as by generating renewable energy using solar power facilities. LH also implements green remodeling projects that improve the energy performance of old buildings.

Zero Energy Building (ZEB) and certification system

- ZEB: Green buildings that secure 20% energy independence or higher by minimizing energy consumption and using renewable energy
- ZEB certification system (from 2017): Five grades of energy independence that are granted to green buildings

Road map of zero energy housing projects (by 2030)



Developing core technologies for standard models and setting R&D directions

- Review of zero energy technologies and R&D trends → Selection of core/monitoring technologies → Proposal of methods for the verification of performance → Application of a demonstration project

ZEB grade 3 technology project (2021)

- Passive technologies: Reducing energy consumption, eliminating factors that lead to waste of energy
- Material performance (insulation performance increased by 22%, high-performance doors, etc.) and airtight performance (walls, airtight floor design, etc.)
- Active technologies: Increasing the productivity of renewable energy
- Air conditioning and heating using ground heat, high-efficiency solar panels (design to improve urban landscape using roofs and side walls)
- Preliminary grade 3 certification for M1 block in the 6-3 living zone of Sejong Happy City: 67% energy independence, 35% GHG emissions compared to new houses
- Developing and disseminating standard grade 3 models for zero energy houses

Promotion outcomes

- Completed certification of a zero energy housing project comprised of 6,554 households in 15 blocks, starting with the demonstration project (from 2019 to 2021)
- Acquired ZEB certifications (eight grade 5, one grade 3) in nine blocks (seven in Seongnam Bokjeong, two in Sejong in 2021) → Total energy reduction: 5,128,334 kwh Increased by 30.8% compared to the previous year, exceeding the energy reduction target (120% of the previous year's reduction performance: 4,705,499 kWh)

Green Remodeling Projects

Green remodeling: Enhancement of the value of buildings by improving the energy performance of old buildings, improving the residential environment and mitigating GHG emissions by reducing energy usage (about 75% for old buildings that are over 10 years old in Korea, 34% for buildings that are over 30 years old)

Eligibility

- Public rental houses: Permanent rental houses, purchased rental houses that were constructed over 15 years ago
- Public buildings: Daycare centers, health centers, and medical facilities that were constructed over 10 years ago

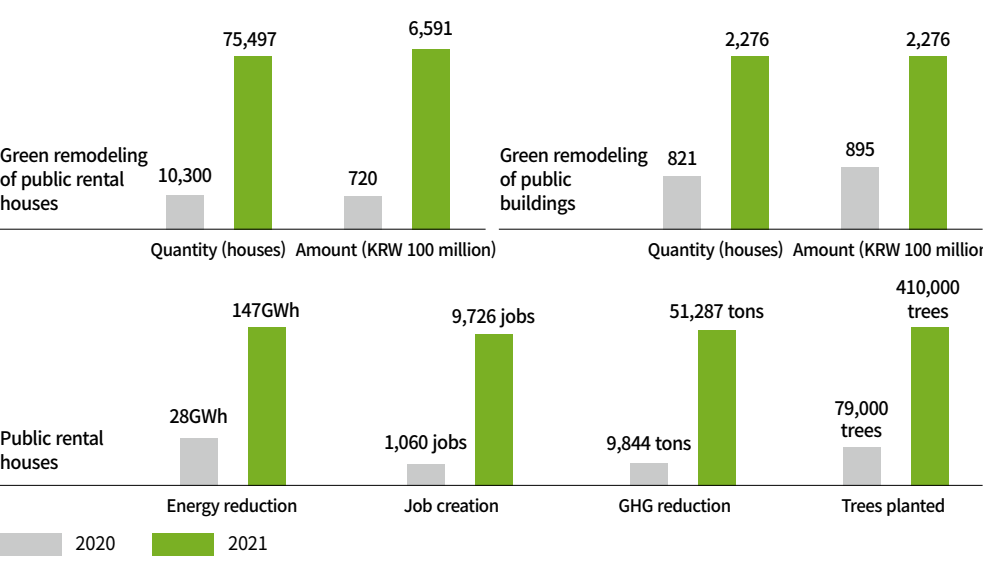
Promotion activities

- Permanent rental houses: Energy reduction works such as introduction of high-efficiency windows and LED lights, household integration for multi-child families
- Purchased rental houses: Enhancing energy efficiency with high-efficiency boilers, outside insulation and installation of safety facilities for the socially vulnerable
- Public buildings: Preliminary comprehensive inspection on buildings used by the socially vulnerable, establishment of plans for local government projects, and support for energy analysis

Classification	Improving housing performance	Zero energy	Eco-friendly materials	Renewable energy	Living safety
Green remodeling of public rental houses	Expansion of bathrooms, Replacement of wallpapers and floors, Replacement of lighting and wiring devices	High-performance insulation materials and windows, Water-saving toilet bowls, High-efficiency LED lights	Using materials that do not exceed limits for Total Volatile Organic Compounds (TVOC), formaldehyde, and toluene	Solar panels, Regenerative braking system for elevators	Safety handrails in bathrooms and other areas with fall risks, Improvement of CCTV, Non-slip banisters
Classification	Preliminary surveys	Energy consulting	Formulation of improvement methods	Structure and safety review	Feasibility review
Green remodeling of public buildings	Data collection and analysis, Analysis of building status	Field survey and analysis, Analysis of measurement results	Improvement strategy, Item suggestion	Asbestos consulting, Consulting on the architectural structure	Calculation of optimal construction expenses for each energy performance

Promotion outcomes (2021)

- Public rental houses: Reduced GHG by 51,000 tons, improved residents' housing/energy welfare in 75,000 houses (energy reduction rate improved by 30% or more)
- Public buildings: Expanded the green remodeling industry by improving the living environment and energy performance for vulnerable people, such as children and the elderly



Supporting the revitalization of private green remodeling

- Expansion of private green remodeling by distributing guidelines on green remodeling design and construction
- Providing support with financial loans and interest (3%) to cover green remodeling construction expenses for old private buildings: Building unit_energy reduction rate of 30% or higher; house unit_energy reduction rate of 20% or higher

Developing Eco-friendly Technologies, Products, and Services

Solar Soundproof ‘Louver System’ for Each Household


LH develops and applies eco-friendly technologies and products to enhance energy efficiency, reduce energy use, and block noise. We also offer various services to enable residents to consume energy reasonably and strengthen facility management.

Developing new technologies to maximize solar power generation and prevent noise through installation of solar panels on apartment balconies

- Performance measurement in Yangju Goeup, Uiwang Gochon, Namyang New Town, Siheung Eungye: Reduced annual electric rates by KRW 216,000 and noise by 3.2 dB
- Registered a patent (June 2021) and applied for a new technology certificate from the Ministry of Environment (October 2021): Noise-reducing louver system for each household to generate solar power


Solar Soundproof ‘Louver System’ for Each Household

Daytime | Maximizing PV generation efficiency



- PV panels to be installed on balconies for direct generation of electricity
- Maximizing PV generation efficiency by adjusting the incidence angle of panels

Nighttime | Blocking noise through closed panels



- Automatically closing PV panels at night
- Blocking external noise with closed panels, which function additionally as sound absorbers

Geothermal Heat Pump System for High Temperatures

A geothermal heat pump system that does not require a separate hot water system

- Introducing renewable energy in apartments, supplying air conditioning, heating, and hot water, and reducing operating expenses

LH’s Integrated Energy Platform

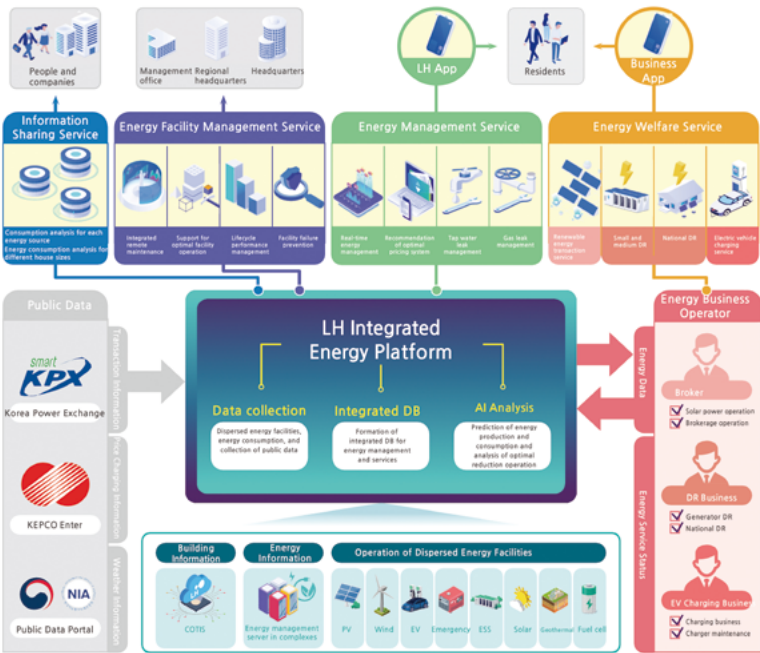
A platform that links and distributes ‘Public-Resident-Business operator’ energy information to encourage reasonable consumption of energy and provide energy welfare for residents

Energy use management services	Real-time energy management, recommendation of an optimal pricing system, management of water leaks and gas leaks (energy efficiency increased by 30%)
Energy welfare services	National DR, small and medium DR, EV charging, energy trading among neighbors

* Demand Response (DR): A system in which users operate power generators to produce electricity or reduce electricity use upon request by the Korea Power Exchange, receiving monetary reward in return

Energy facility management services	Integrated remote maintenance, life cycle management of facility performance, optimal operation of facilities, prevention of facility failure
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LH Integrated Energy Platform



ESG Green Bonds

Green bond: A type of ESG bond by which interested entities can invest in eco-friendly projects and social infrastructure, such as renewable energy

Issued green bonds (KRW 630.0 billion) at interest rates that are 0.01-0.02% lower than market interest rates (May 2021)

- Used financial sources of the Green New Deal Policy, such as green remodeling of old public houses and construction of energy-saving houses with energy efficiency grade of 1+ or higher
- Acquired ‘Green Grade 1,’ the highest green bond grade, with environmental effects including reduction of CO₂

Hosting Housing and Urban Design Contests

National Land Development Technology Contest

- Finding creative and innovative national land development technologies in the construction area and proposing directions for eco-friendly and future-oriented urban construction
- Targeting related companies and undergraduates (graduate students)
- Held a contest on innovative construction technologies and future city technologies in 2021 and selected winners in the university category (10 winners) and company category (9 winners).

Housing Construction Contest for Undergraduates

- The largest housing contest, first held in 1995, receiving undergraduates’ ideas about housing types and fostering future talents
- Received ideas from 196 participants in 2021 on the topic of shared housing through co-living, with 20 teams awarded



Housing and Urban Design Contests

Operating LH-certified Technologies and Applying New Environmental Technologies at Sites



New Technology Experience Center, ‘The Smartium’

Operating the LH-Certified Technology System

- Selecting new technologies that have never been applied to LH, issuing the LH certification and opening early sales channels for SMEs
- Designated 25 LH-certified technologies, including a system for treating concrete wastewater (InnoBlue) (2021)
- Applied 69 LH-certified technologies (contract amount of KRW 21.6 billion) at LH sites (2021)

LH-certified Technology Status

Classification	2015	2016	2017	2018	2019	2020	2021	Total
Applied (cases)	6	29	37	41	66	86	69	334
Amount (KRW 100 million)	66	32	83	91	264	273	216	1,025

Applying new environmental technologies at sites

- Expanded the on-site application of new environmental technologies certified by the Ministry of Environment (8 cases in 2020, 16 cases in 2021)

Operating a new technology experience center, ‘The Smartium’

- Operating a complex exhibition space to help people understand and experience future smart technologies, such as the history of urban development, smart cities, and smart homes
- Presenting various smart home technologies and services through Virtual Reality (VR) and ‘Solution Wall,’ which shows about 150 smart technologies such as smart parking and smart streetlights using videos and images
- Smart technologies experienced by 99,344 visitors after opening (2010)

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Expanding Clean Energy Projects

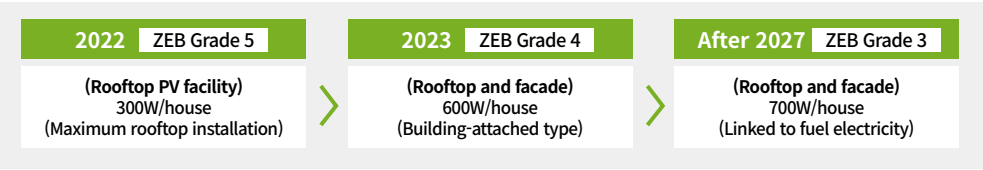
Expanding the Supply of Renewable Energy

LH Green Energy Projects

LH has been working to increase the productivity of renewable energy used in zero energy housing projects, green remodeling projects, and smart green industrial complexes, and to expand the application and supply of renewable energy in each project.

Developing green energy plus house technologies to enhance the efficiency of solar power generation and store surplus renewable energy

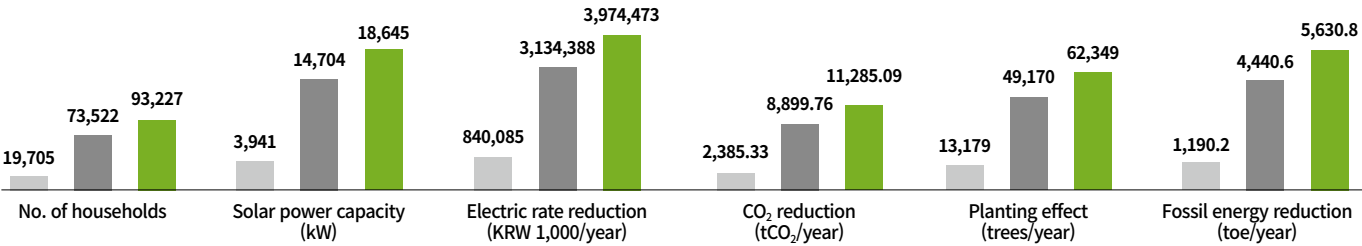
- Established standards for building-integrated photovoltaic (BIPV) facilities (2021) → Established standards for building-attached photovoltaic (BAPV) facilities (2022)
- Increased rooftop solar power capacity (200W/house → 300W/house), developed a solar + ESS model, and conducted a pilot project, Applied the M1BL design for BAPV facilities to the 6-3 living zone in Happy City



Expanding Renewable Energy

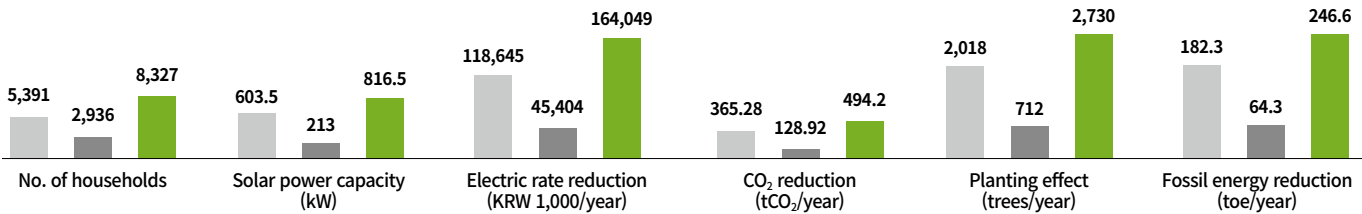
Expanding the supply of solar power for public houses to spread a culture of adopting energy-saving buildings

- Full-scale application of renewable energy in the public order sector and increase by 20% or more compared to the solar power 200W/house design



Energy for aging houses (supplying solar power generation facilities in Gyeongsangnam-do)

- Contributing to GHG reduction and reducing energy expenses by supplying 816.5 kW solar power facilities for residents of rental houses (8,327 households)



2021
2022
Total

Expanding the application of renewable energy in zero energy housing projects, green remodeling projects, and smart green industrial complexes

- Solar panels
 - Reviewing the maximum solar power capacity that can be installed in buildings and the zero energy grade that can be attained, satisfying the energy independence rate through application of roof type solar power and addition of wall type solar power
- Introducing air conditioning and heating systems that use geothermal energy
- Applying fuel cells that can generate heat and electricity of constant quality, regardless of time and the external environment, for use in houses and buildings

Application of renewable energy to the Zero Energy Specialized City in Suwon Dangsus District 2	Renewable energy	Applied BIPV and BAPV facilities Introduced small-sized wind power facilities considering the wind path Introduced geothermal energy in public buildings
	New energy	Introduced fuel cells for buildings

Finding New Clean Energy

Geothermal Energy

Besides increasing productivity and expanding the supply of renewable energy sources, such as solar, geothermal, hydrothermal, and fuel cell energy, LH is developing convergent technologies to strengthen the active use of solar and hydrogen energy and conducting research into sustainable clean energy.

Heat energy obtained from the ground in the summer and winter using ground heat that maintains constant temperatures (7-8°C) throughout the year

Using geothermal energy in the housing sector

- Geothermal air conditioning and heating systems: These systems are composed of a geothermal heat pump on the ground and a geothermal heat exchanger installed under the ground.
- Applied a geothermal system design to the Zero Energy Building Pilot District (M1BL 6-3 living zone in the Happy City in 2022)

Hydrothermal Energy

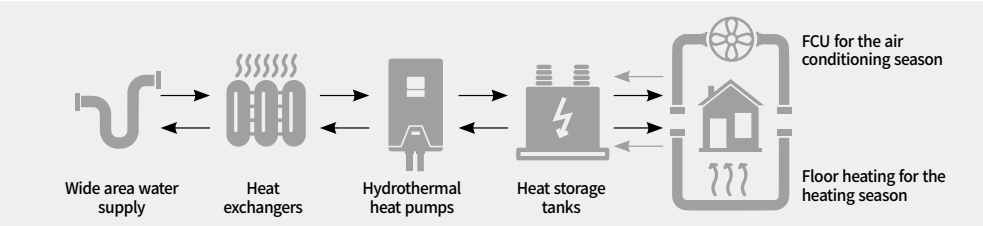
Energy used for air conditioning and heating by recollecting water heat sources using a heat pump, based on the characteristics of water, where water temperature is lower than air temperature in the summer and higher in the winter

Using hydrothermal energy in the housing sector

- Established guidelines for the application of hydrothermal energy in cities and houses (2021)
- Implemented a service for applying hydrothermal energy in zero energy buildings (Ministry of Environment, from 2020 to December 2023), monitored the status of heat pump technology, and promoted the advancement of guidelines for hydrothermal energy (by 2024)

Standard Model for Hydrothermal Energy

Comprised of a Heat Exchanger, Heat Pump, Heat Storage (Buffer) Tank, and Household Air Conditioning and Heating Units



Hydrogen Fuel Cells

A system that generates heat and electricity using the chemical reaction between hydrogen and oxygen extracted from city gas

- Possible to generate heat and electricity of constant quality regardless of the external environment; require only a small installation area, but come with extreme economic variability
- Composed of a stack that generates electricity and a reformer that extracts hydrogen from city gas; necessary to improve the stability of parts and conduct empirical studies for stable long-term operation

Using hydrogen fuel cells in the housing sector

- Completed primary research on methods for improving the energy independence of apartments, including fuel cells (August 2019)
- Conducted an empirical study on fuel cells in zero energy buildings (apartments) and demonstrated application in an apartment (Happy 99 households in Hwaseong Hyangnam 2, 30kW) (2021)
- Negotiating with power generation companies for the development of fuel cell business models (2022)

Conducting research on expanding the use of fuel cells in apartments through long-term operation (from August 2022)

Exploring Other Forms of Clean Energy

Small-sized wind power facilities for cities

- Had been avoided due to noise and vibrations that affected buildings, but recently developed technologies like vertical models that have reduced noise and vibrations
- Applying Building-integrated Wind Power (BIWP) and vertical small-sized wind power facilities considering the scope of integration with complex arrangement technologies that account for wind path

Energy Storage Systems (ESS) for emergency power backup

- Normally used to reduce power peak and used as an Uninterruptible Power Supply (UPS) or emergency power generator during emergencies such as power failures
- Has been necessary so far to run a separate diesel generator while using ESS as an emergency power source, but launched ESS for emergency power that can minimize redundant investments

ECO LH

Strengthening Environmental Restoration and Conservation

Preserving the Ecological Environment and Protecting Biodiversity

Strengthening the Environmental Management System at Construction Sites

Introducing Low Impact Development for Eco-friendly Ecological Cities

Preserving Legally Protected Species and Biodiversity Protection Activities



Business agreement on alternative habitat between the Cultural Heritage Administration and LH

LH manages the environmental load at construction sites and strives to ensure the efficient use and recycling of resources so that cities can engage in sustainable development without damaging the environment. In addition, LH preserves legally protected species by preparing alternative habitats for such animals.

Environmental impact assessment on development projects: Strategic environmental impact assessment, small-scale environmental impact assessment, and environmental impact assessment

Managing the environmental load at sites

- Managing air pollutants: Establishing and implementing comprehensive measures to control the emission of particulate matter (spent KRW 543.0 billion as of 2022)
- Managing GHG emissions: Managing GHG emissions by office buildings and collective energy facilities → Set GHG reduction goals (February 2022)
- Managing the discharge of waste: Managing the amount of general and building waste that is discharged, recycled (including sale) and treated (landfill, incineration)
- There have been no court rulings on legal/regulatory violations related to the environment, but 121 violations from 2016 to 2018 resulted in a fine of KRW 300 million owing to the late entry of information into the Allbaro system (waste management system) from 2016 to 2021.

Tailored environmental consulting services that are provided for suppliers and sites to ensure compliance with environmental laws

- Establishing standard environmental management plans (drafts) for complexes, distributing standard environmental checklists, and sharing primary consulting cases
- Tailored environmental consulting at sites (three sites in 2021): Environmental management at construction sites in the early stages

Efficient use of resources and recycling

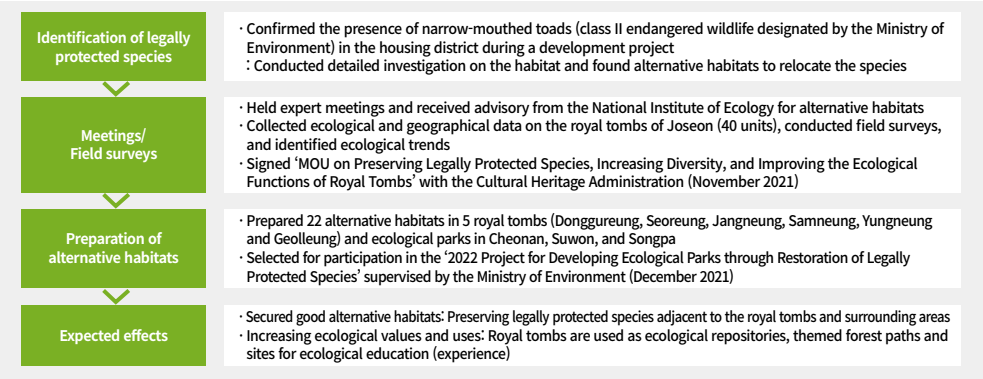
- Earth and stone platform: Built a platform to share information related to earth and stone at construction sites (2021)
- Pilot project for the design and use of rainwater facilities: Installed rainwater collection and storage facilities for apartments and expanded watering for vegetable gardens → Applied rainwater facilities (Incheon Geomdan AA21, 1,224 houses in 2021), reflected rainwater facility design (4 districts, 3,073 houses in 2022)

Improving the ecological environment through full-scale implementation of a low impact development technique, an eco-friendly method of dispersed rainwater management, in Third Phase New Towns

- Low Impact Development (LID): Refers to development that minimizes the impact on water circulation in nature
- Finalized the rainwater management targets for Third Phase New Towns applying the LID technique, working with the Policy Council for Creating Eco-friendly Public Houses (June 30, 2021)
- LID effects: Produced benefits such as reduced flood runoff and pollutants, recovery of water circulation in cities, provision of ecological habitats and waterfront spaces, mitigation of urban heat islands, improved urban landscapes, improved air quality, and energy-saving

Endangered wildlife: Wildlife (class I) whose population has decreased substantially and is protected by the Wildlife Protection and Management Act, and wildlife (class II) that may be endangered in the imminent future due to decreasing population

Alternative Habitats for Endangered Wildlife Prepared by LH



Regenerating and Utilizing Urban Spaces

Proposing and Executing February 4 Policy Project Models

February 4 Policy: Policy to supply 836,000 units of public housing between 2021 and 2025 in areas where private development is difficult, such as station areas, semi-industrial areas, and low-rise dwellings (with the goal of completing 472,000 total housing units in cities and LH's goal of constructing 294,000 housing units)

Proposed new project models appropriate for regional characteristics, such as location and size, to MOLIT (2021)

- Necessary to stabilize the market by quickly supplying houses through public involvement in declining city areas

* New project models			
Complex public housing projects	Public renewal projects	Small-scale renewal projects	Urban regeneration projects
Station areas*, Semi-industrial*, Low-rise dwellings*	Public redevelopment and reconstruction, Direct public renewal*	Small-scale redevelopment* and reconstruction, Voluntary renewal of streets and housing, Small-scale renewal area*	Housing regeneration innovation district*

Improving regulations and systems

- Adopting institutional measures to promote projects by amending related laws (Special Act on Construction for Public Housing, Act on the Renewal and Improvement of Urban Areas and Dwelling, Urban Regeneration Act, etc.)
- Easing business regulations, such as exemption of land acquisition tax and exclusion from comprehensive real estate holding tax

Cooperating internally and externally and forming national consensus

- Forming consultative bodies (Korea Housing & Urban Guarantee Corporation, Korea Real Estate Board, etc.) and operating 3080* public-led integrated support centers to take opinions from residents and local governments
- Distribution of public relations materials and project presentations (40 times), resident suggestions (July and August), meetings with the constructor (September), expert forums and seminars (3 times)

Promotion outcomes (2021)

- Secured 135 candidate sites (for 115,000 houses): Conducting 68% of 168 places (170,000 houses) announced by the Ministry of Land, Infrastructure and Transport
- Designated districts in 22 sites (19,800 houses): Completed construction of 46% of 46,000 houses targeted by the government in 2021

Creating Eco-friendly Industrial Spaces Through Regeneration of Old Industrial Complexes

Conducting regeneration projects in old industrial complexes to turn high carbon, low efficiency spaces into eco-friendly spaces

- Designated West Daegu, Seongnam, and Daejeon as target areas for regeneration projects to build complex knowledge centers and regional strategic industrial support houses (from 2021)
- Finding and surveying new candidate sites (from 2022)

Regional Urban Regeneration

Supporting government policies through stage 2 port redevelopment in Busan North Port (2030 Busan Expo)

- Selected as the target of preliminary study in collaboration with the Ministry of Maritime Affairs and Fisheries (August 2021)
- Secured an impetus for the 2030 Busan Expo: the Ministry of Trade, Industry and Energy's North Port site that will be used for the expo

Improving public services and stabilizing residences for youths through complex development of old public government buildings

- Selected 9,346 houses in 53 sites to supply 10,000 houses (8,000 houses by LH) by 2022, as proposed by the Housing Welfare Road Map
- Songpa Bangi: Commenced construction of complex facilities comprised of offices, houses, and convenience facilities using existing government building sites (May 2021)

Normalizing regional urban regeneration projects

- Siheung Jeongwang: Project prolonged by excessive resident demand for substitute lots → Changed project type (urban development → public housing)
- Deserted shipyard in Tongyeong: Increased land price and delay of construction due to the cost incurred for purifying contaminated soil → Attracted private investment by easing floor area ratio and floor limits, and preferentially commenced the marine park development project

LH Bitgil-ro	Selected villages that are dangerous at night to conduct green contribution activities, such as installation of solar lighting facilities, in collaboration with Namhae-gun (July 2021)
Village Garden	Remodeled the old space into a resting space, developing regional premium gardens with the participation of garden artists → Hope Garden Show for Citizens of Jinju, 'Paths Are Gardens' (October 2021)
LH Green Academy	Created jobs by providing training as forest guides and forest instructors for children, as well as conducting a social forest event (November 2021)

Eco-friendly Public Parks With Participation of Residents



HOPE LH

Management Approach for HOPE LH

Society(S) Management System



Analysis of Crises and Opportunities

- Instability of the real estate market and increasing housing burden experienced by people due to the continued rise in housing prices
- Accelerating decline of small and medium cities and regional extinction due to the decrease in population and rising preference for metropolitan cities
- Increased necessity for managing non-financial risks (safety, Win-Win growth) according to ESG regulation and management paradigms
- Demand for renewal of housing-vulnerable areas and creation of community spaces

LH's Approach

- Stabilizing the real estate market and supporting housing stability for the benefit of people by expanding the supply of houses in cities
- Rearranged the LH New Deal according to Korean New Deal 2.0 (July 2021)
 - Detailed action tasks of the Human and Regional Balance New Deal (5 → 9 tasks)
- Disaster and safety management and Win-Win growth cooperation through the LH ESG management system
- Promoting balanced regional development by driving urban regeneration and innovative growth

HOPE LH in Numbers (2021)



594,000 houses Completed as part of the Housing Welfare Road Map (cumulative)	14,065 persons Jobs created	60 places Relocation Support 119	1.32 million houses LH rental houses in stock
22 persons New health and safety managers appointed	10 facilities Disaster relief facilities installed	76.2% Ratio of defects handled within 15 days	KRW 295.9 billion Safety management budget
KRW 7.3 trillion Value of products purchased from SMEs	KRW 7.88 billion Rent support for small business owners	3 sites ESG consulting for suppliers (on-site environmental management)	399 persons Parental leave used
10,079 persons Flexible working used	0 (ZERO) case Security accidents and leaks of personal information (8 consecutive years)	12.6% Ratio of female managers	1,039 persons Number of employees who have donated blood

Major Activities

- Supplied houses to accomplish the goals set by the Housing Welfare Road Map (594,000 cumulative houses, from 2018 to 2022)
- LH oversees the supply of 727,000 houses out of the total government goal of 1,052,000 houses. Of this, LH has already supplied 594,000 houses in total, including 151,000 in 2018, 153,000 in 2019, 168,000 in 2020, and 122,000 in 2021.
- Building an integrated support system for housing and social services
- Supporting housing stability for socially neglected groups and youths
- Improving quality and defect repair services and managing the safety of public houses
- Supporting Win-Win growth of SMEs and social enterprises and providing the LH Hope Shopping Complex
- Supporting ESG procurement and the competencies of suppliers
- Creating jobs (direct employment, private contracting, investment in job creation projects, etc.) and improving the quality of jobs
- Creating a healthy and efficient work environment, respecting diversity, and preventing human rights violations
- Contributing to the revitalization and balanced development of regional economies, conducting strategic and regional social contribution activities, etc.

HOPE LH

Establishing an Inclusive Housing Safety Net

Integrated Support for Housing and Social Services

Integrated Support System for Housing and Social Services

LH utilizes its housing welfare platform to cooperate with various local agencies, resolving the housing and social issues experienced by residents and improving their quality of life. The integrated support system helps LH to expand the scope of residential services tailored to satisfy consumers’ needs.

LH housing welfare platform: A platform utilized by various agencies to provide residential and social services and thereby improve quality of life for residents and communities in LH’s public rental houses, beyond providing simple residential spaces

Providing integrated support for residential and social services using the residential welfare platform

- Forming an exclusive organization (residential welfare support) for Seoul, Incheon, and Gyeonggi
- Forming a cooperative system with seven local governments, including Jeonju: Launching the Integrated Residential Welfare Center in Gwangju Metropolitan City (Gwangju-LH-Gwangju Urban Corporation)
- Developing seven linked models for each stage of the lifecycle: Youth support, child-friendly services, continuous senior care, independence support for the disabled, etc.

Implementation Cases (2021)

Gangwon-do ‘Purmanae’ (protection of pregnant women)	Uijeongbu ‘Connected Shelter’ (protecting abused children)	Seoul Dobong ‘Haesimdang’ (senior care)	Gwangju ‘Always Happy Project’ (village health community)
· Poor childbirth environment suffered by pregnant women who live in socially vulnerable areas · LH, Ministry of Welfare, local government, Kangwon National University Hospital, private companies → Remote medical systems, exercise facilities, eco-friendly materials	· Lack of protective shelters to take care of abused children in a stable manner · Collaboration among LH, Uijeongbu, Ministry of Welfare, and the National Police Agency → Provision of psychotherapy rooms and play rooms in purchased rental houses	· Healthy old-age life (Aging in Place) · Collaboration among LH, Seoul Metropolitan Government, Dobong-gu, and Housing Cooperatives → Barrier-free facilities, jobs for seniors (cafe, etc.), rooftop ecological parks	· Reduced number of persons who are economically active in aging permanent rental houses · Collaboration among LH, Gwangju Metropolitan Government, welfare centers, and private companies → Provision of care and secure houses for the residentially underprivileged, along with medical services and commercial spaces

Tailored Residential Services for Consumers

Improving the quality of residential services by evaluating service quality and analyzing social values

Building a housing safety net and providing tailored residential services

Classification	Activities	Outcomes (2021)
Healthcare	· Forming and operating mental health committees (305 committees) and mental health counselors (433 persons) · Family care services by care employees (633 complexes, 1,198 persons)	· Holding mental health committees (345 cases) · Finding and helping with the hospitalization of persons facing mental health crises (61 persons), mental health counseling (130 cases), and support for households with compulsive hoarding syndrome (12 persons) · Preventing safety threats to self and others, preventing lonely death and suicide
Housing safety doctors	· Preliminary diagnosis and precise inspection of old rental houses by groups of safety experts, to identify vulnerabilities in areas such as disaster prevention and firefighting	· Supporting preliminary diagnosis and precise inspection (105 complexes) · Creating a safe residential environment in rental houses
Building a disaster relief system	· Installing relief facilities and raising an annual fund of KRW 100 million · Managing safety education regarding the Fire Service and facilities provided by relief associations	· Installing relief facilities (10 places) · Supporting relief funds (60 households)
Revitalizing the community	· Operating small libraries around the country · Operating autonomous programs involving resident participation	· Carrying out remodeling (46 places) and operating support centers (292 complexes) · Recruiting resident coordinators (272 persons) and improving cultural welfare services for residents

Strengthened residential services by building a new operating system centered on residents in 2022 (composed of 24 services in 4 areas)

01. Basic life services to enhance quality of life	02. Convenience services to enrich life	03. Demand-based services to help manage daily life	04. Housing management services for residents
1. Creating a safe environment (Disaster relief system, safety of employees at Happiness Centers) 2. Mental health services (Mental Health Protection Committee, counseling service) 3. Leading a proper housing culture (Housing culture campaigns, contests, etc.)	4. Life and cultural services (Small libraries, digital libraries, cultural tour projects) 5. Car sharing and community activities (LH Happy Cars, community activities) 6. LH Quick Home Care Service 7. Online platform service for residents	8. LH Happy Mom (Integrated platform for child education) 9. Caring for vulnerable groups (Care employees, etc.) 10. Supporting jobs (Job counseling and welfare) 11. Sharing and Win-Win growth (Local daycare centers, meal services for children, etc.) 12. Preparing a standard model for using idle spaces	13. Enhancing the quality of housing management services (Consulting, quality evaluation, education, etc.) 14. Conducting and managing contests for employees at Happiness Centers 15. Building an integrated housing management system

Supporting the Residential Stability of Socially Neglected Groups and Youths

Emergency Residential Support

LH builds a robust residential safety net and supports the everyday life of youths working toward independence, abused children, households facing residential crisis due to COVID-19, and houseless residents by improving systems and providing emergency support.

Building a residential welfare safety net for youths working toward independence, abused children, victims of domestic violence (sexual violence), low-income disabled persons, and displaced persons

Youth + Start project for youths preparing for independence

- Supporting the independence of persons coming out of care facilities (18 years old) and youth shelters
→ Provided 1,520 public rental houses (increased by 21% compared to the previous year, accounting for 60% of children leaving facilities annually) and improved the residential environment by providing 1,000 furniture sets

Supplying ‘connected child protection shelters’ to protect abused children

- Providing two connected rental houses as a shelter for immediate separation of victims from abusers and offering intensive counselling
→ Supplied two child protection shelters (Uijeongbu, Namyangju) → Preparing to establish eight additional shelters in Incheon, etc.

Providing community homes for victims of domestic violence, homeless persons, and single mothers

- Supplied 176 public rental houses (operating 1,943 houses cumulatively) and supported the rehabilitation of occupants

Conducted a demand survey on households facing temporary eviction crises and livelihood crises due to COVID-19 → Supplied 61 public rental houses for free (136 houses cumulatively)

Operated on-site groups to support persons displaced by forest fires in Uljin and Samcheok → Signed lease contracts and supplied houses

Relocation Support 119 Center

Operating Relocation Support 119 centers for houseless residents who live in dosshouses, greenhouses, etc. (operating 60 centers around the country)

- Collaborating with NGOs like the Dosshouse Counseling Center and local governments for one-stop residential improvement and support for relocation

Local governments, Field activists, LH	Relocation Support 119 Center	LH and Housing Welfare Foundation
Surveyed 9,217 houseless residents → 6,283 persons wished to be relocated	Searched and matched houses and received applications → Supported move-in and adaptation	Supplied 6,026 public rental houses and provided support of KRW 1 billion as settlement expenses

Life Protection and Care for Elderly Persons Living Alone

Using home doctors, care employees, and caregivers for seniors living alone

- Preventing lonely death and providing daily help to seniors and disabled persons → Operating home doctors for 4,540 households around the country and care employees in 633 complexes

Operating secure call services

- Checking conditions and preemptively detecting lonely deaths by working with public service workers → 126 complexes, 155 persons supported around the country

Building a smart care platform for seniors

- Checking location using ICT, two-way communication, medication guidance, etc. → Demonstrated the platform for 100 permanent rental houses in Gwangju Ssangchon

Participating in integrated senior care projects

- Combining housing support of LH with long-term care, life support, and healthcare services provided by local governments, the National Health Insurance Corporation, and private companies
→ House remodeling (removal of door sills and installation of anti-slip mats, gas timers, safety handrails, etc.) and supply of housing units (116 houses in Chuncheon, 90 houses in Hwaseong)

Many houseless residents who live in dosshouses and greenhouses based on the Patriot Living Condition Survey (1,600 persons) → Signed a MOU with the Ministry of Patriots and Veterans Affairs (August 2021) to ‘Provide Housing to Patriots,’ and supplied leased rental houses to families recommended by the MPVA (146 houses)

Helping 350 Sakhalin Koreans returning to Korea every year for three years according to the Sakhalin Koreans Act (January 2021) and Support Guideline (October 2021) → Fully supported lease deposits for the Ministry of Health and Welfare (KRW 1.12 billion) and reduced the rental burden in connection with housing benefits → Supplied rental houses (341 persons, 210 households)

Cost-price houses for youths (300,000 houses): Houses sold to 2030 youths at prices within the range of the construction costs (supporting up to 80% of the sale price)

First houses in station areas (200,000 houses): Houses on state-owned land were built in station areas and sold at low prices to newlyweds and first-time house buyers.

HOPE LH

Strengthening Public Safety

Improving Quality and Managing Safety

Inspecting Material Quality and Managing the Quality of Construction

LH has reduced defect rates and improved defect repair services through material quality inspections and quality management conducted by construction experts. LH also strives to manage the safety of houses and facilities, safety of seniors, crime safety, and disaster relief cooperation systems.

Continued occurrence of defects due to poor material performance and manufacturing and distribution of defective materials, requiring preventive management

- Inspecting eco-friendly standards for major construction materials, such as built-in closets, kitchenware, and ready-mixed concrete
 - Inspected six groups of materials and 34 companies, taking measures on five companies that supplied defective materials and reducing defect maintenance cost by KRW 9.8 billion (2021)
- Applied same materials to sold and rental houses of Hope Towns for newlyweds (15 kinds), identified excellent materials to reduce noise between floors, and promoted pilot projects

Poor construction quality due to the lack of experienced workers caused by employment centered on daily workers and youths avoiding jobs

- Implemented an expert certification system, quality management and function transfer system, and an expert quality improvement project (99 districts, 83 experts)

Improving Defect Repair Services

1,030,000 houses subject to management (increased by 110,000 houses compared to the previous year) and 680,000 defects handled (increased by 120,000 cases compared to the previous year)

- Shortened the defect handling period for rental houses: 76.2% of defects handled within 15 days (increased by 8.7% compared to the previous year)
- Managing defects that were not handled in the mid- to long-term: 0.5% of defects exceeding 90 days (decreased by 0.3% compared to the previous year)

Constructing Safe and Clean Cities and Houses

Enhancing safety in preparation for disasters

- Fire safety: Prepared ‘Fire Safety Certification Standards’ and ‘Fire Safety Standards’ for apartments, and improved wireless communication for firefighting and evacuation guide lights
- Earthquake safety: Enacted the LH Seismic Design Guidelines and raised the seismic grade for ‘critical’ bridges (1 → Special)
- Ground safety: Established a practical manual for excavation works, investigated accidents (sink hole, subsidence), and proposed measurement plans and management standards

Improving the installation standards for facilities to protect children, seniors, and the disabled

Safety for children (transportation facilities)			Safety for seniors (residential facilities)			Safety for the disabled (public facilities)		
Designating safety zones	Indicating safety zones	Facilities to prevent speeding	Restroom emergency calls	Sliding bathroom doors	Bathroom safety handles	Voice guide	Installation of braille blocks on stair landings	Removing height differences in parking lots
Adjusting pedestrian lines	Floor traffic lights	Eco-friendly blocks, etc.	Height-adjustable sinks	Corridor safety handrails	Emergency guide lights, etc.	Automatic doors for restrooms for the disabled	Expanding parking sections for the transportation vulnerable	Guide signs using brightness and chroma
Establishing safety zones for children			Supplying welfare houses for the elderly (8 complexes, 843 houses)			Barrier-free Certification and Universal Design* applied to public buildings		

* Universal Design (UD): Design in the fields of construction, environment, transportation, and services to offer a convenient and safe living environment for all

Ensuring secure buildings

- Prevention of fall hazards: Preparing installation standards for safety handrails for seniors and the disabled
- Fall prevention: Preparing installation standards for outdoor ladders and safety banisters on rooftops of buildings and facilities to ensure the safety of rooftop access
- Overturn prevention: Proactively preventing safety accidents by fixing and reinforcing dress room furniture

Crime-safe cities through implementation of new ICT

- Crime Prevention Through Environmental Design (CPTED): Improved seven rental complex facilities in Gangwon → Expanding the scope in 2022
- Secure restrooms for women (gender-authentication based access control system): Registered a patent in Korea (June 2021) and registered and implemented an international patent (2022)

Secure houses with clean air and water

- Developing an air quality management platform (O₂SIS): Stepwise air quality management for areas including residential spaces, basement parking lots, and outdoor spaces
- Preventing viral infections: Indoor air cleaning system with added anti-virus filters
- Sanitation and safety of drinking water: 100% corrosion-proof materials (stainless steel, bronze) used in all water supply lines, enhanced the lead acceptance criteria for water meters (0.25% ↓ compared to the U.S.), and implemented mandatory certification of water product safety (KC)

Building a Disaster Relief Cooperation System for Residents and Managing Safety

Building disaster relief governance: Installed disaster relief facilities (10 places) and raised relief funds (KRW 100 million for 60 beneficiaries)

- LH: Installed relief facilities in each region and raised relief funds (KRW 100 million per year)
- National Fire Agency: Conducted disaster prevention education and public relations and recommended candidates to be moved into relief facilities
- Korea Disaster Relief Association: Operated and managed relief facilities, delivered relief supplies, and operated funds

‘Zero safety accidents’ for residents

Classification	Activities	Outcomes (2021)
Firefighting inspection	· ‘Firefighting inspection QR code system’ for each household	Efficient performance management
Residential safety doctors	· Appointed safety experts (61 experts for disaster prevention and firefighting) and conducted precise inspections · Joint inspection and verification: Derived 3,000 points for improvement	Inspected 105 complexes
Special safety inspections for aging complexes	· Two safety inspections a year (4,763 places), four seasonal inspections a year (1,188 complexes) · Special inspections: Conducted ‘detailed safety assessments’ in 31 complexes that are 30 years old	Inspection system stricter than legal standards
Safety education for residents	· Elevator monitors: Fire drill and CPR videos (981 complexes) · Quarterly safety training: remote training for residents (1,106 complexes, 1,030,000 houses)	Enhanced the disaster response capability of residents

Protecting Personal Information and Preventing Violations

Personal Information Protection Management System

Exclusive organization (Information Security Center): Security Planning Team (planning and education), Security Control Team (response to cyberattacks), Cyber Safety Center (24-hour control)

Introducing an Integrated System to Prevent Leakage of Internal Data

Introducing safety management solutions (DRM) for electronic documents on PCs

- All documents that are encrypted to allow access only to authorized employees, thereby preventing external access to unapproved files
- Exposure of user information on printouts and monitors (digital watermarks): Preventing data leakage through use of photos

Introducing threat detection systems (EDR: A system that tracks leakage paths by automatically recording the preparation, viewing, and printing history of electronic documents)

Introducing internal data security and management systems

- Introducing cloud PC and preventing data storage on PCs: Periodically deleting data stored in external networks (PCs) (7 days)
- Building dedicated management networks for suppliers: Controlling data access of suppliers and supervising work procedures strictly

Unifying 11 guidelines and regulations and presenting specific cases that can be applied by persons in charge of handling important data

Regular security inspections for suppliers, such as information system maintenance companies (once a year → twice)

Replacing old equipment, introducing the latest equipment and software programs, and preparing for cyberattacks based on the latest detection policy (entrusted to the LH Cyber Safety Center)

Preventing Leakage Incidents and Providing Education to Improve Awareness

Managing the prevention of personal information leakage incidents

- Regularly inspecting access records and extending personal information liability insurances to compensate for damage incurred by persons in charge and victims

Education to improve system information management and awareness

- Improvement of the operation rate and advancement of systems by upgrading access record systems and installing security patches
- Disseminating information on violations and conducting education to prevent personal information leakage incidents

Promotion outcomes (2021): Attained zero security incidents for 8 consecutive years and zero personal information leakages

- Evaluation of information security management status: 71.2 points (increased by 9.0 points compared to the previous year)
- Assessment of personal information management level: 95.3 points (increased by 6.9 points compared to the previous year)
- Acquiring the ISO 27001 certification for information protection management systems (2022)

HOPE LH

Enhancement of Win-Win Growth

Win-Win Growth Policies and Activities

Win-Win Growth Promotion System

LH facilitates sustainable growth and increases the competency of SMEs by offering comprehensive support for various requirements, including start-up, employment, financial support, technology, R&D, commercialization, sales channel, and public relations.

Promotion goals: To secure the driving force for the sustainable growth of LH and foster small giants in the construction field

- Providing continual support and spreading a culture of Win-Win growth until SME suppliers grow into small giants

Promotion strategy: Establishment of a fair trade culture, reinforcement of future business capabilities, and support for the growth of SMEs

Promotion plans (2022)

- Formed a taskforce to become a leader in terms of Win-Win growth culture (2022)
- Promoting 42 action tasks in four areas: startup and employment; technology and R&D; expanding sales channels and public relations; and communication and cooperation

Start-up and employment	Technology and R&D	Expanding sales channels and public relations	Communication and cooperation
<ul style="list-style-type: none">· LH Social Venture Project (Established 20 new teams and promoted 2 teams for start-up support and 10 teams for growth support)· Support for the long-term service of core human resources of SMEs through the Naeil Cheum Fund	<ul style="list-style-type: none">· LH-certified technology contests (1st general construction technology area, 2nd general construction technology and ESG management areas)· Joint R&D investment with the government	<ul style="list-style-type: none">· Expanding the purchase of products from SMEs (KRW 7.3 trillion)· Hosting the Smart Construction Expo· Publicizing SMEs and exhibiting products through the World Smart City Expo	<ul style="list-style-type: none">· Tripartite agreement among LH, the National Commission for Corporate Partnership, and SMEs and operation of the Together Grievance Handling Team

Win-Win Growth Support Programs (2021)

Supported start-up and employment

- StartUP Didimdol Project: Provided support with funding, mentoring, and education to foster young entrepreneurs, SMEs and start-ups (14 teams, KRW 130 million)
- Provided support for employment in connection with the Naeil Cheum Fund: Provided incentives to core human resources of SMEs who worked for 5 years or longer (127 persons, KRW 150 million)
- Youth Job Hope Fund: Supported competency development and job-seeking activities of youths (19-34 years old) in cooperation with Gyeongnam National University of Science and Technology
- Job fair and payroll for recruited personnel: Supported the recruitment of local talents (graduates of schools in Gyeongsangnam-do) of SMEs (twice a year)

Financial support

- LH-IBK Win-Win Growth Loan Fund (KRW 200 billion): Provided support with low-interest loans for SMEs (135 cases, KRW 35.7 billion)
- Technology guarantee support: Provided guarantee for financial loans availed by SMEs using financial sources funded by LH to Korea Technology Finance Corporation

Technology and R&D support

Developed new products to induce purchases	Adopted new technologies and products proposed by SMEs and supported development expenses jointly with the Ministry of SMEs and start-ups (10 companies, KRW 1.89 billion)
LH-certified technology contests	Selected SMEs with outstanding technologies through contests to demonstrate them at LH sites and generate early sales channels (26 cases, KRW 27.9 billion)
Innovative partner project	Provided consulting to innovate manufacturing capabilities, management, export, and productivity of SMEs (10 companies, KRW 300 million)
Win-Win smart plants	Built smart plants for SMEs selected through new technology contests and supported equipment purchase (20 companies, KRW 2.3 billion)
Performance sharing system	Shared performance among principals and contractors (35 companies, KRW 10 million)

Support for commercialization, sales channels, and public relations

- Product purchases: Purchased innovative products (KRW 39.5 billion), purchased products from SMEs (KRW 7.3 trillion), and provided test beds for innovative products (2 companies, KRW 300 million)
- Integrated technology market for SOC public institutions: Supported the participation of SMEs in the public procurement market for the entire range of activities, from technology development to purchase, using a one-stop platform for commercializing and publicizing innovative technologies by SMEs

Resource sharing and human resource support

- Hosted a start-up competition by releasing public data and using big data (total prize of KRW 20 million)
- SMEs supported by competent, wage peak LH employees (42 persons dispatched to 41 companies)

Support for Overcoming the COVID-19 Crisis

Reducing the rent burden of small business owners (reduced by 25%)

- Extended rent exemptions for small business owners, such as daycare centers and rental shopping districts (2,150 places, KRW 3.66 billion)
- Provided rent exemptions for companies in rental industrial complexes and public buildings (199 companies, KRW 4.22 billion)

Rent Exemptions for Small Business Owners (2021)

Private daycare centers	Rental shopping districts	Total	Rental industrial complexes	Public buildings	Total
263 places	1,887 places	2,150 places	134 companies	65 companies	199 companies
KRW 0.54 billion	KRW 3.12 billion	KRW 3.66 billion	KRW 3.15 billion	KRW 1.07 billion	KRW 4.22 billion

Providing tailored job spaces for different groups (free/50% of market prices)

- Youth: Opened the ‘Sejong Youth Center’ as a start-up school supervised by the Ministry of SMEs and start-ups (provided 44 places for free)
- Middle aged persons: Cooperation with the Sejong Happy New Middle Aged Support Center
- Seniors: Opened silver cafes supervised by Siheung to provide a space for educating and training senior baristas

Improved funding conditions for contracted companies and suppliers

- Doubled the private contract limit: Comprehensive construction (KRW 200 million → KRW 400 million); specialized construction (KRW 100 million → KRW 200 million); other construction (KRW 80 million → KRW 160 million)
- Shortened the bidding time: Emergency bidding if necessitated by financial policy, allowing private contract if bidding fails one time
- Shortened the payment period: Inspection period (14 → 7 days), price payment (5 → 3 days), advance payment (14 → 5 days)

Revitalizing Communication and Cooperation Channels

Expressed the CEO’s commitment for Win-Win cooperation (August 2021)

- Regularized Win-Win councils and meetings with construction businesses, listening to the challenges experienced by subcontractors and material suppliers and addressing these in LH’s management and projects

CEO-driven on-site communication

- Prepared direct communication channels for SMEs to listen to their concerns and support their overseas entry
 - : Construction Association of Korea (July), Korea Specialty Construction Association (August), Global Business Convention (November), etc.

Held a Win-Win meeting with construction business management companies (October 2021)

- Exchanged related systems and technologies among LH and suppliers, jointly seeking solutions to social issues and repeated complaints about construction sites

Held a meeting with the management offices

- Prepared response systems to protect the rights of employees at management offices: Prevention (6), occurrence (3), and follow-up measures (2)
- Unified maintenance fee system: Developed and opened the Integrated Housing Management System, sharing information on maintenance fees for 1,200 complexes around the country

Revitalized the Corporate Growth Response Center

- Corporate Growth Response Center: A center that offers online and offline communication channels for SMEs to innovate public regulations and receive complaints and suggestions from SMEs
- Conducted a working-level meeting to prepare operating guidelines and listen to the challenges experienced by SMEs (December 2021)

Managing ESG Activities in the Supply Chain

ESG Support Activities for Suppliers

LH will motivate suppliers to strengthen their ESG activities through preferential procurement from suppliers that demonstrate excellence in ESG and support for their activities in this respect. Meanwhile, LH plans to manage supply chain risks by evaluating and improving the social and environmental impact of activities conducted by our suppliers.

Preferential procurement from companies that demonstrate excellent performance in ESG: Revising the criteria for selecting and evaluating companies from which LH makes direct purchases of materials, preferential purchases of green and eco-friendly products, etc.

New technology contests reflecting ESG values: Contests to discover excellent new technologies and ideas in terms of low carbon green cities, zero energy construction, clean energy, and environmental restoration and conservation

ESG training and assessment for suppliers: LH implements ESG training and consulting for suppliers and gives additional points to suppliers that promote businesses after the ESG evaluation

- Continued on-site environmental consulting services (three sites)
- Conducted ESG innovation consulting by financing the Win-Win Funds of the Ministry of SMEs and start-ups and through the the Innovative Partnership Support Project (8 companies, KRW 0.24 billion in 2022)

HOPE LH

Creating Quality Jobs

Creating Jobs and Improving the Quality of Jobs

Job Creation Goals

LH creates jobs by actively seeking job opportunities and making investments. At the same time, we strive to improve the quality of jobs. By removing discrimination throughout the hiring process and expanding opportunities for fair recruitment, we are enhancing the transparency of recruitment.

New job creation goals to increase the number of jobs and improve job quality (2021)

Job Creation Goals of LH (2021)

Vision	Sharing good jobs and hope with LH		
Directions	Exploring Win-Win and cooperative jobs	Increasing the number of jobs linked to projects	Strengthening job-centered management
Tasks	1. Increasing the number of participatory jobs for residents 2. Creating jobs linked to social enterprises 3. Exploring jobs in collaboration with local governments	4. Expanding the number of contractor jobs 5. Actively exploring direct employment jobs 6. Creating jobs based on original project platforms	7. Continually increasing investments in jobs 8. Strengthening the management and operation of subsidiaries 9. Creating a worker-friendly job environment
Goals	To create jobs for 12,993 persons (7.6% ↑ compared to the previous year) and improve the quality of jobs (creating a worker-friendly job environment)		

Actively discovering jobs

14,065 jobs in 2021

Direct employment
(3,141 jobs) +

indirect employment
(7,969 jobs) +

start-up space support
(2,955 persons)

Expanding direct employment and recruiting groups who have difficulties finding employment

- Purchase counseling and rental market survey assistants (427 persons), urban regeneration experts (598 persons), youth interns (497 persons), leased rental condition surveyors (26 persons)
- Care employees (house management assistants, 1,198 seniors aged 60 years or older), coordinators for small libraries (resident reading programs, 272 librarians), Caregivers for seniors living alone (calls to prevent lonely death and guidance on housing welfare systems, 80 disabled persons), etc.

Jobs created by subsidiaries: Housing welfare call center counselors (134 persons), new workers for the management of office buildings (228 persons), etc.

Creating jobs for youths

- Announced new recruitment of youth interns (497 persons) and regular employees (250 persons) → Ratio of regular employees recruited among youth interns (March 2021): 9%
- Providing recruitment ladders through job-seeking competency programs, job-seeking knowhow, and incentives for regular employees (exemption from document screening for outstanding interns)
- Supported youth start-ups (132 persons) by changing sales facilities into research and educational facilities
→ Youth Start-up School (April 2021) : Provided 44 Sejong Youth Centers for free
Webtoon Campus (November 2021): Provided 15 work rooms and 2 lecture rooms for young cartoonists and webtoon companies and selected 70 students

One-stop outreach for job counseling and job-seeking service

- Supported residents of rental houses with job-seeking activities by providing tailored job information (weekly visits and phone calls in 102 complexes, six metropolitan areas) → 17,421 counselling cases for job-seeking and welfare (2,344 cases of follow-up management), 834 persons employed, and 584 persons registered for the national job-seeking support system of the Ministry of Employment and Labor

Creating a worker-friendly job environment

- Strengthened safety culture at construction sites: Safety advisory at sites (187 places), preventive inspection, environmental improvement associated with dangerous tasks, and internal safety evaluation
- Protected construction workers: Reduced overdue wages by 57% by applying the Zero Overdue Wage System and making payments through the Subcontract Protector of the Public Procurement Service
: 54 cases/KRW 2.1 billion (2020) → 28 cases/KRW 0.9 billion (2021)
- Improved the working conditions for housing management workers: Improved the system for protecting security workers' rights (preventing unfair instructions, reducing complaints about noise between floors, etc.)
- Preferential treatment of job-creating companies: Preferential treatment during eligibility review for technical services and inclusion of employment stability as an item in the review criteria

Improving Job Quality

Creating a Healthy Workplace Environment

Improving Work-Life Balance and the Work Environment

LH continually strives to create and maintain a safe and healthy work environment where employees can work securely. We innovate ways of working by efficiently operating human resources and improving the work system. Further, we resolve pending issues reasonably through cooperation and communication between labor and management.

Enhancing effectiveness by improving the leave system, introducing flexible working systems, establishing a management system, and making systemic improvements

Classification	Activities		Performance
Improving the leave system	Family care leave	Expanded from 10 days → 20 days	Actively supported work-life balance (maintained the family-friendly certification)
	Leave for prenatal checkups	Subdivided into each pregnancy stage	
Minimizing extended working hours	Black-level operation	Complete lights-off policy to ensure employees' right to rest	Created the mood for leaving work on time (preventing violation of the 52-hour workweek)
	Link with internal evaluation	Reduction in overtime work compared to the previous year	

Creating a safe and healthy workplace to work securely

Classification	Mental Care	Health Care	Improving Labor Environment
Enhancing employees' health and wellbeing	· 19 mind shelters (6 new shelters) · 6,400 psychological counseling cases · Mind healing camps (4 times, 220 participants)	· Health promotion programs (82 courses, 7,600 persons) · Healthy bicycles (102 bicycles)	· Cleaning chairs for offices and meetings (4,200 chairs) · Remodeling the resting spaces for employees · Separation of smoking and non-smoking spaces
Safe work environment	· Verbal abuse prevention coloring · Two numbering · Maeum Forest online platform	· Prevention of musculoskeletal diseases (11 spinal heat beds)	· Smart work centers (2 new centers) · Total care supporting the quarantine of patients confirmed for COVID-19 (31 persons)

Education to foster job expertise

- Strengthened the certification requirements (absolute evaluation → relative evaluation), created new expert types (construction technology, regional specialization, specific jobs), and made ethical education mandatory

Job competency education

- License acquisition by employees: Supported the acquisition of job-related licenses, in areas such as housing welfare, technical experts, engineers, etc. (331 licenses acquired in 2021)
- Personalized digital education through analysis of lecture data, special lectures on IT trends (September 2021), and consignment education on drone works by a specialized institution (69 persons)

Improving the performance evaluation system

- Non-metric evaluation: Increased the ratio of experts among evaluators (general managers and managers) to 30% and expanded the evaluation sessions (1 → 2) and number of evaluators (3 → 6 persons)

Conducted two-track job assessment for all employees → Statistics on the assessment results → Setting job grades → Finalized results of the Job Management Committee (including the labor union)

- Deduced 5-level job grades according to the results of job assessment and established a system of differentiated remuneration by reflecting job values in basic salary

Labor-Management cooperation system

- Built permanent (CEO & Labor Union Leader interviews, Labor-Management Working Council) and regular (Labor-Management Council, Occupational Health and Safety Committee) systems for cooperation
- Introduced a system to enable laborers (one person recommended by the labor union) to attend BOD meetings to increase the transparency of the management process (from June 2021)

Settling pending issues related to management and labor in a reasonable manner

- Successfully implemented internal innovation measures through a labor-management agreement and the government's innovation measures: Job-centered remuneration system, improved human resource operations, etc.
- Reached a final agreement on total wage increase rate according to the government's guidelines (signed the 'Collective Wage Agreement' during the year for 5 consecutive years)

Two-way, bottom-up communication channels between management, labor union, and employees

- Labor: Special Participation Committee, Labor Union Bulletin Board
- Management: CEO Communication Meeting, Junior Integrity Board, LH Innovative Suggestions

Competency Development Training

Performance Evaluation and Remuneration

Mutual Respect and Communication between Labor and Management

Respecting Diversity and Preventing Violations of Human Rights

Respecting Diversity

LH ensures the diversity of human resources by fostering female personnel, recruiting persons from socially diverse groups, and eliminating unreasonable discrimination. By improving and providing education on the human rights impact assessment and grievance process, we practice management centered on human rights.

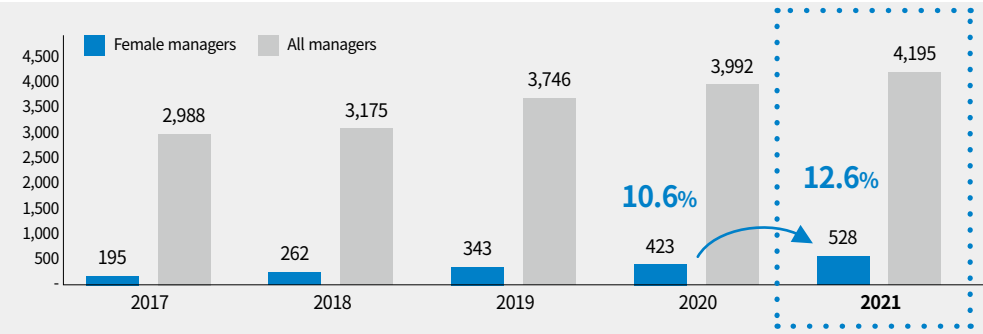
Respect for diversity as a means to increase organizational competitiveness and accomplish social values

· Providing equal opportunities for social minorities, such as women, the disabled, and veterans, and attempting to increase the diversity of human resources

Fostering female personnel

· Increasing the promotion of competent women to higher positions by enforcing promotions based on performance and ability
· Appointing a female division head (one of nine divisions) and assigning female directors in major departments such as the Personnel Management Office

Trend showing an increasing number of female managers



· Expanded the number of female executives (2021): Selected two out of five new non-executive directors from among female candidates (three female non-executive directors in total)
· Implemented work-life balance systems to enhance work engagement: Staggered time system, family care leave, short-time work method, working from home, etc.

Recruitment considering social diversity

Classification	Efforts to Expand Recruitment	Expected Effects
Local talents	<ul style="list-style-type: none">Increased the target ratio (24% → 30%)Expanded the scope of areas (Gyeongnam → Gyeongnam and Ulsan)	<ul style="list-style-type: none">Increased the employment options and the number of local talents recruitedReduced overvaluation of universities within the organization
Talents from non-capital areas	<ul style="list-style-type: none">Recruitment target ratio of 35%Guaranteed to work within the region for 5 years	<ul style="list-style-type: none">Favorable recruitment conditions for talents from non-capital areasBalanced regional development through recruiting talents from non-capital areas
Disabled	<ul style="list-style-type: none">Double the legal ratio (3.4% → 7.2%)Bonus points (5% for general disability, 10% for severe disability)	<ul style="list-style-type: none">Increased opportunities for outstanding talentsPreparation of opportunities for job experience, social entry, and rehabilitation
Patriots and veterans	<ul style="list-style-type: none">Increased the target ratio to exceed the legal ratio (6% → 8%)	<ul style="list-style-type: none">Increased the recruitment of patriots and veterans
Low-income classes, etc.	<ul style="list-style-type: none">Additional points when reviewing documents for recipients of basic livelihood, North Korean defectors, and multicultural families (5%)	<ul style="list-style-type: none">Provided class ladders to low-income classes

Non-discrimination

Removing discrimination against high school graduates, non-fixed-term contract workers, special jobs, and women, and improving the way they are treated

· High school graduates (job grade 6): Free education at the in-house university (LHU), promotion of top 70% of employees who have worked for 6 years or longer (including military service) to job grade 5
· Non-fixed-term contract workers (office workers): Expanded eligibility for promotion from job grade 6 from 5 years of service or longer to 3 years of service or longer
· Special jobs (special services, experienced): Switched to ordinary jobs, acknowledging all career experiences for the recruited duties
· Women: Removed differential treatment of women in promotion, such as parental leave, and established a system of special leave for family care and prenatal checkups

Improved the treatment and method of evaluating wage peak employees

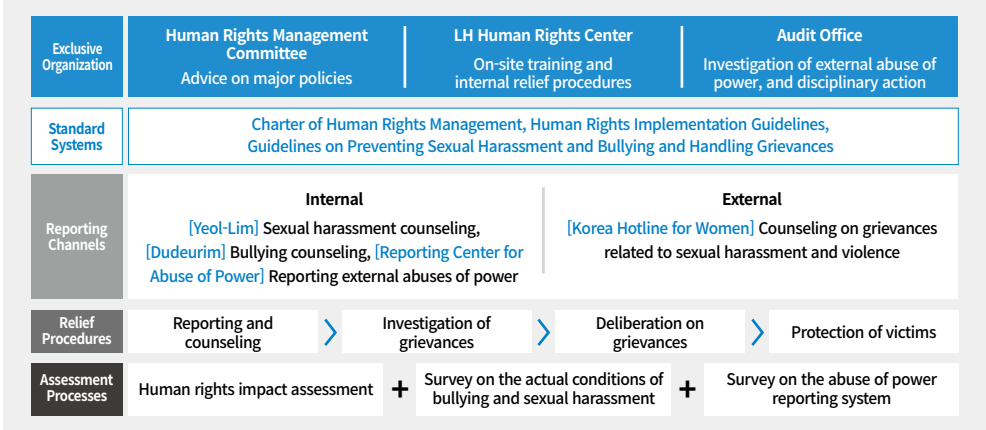
· Shortened the position exclusion period for high positions (job grade 2 or above) from 4 years to 3 years
· Changed the non-metric evaluation (by department directors) to a metric evaluation (achievement of targets) to introduce objective evaluations of work performance

Human Rights Management

Human rights management system of LH

· Operating exclusive organizations, reporting channels, and relief procedures to prevent and respond actively to issues and conflicts related to human rights

LH Human Rights Management System



Risk management through human rights impact assessments

· Human rights impact assessment: A procedure for identifying and evaluating the actual and potential risks where corporate activities can have an adverse impact on human rights
· Targets of evaluation (2021): Urban regeneration projects
· Identifying the human rights impact factors of stakeholders in each project stage and mitigating negative factors : 34 indicators in 8 domains → Derived 13 points for improvement (respect for the human rights of land owners, protection of intellectual property rights, etc.)

Improving the grievance process for human rights violations

· Strengthening investigation rights: Securing investigation rights through audit requests on non-cooperation
· Protecting victims: Providing counselling expenses (within KRW 2 million) and paid leave (up to 20 days)
· Establishing a new procedure for handling high positions: Transferring cases to the competent government ministry (Ministry of Land, Infrastructure and Transport) if the human rights violator is an executive
· Preventing recurrence: Right to request retrial, offender obliged to complete education (10 hours or longer)

Human rights management education and public relations

· Guerilla style visits and monitoring of small-scale sites (7 persons or less) to resolve grievances (8 times)
· Outreach Grievance Counseling Office: Proactive counseling (all employees), protection of human rights, and grievance education (intermediate managers and higher)
· In-person education on gender sensitivity: In-depth expert education for department directors, regional headquarters directors (102 persons), intermediate managers (873 persons)
· Sending out CEO letters: Declaring directions for the prevention and eradication of human rights violations to managers (896 persons)

Activities to protect human rights in everyday life

Right to housing	Guarantee of housing rights	· Provided emergency houses to households facing the COVID-19 crisis (550 houses)
Right to survival	Support for vulnerable groups and small business owners	· Provided free relief facilities (100 places) and relief funds (KRW 100 million) · Provided Hope Sharing Cards to vulnerable groups (5,000 households, KRW 100,000 each) · Offered 25% discount on daycare center rents in rental shopping districts and complexes around the country (KRW 3.66 billion)
Right to safety	Support with quarantine supplies	· Inspected the quarantine conditions at small-scale construction sites and prepared response measures · Provided winter supplies and necessities such as winter clothes, heaters, curtains, etc. to vulnerable groups (268 households)
	Overcoming blood supply problem	· Conducted large-scale group blood donation (1,246 persons)
Right to education	Support for child education	· Delivered play and learning kits to children from vulnerable backgrounds (1,300 persons)
Right to health	Mental care	· Expanded the number of professional counseling offices (13 → 19 places) · Face-to-face counseling (6,363 cases), online job stress surveys (1,500 cases) · Outreach counseling services (49 business sites, 1,094 persons)
	Safety management	· Recruited new health and safety managers (9 safety, 13 health) · Produced and distributed industrial accident response manuals (3,000 copies), free emergency counseling service for labor law firms (44 companies)

HOPE LH

Strengthening Balanced Regional Development

Revitalization and
Balanced Development
of Regional Economy

Foundation for Daily Life
Combining Housing, Jobs,
and Living Infrastructure

LH contributes to the revitalization and balanced development of the regional economy, expanding public investments and job opportunities by creating a foundation for daily life that combines housing, jobs, and living infrastructure, as well as a foundation for growth linked to specialized regional industries, the supply of houses suitable for farming, and the development of smart cities.

Building and nationally disseminating housing platform infrastructure for farming, and fishing villages and villages in mountainous areas (2021)

- Responding to population risks such as regional extinction, population decline, and super-aging, and supplying ‘housing, life SOC, and jobs’ to improve living conditions
- Building a collaboration system between the government (Ministry of Land, Infrastructure and Transport, Ministry of Agriculture, Food and Rural Affairs, Ministry of Oceans and Fisheries), and LH to secure the driving force and sustainability of projects

Selected 10 cities and districts, 10 towns, and 909 houses in connection with the project implemented by the Ministry of Land, Infrastructure, and Transport (2021)

Outcomes (2021)		
Linked to small schools	Provided housing spaces for transferred families in connection with a project helping small schools at the risk of closing down	11 places including Geochang and Yeongdong
Linked to youth start-ups	Supported housing in connection with regional start-up infrastructures (start-up support centers, smart farms, etc.)	5 places including Jeongseon and Cheongyang
Linked to jobs	Provided housing spaces to workers in connection with jobs at nearby industrial complexes	6 places including Gochang and Gangjin

Introduced the Hamyang Housing Platform Project and ‘Smart Home Healthcare’ (2021)

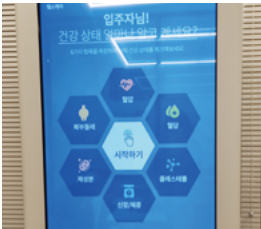
- Smartphone app and healthcare: Tailored self-management, such as measurement of health parameters, disease prediction, and medication guidance
- Medical support through collaboration with health centers: Health examination (6 items), through regular visits by nurses, to measure indicators such as blood sugar and neutral fat levels



Move-in Ceremony for Hamyang Housing Platform Project



Housing Platform Concept



Introduction to Hamyang Smart Home Healthcare

Implementing customized projects to revitalize farming areas in response to population loss and decline in local government regions and farming villages

Back to the Land	Regional Shared Growth	Village Renovation
38 houses in 2 districts, including Boseong Ungok	2 districts, including Hadong and Dongtan	1,540 houses in 78 districts, including Gwangju Wolsan
Rural housing spaces combining a vegetable garden and a detached house (60 m ²)	Provision of a detached house (300 m ²) through profit-sharing REITs between the capital area and rural areas	Supply of houses and improvement of living conditions through collaboration between MOLIT, local governments, and LH

Building Smart Cities
Through Community
Cooperation

Building smart cities by promoting international certification, with local governments running smart city projects together with LH

Promotion activities and outcomes (2021)

- Smart city certification (ISO 37106): Comprehensive evaluation of efforts to utilize urban information such as digital information and data, citizen involvement, and city management
- World Smart City Expo (WSCE): Gathering of global institutions related to smart city to conduct technology exchanges, seminars, and investments
- Acquired the world’s first certification for Sejong (2018) and 7 local governments (by 2021), hosted in the 5th World Smart City Expo (September 2021)

Promotion plans (2022)

- Additional certification of three cities and hosting of the 6th World Smart City Expo (August-September 2022)

Investing in Social
Infrastructure

LH has created an industrial ecosystem that drives innovative growth by developing national industrial complexes for growth, attracting anchor facilities, providing space to foster industries and talented individuals that can lead the innovation of cities, and building social infrastructure.

Developing National
Industrial Complexes

National industrial complexes: Industrial complexes developed to support smart traffic, safety, and energy to foster high value-added industries (materials and parts) and future industries (bio and future cars) with large growth potential

Creating an industrial ecosystem that drives innovative growth instead of simple plant clusters

- Fostering tailored and specialized industries: Advanced materials and parts (Sejong), bio and life science (Osong 3), bio-health (Chungju)
- Developing future-oriented industrial complexes: Application of industry-university cooperation systems and standard models for smart industrial complexes
- Signed infrastructure support agreements with local governments (providing KRW 721.8 billion in support to three districts)
- Developing housing complexes for workers at industrial complexes
→ Applied for approval of industrial complex plans (3 sites, 11.76 million m² in December 2021): Created 22,000 jobs and an economic effect of KRW 3 trillion

Revitalizing Innovation
Cities

Creating interactive and tailored settlement infrastructure through intimate communication with communities (project for the improvement of settlement conditions in Jinju)

- Developed an integrated cultural park to enhance convenience and provide a complex leisure space (KRW 7.1 billion)
- Built a cultural library complex to create an educational culture and communication platform (KRW 49.5 billion)
- Installed pedestrian traffic lights on floors to improve pedestrian safety infrastructure (KRW 0.4 billion)

Designated unsold clusters for urban industrial complexes (Chungbuk and Gyeongbuk Innovation Cities)

- Offering tenant companies up to 75% exemption on corporate tax, acquisition tax, and property tax
- Diversifying tenant business types while focusing on specialized regional industries
- Creating a base to revitalize clusters through complex development of corporate spaces, public support facilities, and job-linked accommodation

Creating Spaces
to Foster Industries and
Talented Individuals

Innovative growth centers: Complex buildings that provide various services, such as industries, housing, convenience facilities, and education

- Creating spaces for corporate growth to secure jobs for local youths
: Providing physical infrastructure (offices, Happy Housing, life SOC, public facilities) and supporting programs for the growth of companies (start-up education, industry-university-research network, sales channels)
- Incheon Namdong (knowledge information): Space to foster one-person creators and the communication capabilities of youths
- Daegu Yulha (autonomous driving vehicles): Living lab for regional small giants and R&D infrastructure
- Daejeon Jangdae (advanced sensors): Launched the K-Sensor Valley and planning to accommodate specialized companies (50 companies)
→ Fostering specialized regional industries by increasing the number of urban industrial complexes (9 places) and attracting anchor facilities for start-ups

Campus innovation parks: Urban industrial complexes that enable venture start-ups and corporate growth by utilizing the innovation capabilities of universities and unused sites

- University Talent Fostering Project (2020): Construction in progress at Hannam University, Hanyang University, and Kangwon National University
- Two new universities (2021): Signed agreements with Kyungpook National University and Chonnam National University and applied for industrial complex plans
- Continued expansion of the project (from 2022): Additional recruitment of universities, commencement of the Industry-university-research Innovation Hub



Campus Innovation Park of Kyungpook National University



Campus Innovation Park of Chonnam National University



Renovating Housing Vulnerable Areas and Creating Community Spaces

Stabilizing Housing for Vulnerable Groups and Revitalizing Regions through the Renovation of Housing Vulnerable Areas

LH identifies community projects to stabilize the housing supply and revitalize regions, creating a virtuous cycle to help vulnerable groups in the community.

Promoting new projects in the largest clustered dosshouse areas, including ‘Seoul Station Dosshouse Village’

- Proposed designation of Seoul Station as a project district (January 2021), applied for district planning of Yeongdeungpo Station (July 2021), received approval for the district plan of Daejeon Station (December 2021)
- Reflected resident opinions regarding resident relocation measures and compensation measures (land compensation)
- Prevented the forcible eviction of residents of dosshouse villages by offering rights to move into public rental houses through the amendment of the Enforcement Rules of the Special Act on Public Housing (February 2021)
- Increased the ratio of preferential supply (60% → 100%) and eased the criteria for selecting tenants (persons who have resided in the area for at least three months prior to the date of announcing the compensation)
- Improved conditions by establishing criteria for exemption from mandatory installation of parks and green areas through the amendment of the Enforcement Decree of the Act on Urban Parks and Green Areas (March 2021)

Yeongdeungpo Dosshouse Village Development Project



Complex 2		Complex 1	
Permanent rental housing units (370 houses), Social Welfare Center	Happy Housing units (220 houses), local convenience facilities	Multi-purpose housing units (225 houses)	Studios

Location	Yeongdeungpo-dong, Yeongdeungpo-gu, Seoul (area with a poor housing environment requiring urgent urban renovation)
Area	9,948㎡
Number of houses	815 houses - 225 multi-purpose housing units, commercial facilities, studios - 370 permanent rental housing units, 220 Happy Housing units
Project plan	From July 2020 to December 2026 - Assignment of the district (July 2020) - Compensation (from October 2021) - District planning (January 2022) - Commencement of construction (from October 2022) - Project completion (December 2026)

Creating Autonomous Community Spaces for Residents

Created resident community spaces through the small library revitalization project

- Improved facilities and supported operations (LH), provided human resources and supplies (local governments, related agencies such as the Publication Industry Promotion Agency), and donated books and talents (residents)
- Remodeling (46 places), support centers (292 complexes), recruitment of resident coordinators (272 persons), support for operating personnel (57 persons), talent donation through cultural programs (89 complexes, 232 programs), support for the program expenses (KRW 6.9 billion), etc.
- Benefits of small libraries compared to costs: 4.31 times based on the measurement of social value (research service by the Korea Service Management Society in 2021), revitalization of community culture through small libraries



Small Library Remodeling



Small Library Opening Ceremony



Resident Community Activity

Social Contribution Together with Residents

Supporting Communities to Overcome COVID-19

LH provides various donations and conducts volunteer activities to stabilize the livelihood of socially neglected groups and overcome related social crises. We have been gradually expanding our exchanges and communication with the community by identifying and developing social contribution programs suitable for each region.

Provided rent and maintenance fees to long-term overdue households (KRW 200 million by LH and KRW 130 million by three banks) and provided support with security deposits for relocation (101 households, KRW 3 million per household)
Lowered the rents for industrial complexes by 25% (199 companies, KRW 4.22 billion) and extended 25% lowered rent in commercial districts (1,887 companies, KRW 3.1 billion)
Distributed the LH Hope Sharing Card, a local currency made in collaboration with Kyongnam Bank, to vulnerable groups (5,000 households) in Gyeongsangnam-do (KRW 100,000 per household, KRW 500 million in total)
Purchased and provided traditional market gift cards (KRW 1 billion) to recipients of basic livelihood (10,000 households)
Donated (KRW 100 million) to the ‘2022 Hope Sharing Campaign- Raise the Temperature of Love’ (Community Chest of Korea)

Operating Various Social Contribution Programs and Volunteer Activities by Employees



Volunteer Activities Conducted by Employees

Provided temporary housing and living conveniences to victims of forest fires in Uljin and Samcheok (KRW 100 million)

Happy Companion Wedding

- Wedding and celebration ceremony held at the LH headquarters for couples (15 pairs) who had married without a wedding and live in rental houses (from 2004, 258 pairs supported cumulatively)

Guaranteeing the housing rights and learning rights of children

- Signed a MOU with the Green Umbrella Child Fund and local governments to improve the housing environment and provide study rooms for housing-deprived children
- Delivered children’s kits (snacks, school supplies, block pots, and carnations) to LH Happy Dream Centers (43 places, 1,330 recipients) on Children’s Day
- Raised Happy Funds to support the mentoring of children in rental houses, afterschool care services, meal services in rental complexes during vacations, English education for children in connection with foreign adopters, and treatment of diseases among socially neglected children

Sharing on traditional holidays

- Delivered local agricultural gift sets such as rice cake soup, prepared jointly with the Gyeongnam Volunteer Center and Gyeongnam Community Chest, to households of seniors living alone (1,000 households)
- Delivered food and daily necessities to social welfare centers, children’s centers, multicultural family support centers, and rental housing complexes at each regional headquarters around the country
- Delivered Onnuri gift cards and local agricultural products, such as rice cakes, to residents of permanent rental houses

Warm wintering

- Provided briquettes and heating kerosene to socially vulnerable groups (305 households) (from 2015, 4,000 households supported cumulatively)
- Purchased food ingredients from local SMEs and made kimchi with 100 persons of the LH Sharing Volunteer Group (1,000 households)

LH Sharing Volunteer Group

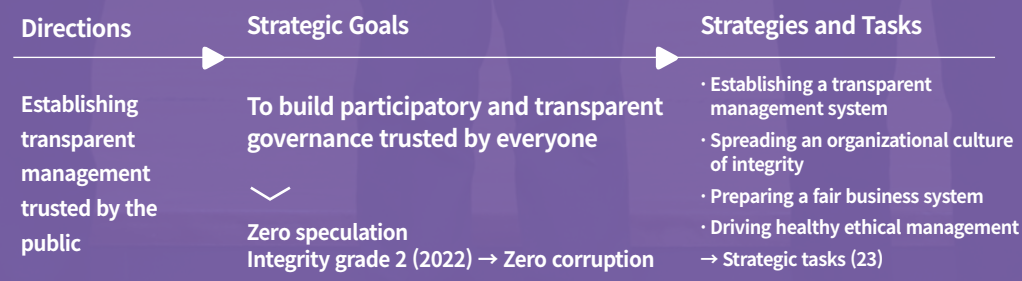
- Operating a volunteer group of employees that conducts various social contribution activities linked to LH projects (from 2009)
- Supporting the renovation of old houses for socially vulnerable groups and providing daily necessities using share funds raised by LH employees
- Volunteering in farming villages that experience difficulties due to a reduced number of foreign laborers
- Group blood donation by employees to treat children with leukemia and pediatric cancer (1,039 persons)



CLEAN LH

Management Approach for CLEAN LH

Governance(G) Management System



Analysis of Crises and Opportunities

- Loss of public confidence in LH due to real estate speculation carried out by some employees
- Enactment of the Conflict of Interest Act (May 2021) and amendment of the Public Service Ethics Act (April 2021)
- Financial conditions worsened by the intensifying instability of the financial market and increasing policy investments
- Rising need for management of non-financial risks (governance) in line with ESG regulations and management paradigms

LH's Approach

- Building a powerful internal control system to eradicate and prevent real estate speculation
- Establishing and implementing comprehensive measures to improve integrity and promote company-wide innovation, such as the prohibition of illegal speculations, formation of transparent work processes, and reinforcement of legal compliance and ethical management
- Revitalizing communication channels, such as the LH Innovation Committee, and opinions to recover public confidence
- Establishing a fair and transparent governance structure with integrity through LH's ESG management system

CLEAN LH in Numbers (2021)



97% Mean participation rate of the BOD	20% Ratio of female directors in the BOD	52 cases Proposals by non-executive directors	11 cases Proposals by standing auditors
99.9% Property registration rate by employees	4 times Compliance Committee meetings held	74.7 points Ethical management index	0 (Zero) Controversy over the fairness of design contests in 83 districts
8 times LH Innovation Committee meetings held	139 opinions Number of opinions submitted during citizen reviews	4 times Planned audits on corruption-vulnerable areas in each project stage	13 points Improvement points derived through the human rights impact assessment



Major Activities

- Increasing the diversity and expertise of the BOD
- Revitalizing the BOD by expanding resolution structures and the participation of non-executive directors, as well as by operating subcommittees specialized in areas such as compliance with ESG and ethical standards
- Enhancing the risk management system and conducting active risk response activities
- Strengthening internal control through a three-step control system, innovation of the personnel system, improvement of all stages of the audit process, prohibition of unfair practices and privileges for former posts, and enhanced accounting transparency
- Building a legal compliance monitoring system, preparing comprehensive measures to prevent conflicts of interest, and practicing a culture of integrity and compliance
- Strengthening the fairness of each project process, such as subcontracting, design contest, selection of materials, and bidding
- Reorganizing the ethical management system, creating standard models for ethical management, and conducting ethical management activities
- Improving governance through communication with external stakeholders and ESG management, such as the LH Innovation Committee

CLEAN LH

Establishing a Transparent Management System

Governance

Composition of the BOD
Considering Diversity
and Expertise

LH improves its governance by diversifying the composition and operation of the BOD, enhancing the expertise of directors, and ensuring reasonable assessments of management and independence.

BOD with diverse professional experience to ensure checks and balances

- Consisting of 15 members, including the chief executive officer (seven executive directors, eight non-executive directors)
- Chaired by the highest non-executive director → To improve governance, check the management reasonably, and secure independence
- Electing non-executive directors based on professional knowledge and experience in cities, housing, and housing welfare
- Appointed three female non-executive directors to improve women’s representation within the BOD (three directors in 2021 → two directors in 2022 due to termination of the term and new appointment)

BOD Composition of LH

As of June 30, 2022

Position and Duty		Name	Key Experiences	Expertise	Gender	Date of Appointment
Chief Executive Officer	CEO	Kim Hyun Jun	Director of the National Tax Service		Male	2021.04.23
Executive Director	Standing Auditor	Yeom Ho Yeol	High ranking official of the Board of Audit and Inspection		Male	2021.04.30
	Executive Vice President	Lee Jung Kwan	Vice President of Planning & Finance Division		Male	2020.11.10
	Vice President, Fair Administration & Innovation Division	Oh Yung O	Director of LH Seoul HQ		Male	2021.10.01
	Vice President, National Housing Welfare Division	Ha Seung Ho	Director of LH Gyeongnam HQ		Male	2021.07.26
	Vice President, National Land & Urban Development Division	Shin Kyung Choul	Director of LH Smart City Planning Office		Male	2021.07.26
	Vice President, Public Housing Business Division	Park Cheol Heung	Director of LH Special Project Division in Charge of Housing Supply in the Metropolitan Area		Male	2021.10.01
Non-executive Director (Highest Non-executive Director)		Yoon Jae Eun	Professor of Spatial Culture Design at Kookmin University	Architecture and design	Male	2020.07.22
Non-executive Director (Auditor)		Baek Dong Hoon	Director of Shinwoo Accounting Corporation	Accounting, finance, and audit	Male	2020.11.10
		Yoon Myun Shik	Vice President of the Bank of Korea	Funding and financial risk management	Male	2021.08.10
Non-executive Director		Lee Gye In	Certified Public Appraiser of Jungil Appraisal & Consulting	Real estate policy and decentralization	Male	2021.05.04
		Kim Yu Im	Vice Chair of Gyeonggi-do Assembly	Housing welfare and policy for women	Female	2021.08.10
		Kwon Jung Soon	Attorney at Dongheon Law Firm	Housing for the people and real estate laws	Female	2021.08.10
		Kim Geun Yong	Chair of the Integrated Public Housing Deliberation Committee, Ministry of Land, Infrastructure and Transport	Housing policy and welfare	Male	2021.11.09
		Jeon Dae Hyeon	Executive Director of Korea Housing & Urban Guarantee Corporation	Housing finance and urban regeneration	Male	2022.03.21

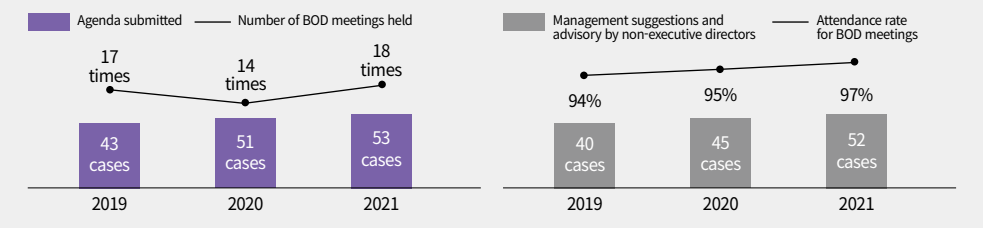
BOD Operation

Regular meetings of the BOD (monthly), non-regular meetings of the BoD (convened as necessary)

Resolutions adopted through a majority vote of current directors, restricting participation by directors that have a special interest in a particular resolution

Results of BOD operations and major resolutions

Agenda	Description
Budget plan (proposal) for 2021	Set the budget for 2021 in accordance with the Act on the Management of Public Institutions
Operating plan (proposal) for 2021	Established an operating plan for 2021 with a view to accomplishing efficient budgeting and business operation
Mid-term (from 2022 to 2026) management goals (proposal)	Set up mid-term (from 2022 to 2026) management goals to fulfill the purpose and vision of foundation



Enhancing the BOD

Expanding the structure of resolutions for better checks and balances: 6 deferred, conditional, or amended resolutions (increased by 5 cases compared to the previous year)

Increasing the participation of non-executive directors

- Improving the methods for BOD participation (fixed pay → allowance based on participation), video meetings, and social media channels
- Inspection of sites and status for Third Phase New Towns and the February 4 Policy: Housing supply (3 sites), housing welfare (3 sites), balanced development (2 sites)
- Actively supporting internal and external activities, such as providing gender sensitivity education for all employees and holding debates on the housing welfare forum

Discussing and deliberating on key pending issues in each area by operating subcommittees led by non-executive directors

Classification	Roles	Major Deliberations
ESG Subcommittee (new)	Preliminary review of ESG-related agendas, in-depth ESG review and advisory	Held three meetings on topics such as the LH ESG management system (January 2022)
Financial Soundness Subcommittee (new)	Financial management plan, investment and recollection plan, operation plan, projects, etc.	Mid-term (from 2022 to 2026) financial management plan (proposal), etc.
Compliance and Ethics Subcommittee (new)	Integrity of employees, gender sensitivity, customer satisfaction, etc.	Enactment (proposal) of operating guidelines for the system to prevent conflicts of interest, etc.
Win-Win Growth with Local Communities Subcommittee	Urban regeneration, balanced development, social contribution, etc.	Method for expanding and revitalizing the LH Balanced Regional Development Center (scheduled for September 2022)

Building ESG BOD systems

- Digital BOD (E): Establishing a paperless culture (tablet reporting), revitalizing video meetings, and introducing an electronic resolution system
- Participatory BOD (S): Strengthening gender equality by appointing 10 female executives (out of 28 executives) and two female non-executive directors (out of 5 directors), pursuing social values through safe and responsible management
- Transparent BOD (G): Revising the regulations for executives’ remuneration (detailed criteria for returning performance-based salary upon any violation of integrity and duty), participation of workers in BOD meetings (one person recommended by the labor union, 7 times, 28 agendas), formed the ESG and Compliance Ethics Subcommittees

Remuneration limits for the BOD are set according to the remuneration guidelines for executives recommended by the Ministry of Economy and Finance: Classified into basic pay, performance bonus (management evaluation), and retirement benefit

→ Differentiated performance bonus according to the results of the management evaluation

- Chief executive officer: Paid based on the management contract
- Executive directors: Paid according to a separate management performance evaluation method determined by the chief executive officer within 100% of the basic salary
- Non-executive directors: Fixed pay (KRW 2 million per month) and attendance fee (KRW 500,000 per meeting, up to 12 times)

LH BOD Remuneration Status

Unit: KRW 1,000

Classification	2019	2020	2021
Chief Executive Officer	123,753	125,979	125,979
Standing Auditor	99,000	100,782	100,782
Executive Director	99,000	100,782	100,782
Non-executive Director	30,000	30,000	30,000

Strengthening the roles of the Audit Committee by expanding the scope of its reporting

- All audit results, including comprehensive and specific results, results of real-time monitoring of the audit system and whistleblowing, and activity outcomes from the Compliance Ethics Observer Group and the human rights center

Strengthening the roles of the standing auditor to internally control daily audits

- Raised the authority of the standing auditor to approve daily audits on sale and rental conditions
- Results of daily audits are reported ex-post to the standing auditor on a weekly basis
- Sites are visited by the standing auditor after daily audits, and the right to demand data and explanations has been established

BOD Evaluation and
Remuneration

Advancing the Audit
Committee

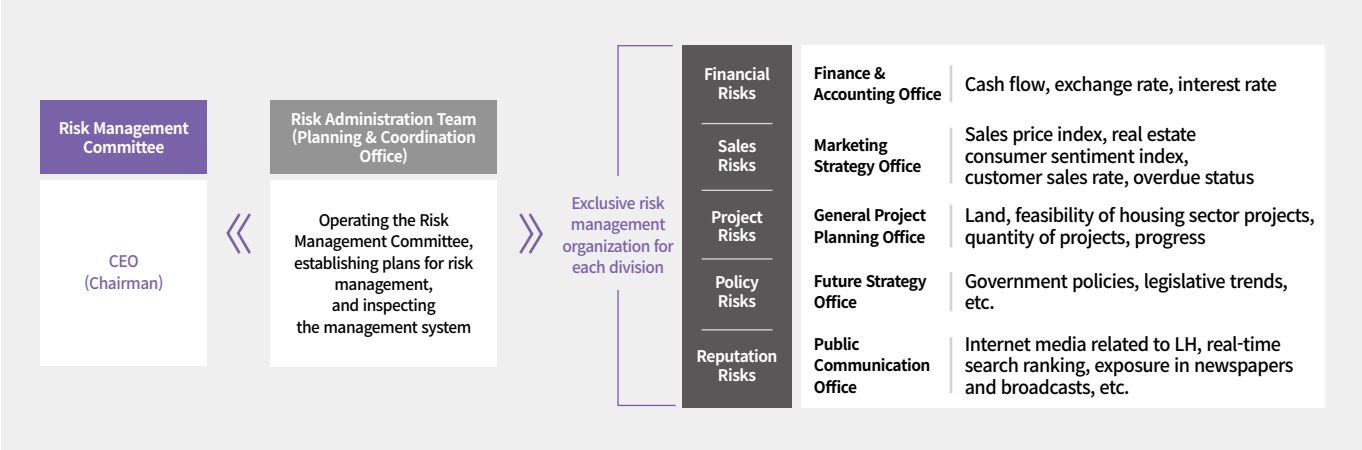
Risk Management System

There is increasing uncertainty in the business environment due to rapid fluctuations and economic stagnation in the financial markets in Korea and worldwide, and the necessity of risk management is gradually increasing. Accordingly, our risk management team identifies and manages key risks.

Risk Management Organization

- Defined standards and procedures and systemized the management organization to respond preemptively to key risks that can affect our business operations
- Designated the Planning & Coordination Office as the general risk management team
 - Operating the Risk Management Committee chaired by the CEO

Risk Management Organization of LH



Management of Key Risks

- Designated departments responsible for managing each classification of risk, including finance, sales, project, policy, and reputation
- Sharing the status of management and exchange information efficiently in consultation with the general risk management team (Planning & Coordination Office)

Classification	Definition of Risk	Management Activities
Financial Risks (Finance & Accounting Office)	Risks that can impede or threaten the achievement of our financial goals	<ul style="list-style-type: none">· Selected and managed key financial risk indicators, such as risks associated with fluctuations in cash flow, liquidity, fluctuations of asset value, and fluctuations of profit and loss· Set hurdle rates for each indicator and established/implemented stage-wise risk response plans
Sales Risks (Marketing Strategy Office)	Risks that can cause planned sales to falter due to reasons such as contraction of the real estate market	<ul style="list-style-type: none">· Managed the comprehensive risk index by applying selling price index and real estate consumer sentiment index and applying arrearage and sales rate as internal factors· Set hurdle rates for each indicator and established/implemented stage-wise risk response plans
Project Risks (General Project Planning Office)	Risks that can impede the stable management of projects in relation to land and housing	<ul style="list-style-type: none">· Selected and currently managing key project-related indicators, such as project volume, feasibility, and progress· Defined hurdle rates according to key risks and established/implemented stage-wise risk response plans
Policy Risks (Future Innovation Office)	Risks related to a reduction in project volume or a deterioration in project feasibility due to government policies concerning real estate and public organizations	<ul style="list-style-type: none">· Measured and managed potential risks that may reduce project volume or undermine the feasibility of projects on account of government policies· Managed risks caused by changes in the management environment, such as changes brought about by government policy trends, by collecting data and monitoring
Reputation Risks (Public Relations Office)	Risks that may lead to a lowering of brand value due to damage to our corporate image	<ul style="list-style-type: none">· Estimated the media index considering our exposure through Internet media, newspapers, and broadcast media· Established a system for responding to reputation risk generally and in crisis situations according to the degree of reputation risk

Risk Management Activities and Performance

Enhancing the Risk Management System

We identify specific risk factors by continually improving and monitoring the risk management system. We manage the identified risks efficiently through active response activities.

- Necessity to manage risks that can arise due to uncertainties in the management environment and business operations, and monitor performance
- Strengthened monitoring and enhanced the risk management system by reflecting fluctuations in 15 external variables, including currency in circulation (2020)
 - Established a contingency plan in line with rapid changes in the financial market, as well as a method of hedging net asset value risks caused by interest rates, and improved the risk management system (2021)

Classification	Activities	Outcomes
Contingency plan	<ul style="list-style-type: none">· Analyzing the financial impact· Analyzing the stress to financial soundness→ Establishing a contingency action plan	<ul style="list-style-type: none">· Established sales promotion strategies and funding methods for each stage of risk· Received the government's financial support, in areas such as asset disposal and delayed repayment of housing loans
Hedging interest rate fluctuation risks	<ul style="list-style-type: none">· Analyzing the duration→ Establishing a hedging strategy	<ul style="list-style-type: none">· Increased the ratio of long-term bonds and extended the repayment deadline for policy funds· Established an asset reconstruction plan and reflected a mid-term funding strategy
Improving the risk management system	<ul style="list-style-type: none">· Financial management· Raising risk sensitivity, responding to each indicator, and excluding distorted data	<ul style="list-style-type: none">· Raised risk sensitivity by excluding risk-free indicators that have insignificant financial impact· Subdivided the response measures according to each indicator· Improved data distortion by excluding short-term funds when calculating cash reserves
	<ul style="list-style-type: none">· Sales management· Separating the assessment/prediction indices and expanding the targets of investigation	<ul style="list-style-type: none">· Separated the sales risk index→ Sales risk diagnosis index/prediction index· Calculated risk indices for three regions→ Calculated four indices for each of 16 cities and provinces

Active Risk Response Activities

- Identified the risk elements, such as uncertainties in the financial market, prolonged cash collection due to increased ratio of rental houses, and increased liabilities due to the rapid increase in investments in policy projects
- Defined the risk elements and operated a detailed response system for efficient management of risks

Risk Factor	Response Activities	Outcomes
Deteriorating funding conditions due to uncertainty in the financial market	<ul style="list-style-type: none">· Diversifying fund supply through the issuance of bonds- First ESG bond in Korea (KRW 1.4 trillion)- Resuming the issuance of structured bonds- Expanding mid- to long-term Commercial Paper (CP)	<ul style="list-style-type: none">· Increased the amount of ESG bonds issued by 124% compared to the previous year· Increased the ratio of fund diversification by 22% compared to the previous year· Reduced financial expenses by preemptively issuing bonds reflecting the fluctuations in the financial market (KRW 78.9 billion)
Declining values of financial assets due to changes in the financial market	<ul style="list-style-type: none">· Establishing fund management strategies through monitoring of the market· Increasing stability of fund management and securing liquidity· Introducing new financial products	<ul style="list-style-type: none">· Secured profits through efficient management of financial assets (KRW 69.6 billion)· Achieved a profit rate (1.31%) higher than target profit rate (0.78%)
Demands for return of public development profits to local communities	<ul style="list-style-type: none">· Improving the land supply system- Fair competition through verification of subscription qualifications- Social contribution by sharing the development profits	<ul style="list-style-type: none">· Shared development profits with citizens (profit-sharing)· Reduced project expenses (rental construction) by securing high-quality, low-priced long-term rental houses through collaboration with private constructors
Negative image concerning budget management	<ul style="list-style-type: none">· Increasing profits and finding opportunities for cost reduction· Reducing the direct project expenses by establishing basic principles for joint projects with local governments (regional corporations)· Strengthening a culture of voluntary participation in budget reduction	<ul style="list-style-type: none">· Identified cases (14 cases) and showed annual financial improvement of KRW 167.5 billion· Reduced direct project expenses by KRW 36 trillion in 26 districts, including Third Phase New Towns and February 4 Policy sites· Exceeded the current cost reduction goal (KRW 8.4 billion)

Strengthening Internal Control

Building a Three-Step Control System

Based on the innovation measures adopted by the Korean government and LH, we have built a powerful control system to prevent speculation and strengthened internal controls through the innovation of work processes and personnel systems, prohibition of unfair practices and privileges for former posts, and improvement of the audit process.

Preventing recurrence of speculation through prevention (step 1) → exposure and restriction (step 2) → management and supervision (step 3)
Innovating the system through the stepwise implementation of the government’s innovation measures (35 tasks) and autonomous innovation measures (88 tasks)

Classification	Activities
Prevention	<ul style="list-style-type: none">Revising the employment regulations to prohibit and restrict real estate acquisition for purposes other than actual useRegistering the real estate properties owned by all employees (PETI system) and making it compulsory to report real estate transactions (registered 99.9% of real estate properties)Excluding employees from benefits such as land compensation and relocation measures
Exposure and restriction	<ul style="list-style-type: none">Strengthening disciplinary actions against speculation, such as removal from office and dismissal upon prosecutionTaking proactive measures, such as exclusion of districts with real estate properties owned by employees, when selecting candidate sitesLimiting the promotion of multiple house owners to high positions (job grade 2 or above)Setting severe punishment for the use of non-disclosed information, confiscating unfair gains, and imposing a fine 3-5 times larger than the gains (Korea Land and Housing Corporation Act, Article 26)
Management and supervision	<ul style="list-style-type: none">Introducing a compliance officer system and forming the Compliance Ethics Observer Group, monitoring employees’ speculations through external expertsConducting a regular investigation of real estate ownership and trading by employees (annually) and building a real-time monitoring system (RAS)Rewarding 10% of the recovered amount upon report of speculation and introducing a system allowing disciplinary action leniency for self-reporting

Innovating the Personnel System

Preventing speculation by enforcing a system that prioritizes fairness and transparency in all personnel matters and enhancing measures against employees who violate the system

Recruitment Strengthening fairness across the recruitment process	Prohibiting special recruitment, strengthening standards for the cancellation of illicit acceptance, involving external members of the Personnel Committee in the recruitment process Strengthening personality assessments and submitting consent for reporting the status of real estate ownership	<ul style="list-style-type: none">Failing the lowest scorers in the personality assessmentRestricting real estate transactions by new employees
Management Reducing pay upon removal from position and limiting the assignment of long-term jobs	Strengthening pay cuts upon removal from position due to speculation, as well as preferentially transferring employees who have been working for 5 years or longer in a department with concerns of corruption Implementing strict disciplinary measures, such as removal and dismissal of personnel engaging in serious and suspected acts of speculation	<ul style="list-style-type: none">Adjusting the pay cut rate from 20% to 50%Strengthening the job circulation of personnel with long-term service
Promotion Strengthening restrictions on the promotion of personnel who engage in speculation	Limiting promotions for violators of restrictions on real estate acquisition if a disciplinary request exists Holding candidate verification meetings with external members during multi-dimensional evaluations of ethical awareness and anti-speculation	<ul style="list-style-type: none">Removal from position according to the results of multi-dimensional evaluationsRestricting promotion, or cancellation of promotion, upon request for disciplinary action

Limiting the appointment of appraisers and judicial scriveners

- Added a new regulation limiting, for one year, the appointment of appraisers and judicial scriveners who have resigned from LH
- Strengthened the contract standards for judicial scriveners and improved the method of selection (non-metric 100% → metric 80% + non-metric 20%)

Limiting the employment of retirees and expanding the prohibition of private contracting

- Expanded the scope of the 3-year employment limit applied to retirees (7 executives → 529 employees of job grade 2 or above)
- Expanded the prohibition of private contracting with retirees (2 years → 5 years)

Eradicating corruption in purchased rental projects

- Applying the ‘One strike-out’ system to housing purchase limits for retirees and corrupt acts that are exposed during the regular inspection of employees
- Purchase deliberation by external members only, disclosing the results of deliberations to the seller

Increasing Accounting Transparency

Preventing accounting irregularities and improving the reliability of accounting information through the establishment of an internal accounting management system

- Conducting regular inspections on unsettled credits/debts annually
- Operating the internal accounting management system to enact and revise the internal control documents for new projects
- Establishing a regular settlement procedure for due diligence on inventory assets in the presence of an external accounting auditor
- Preparing standardized accounting practices for housing redevelopment projects based on the cost settlement method
- Disclosing the accounting information of public rental housing projects, other projects, and housing welfare projects annually

Improving All Stages of the Audit Process

Strengthening preventive internal controls centered on daily audits

→ Rejected inappropriate agendas related to purchase and rental houses (KRW 17.5 billion) and reduced the amount set aside for inappropriate design change requests (KRW 33.8 billion)

Five Control Systems	Aim	Improvement of Daily Audits
1 Control environment	Redesigning the approval authority for daily audits	<ul style="list-style-type: none">Linking the position of personnel in charge of approval at working-level departments → Resetting according to the level of importanceRaising the approval line for sale and rental supply conditions to the standing auditor
2 Risk assessment	Inspecting blind spots, such as changes in the real estate environment	<ul style="list-style-type: none">[House purchase] Reflecting the increase in the number of projects according to the February 4 Policy, such as new purchase agreements[Design change] Reflecting the increase in small-scale sites, such as changes in the methods of control (from amount to rate)
3 Control activities	Rationalizing the scope of daily audits	<ul style="list-style-type: none">[Benchmarking] Case study of major public institutions on the scope of daily audits (9 institutions)Raising the fund execution amount (KRW 30 million to KRW 50 million or more) and setting a separate capital budget (KRW 100 million or more)
4 Communication activities	Approval report system	<ul style="list-style-type: none">Daily audits on approvals by the Audit Office Director and department heads → Weekly ex-post reports to the standing auditorOn-site visits by the Standing Audit Committee following daily audits, and establishing new rights to demand data and explanations
5 Monitoring	Matters outside the scope of daily audits	<ul style="list-style-type: none">[Introducing daily audits on advanced notifications] Conducting daily audits for a given period after the detection of abnormalities[Intermediate inspection of comprehensive and specified audits] Focused audits on frequent design changes, etc. (26 cases)

Implementing a system to prevent conflicts of interest for auditors by classifying deliberations of the Deliberation Committee and subcommittees and establishing the Code of Ethics within the Audit Regulation

Strengthening management recommendations and planned audits for areas with vulnerabilities in each project process (project review, commencement, progress, and follow-up management)

- Management recommendations: Prevented blind spots (11 cases) through implementing the recommendations of the standing auditor
- Planned audits: Planned specific audits (4 times) in areas vulnerable to corruption at each project stage by completely changing the annual audit plan

Operating the LH Innovation Committee

Promoting innovation and enhancing the external transparency of LH in the direction desired by the public through advisory by external experts

- Composed of eight external members from academia, civil organizations, and labor
- Advisory role to restore trust by diagnosing organizational problems and preparing sustainable innovation methods
- Provided advice on internal innovation methods for LH, the ESG strategy system, and core projects (held 8 meetings in 2021)
- Expanded and reorganized into the ‘LH ESG Innovation Committee’ (from 2022): General management of innovation and ESG advisory

Strengthening ESG Management

Operated the ESG Innovation Committee: Composed of experts in each ESG area (held the first meeting in June 2022), providing advisory services on ESG management

Established ESG management strategy (January 2022): Planning to establish goals and mid- to long-term strategies reflecting ESG factors (December 2022)

Disclosed ESG management outcomes: Expanded the items and scope of information disclosure as demanded by stakeholders (May 2022, 198 items)

Published the Sustainability Report: completely reorganized the Sustainability Report based on ESG values to share and strengthen our ESG management performance

ESG-based internal performance evaluation system: Reorganized the performance system based on ESG values and strengthened ESG elements, such as safety and human rights indicators (reflected in the 2022 Performance Management Guidebook)

CLEAN LH

Spreading an Organizational Culture of Integrity

Compliance Management Programs

Building a Compliance System

LH has established the Compliance Committee and the Compliance Ethics Observer Group. By introducing the compliance officer system, involving the appointment of external experts and preparing comprehensive measures to prevent conflicts of interest, we have built a system for continual monitoring and prevention of speculation.

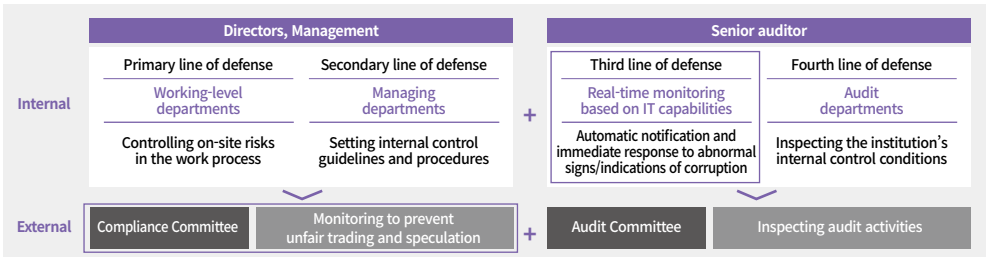
Establishing and operating the Compliance Committee

- Composed of six external experts including the chairperson (academia, civil organizations, etc.) and three LH directors (supervising compensation, legal affairs, and projects)
- Deliberating, resolving, verifying, and monitoring the appropriateness and illegality of land transactions carried out by employees
- Reported measures for the prevention of speculation and deliberated on compensation exclusion and disciplinary actions (held 4 meetings and performed deliberations on speculation by 33 employees in 2021)

Establishing the Compliance Ethics Observer Group and introducing the Compliance Officer system

- Established the Compliance Ethics Observer Group directly under the CEO and appointed external experts as compliance officers to secure expertise and ability for internal control
- Compliance Ethics Observer Group (1 group, 3 departments): Compliance Policy Department (system improvement), Compliance & Inspection Department (inspection of real estate transactions), Compliance & Ethics Department (education)
- Compliance Officer: Investigating illegal and speculative acts regarding real estate properties owned or traded by employees

Building the 4 (internal) + 1 (external) monitoring system: Added a real-time monitoring system (RAS) and the Compliance Committee as the third line of defense.



Creating a compliance ethics index

- Created a compliance ethics index in the core value category of the internal evaluation indicators (integrity of each department, efforts to practice integrity, participation in anti-corruption education, deduction for violations) and drastically increased the weighted values (Regional Headquarters: 6.5 points → 14.5 points)

Built a system for preventing conflicts of interest by establishing operating guidelines and appointing officers according to the Conflict of Interest Prevention Act (May 2021)

Classification	Activities
Conflict of interest officer	· Receiving and managing mandatory reports according to the Conflict of Interest Prevention Act, receiving, investigating, and handling reports on violations, and providing education and counseling · Jointly performed by code of conduct officers posted at the headquarters and regional headquarters
Advisory body	· Providing advisory on reporting and submission duties and measures, recommending recipients for rewards, and providing advisory on operation of the conflict of interest prevention system · Composed of five members (three external experts and two conflict of interest officers from the headquarters)
Operational management	· Establishing operating guidelines for the system for prevention of conflicts of interest and preparing methods of revitalizing education and reports

Reorganizing the system for prevention of conflicts of interest

- Established operating guidelines to report real estate properties owned and purchased in relation to jobs and prohibiting the use of confidential information
- Securing fairness in bidding and deliberations by limiting private contracts of retirees and the scope of private contracting
- Eradicating unfair acts, such as holding concurrent jobs, by managing external activities
- Investigating land owned by employees and the transactions they carry out when selecting candidate sites to prevent leaks of development information
- Minimizing the number of participants, shortening the security period, and preventing illegal disclosure of data during feasibility studies on new projects

Strengthening the report and reward systems

- Increasing the convenience of remote reporting and efficiency of report management by utilizing the standard conflict of interest reporting system of the Anti-Corruption & Civil Rights Commission
- Created a speculation report menu on the company website and introduced a system of granting rewards that are proportional to the amount of unfair gains recovered and the leniency system (self-reporting)

Preparing Comprehensive Measures to Prevent Conflicts of Interest

Practicing a Culture of Compliance with Integrity

Revising the Code of Conduct for Employees

Integrity Leadership by Management

Integrity Compliance Culture Campaigns

LH promotes a culture of integrity and compliance, where employees voluntarily practice compliance through the leadership of management and the integrity compliance culture campaign.

Established the operating guidelines for the system for prevention of conflicts of interest and revised the Code of Conduct for employees based on the Conflict of Interest Prevention Act and the revised Code of Conduct for Public Officials

Integrity Leadership by Management

- Created integrity obligations (acquisition limit, registration, and reporting) to prevent real estate speculation by executive directors
- Introduced a system for evaluation of directors' integrity, including in terms of anti-corruption efforts
- Registering real estate properties owned and traded by employees of job grade 2 or above

Spreading integrity leadership

- Reinforced the control function of the BOD by adding a procedure for reporting ethical management issues to the BOD (4 times)
- Held CEO meetings to develop innovation measures that can achieve consensus among all generations (2 times)
- Shared the directions for integrity and discussed improvement methods through the Integrity Academy between the standing auditor and employees
- Reminded participants of the importance of prevention and gathered opinions during the anti-corruption outreach education sessions by Compliance Officers at regional headquarters (4 times)

Creating and spreading a culture of integrity and compliance through campaigns focused on participation and communication

Classification	Activities
Participatory integrity culture	· Implementing integrity resolution, meetings, agreements, and campaigns at regional headquarters (14 regional headquarters) · Making card news about actual stories and sharing newsletters (8 times) · Sharing important details by holding monthly human rights events and ethics quiz (5 times)
Communicative integrity culture	· Investigating the ethical management index for self-assessments of integrity and compliance awareness (74.7 points in 2021) · Explaining related laws, systems, and whistleblower reports through the Integrity Notice System (3 times)
Integrity incentives	· Granting mileage points for integrity activities and rewarding outstanding employees (departments) based on their performance · Preparing criteria to provide rewards for reporting illegal speculation and recovering unfair gains



Compliance Ethics Quiz Events and Card News

Spreading a Culture of Integrity and Compliance

Implemented recommendations for system improvements through integrity civil audits (11 cases) and the Private-public Integrity Society Agreement (2022)

- Civil integrity audit: A system for corruption control where external experts suggest measures for the monitoring, investigation, evaluation, and improvement of major projects or corruption-vulnerable areas at public institutions
- Private-public Integrity Society Agreement: A commitment by the Integrity Society Council of Public Institutions (41 public institutions), Gyeongnam Integrity Cluster, and Gyeongnam Integrity Society Public-Private Council (public and private institutions in Gyeongsangnam-do) to solve anti-corruption and integrity issues

CLEAN LH

Preparing a Fair Business System

Fair Trade Compliance Program

Fair Trade Compliance Operating System

LH has built a fair trade compliance operating system to monitor compliance with the principles of fair trade and associated laws, as part of our efforts to prevent and respond to unfair trading practices and acts.

Appointing a compliance manager and establishing a dedicated organization

· Appointed the executive vice president as the compliance manager, responsible for the overall management of the compliance program at the LH Human Rights and Ethics Center, with support from the Legal Affairs Office and Audit Office

Operating an internal compliance system by establishing the operating regulations for fair trade compliance, and providing relevant education and supervision

· Fair trade impact assessment: Prevention of unfair trading by analyzing, evaluating, and reorganizing factors that hinder fair trade when establishing and revising the articles of association and company rules

· Guidebook to support compliance and mandatory inspections based on the checklist for unfair acts in construction and service contracts

LH Fair Trade Compliance Operating System

Organization	In Charge	Roles
Compliance Officer	Executive Vice President	· Integrating departments related to the compliance program
Program Supervision	LH Human Rights Center	· Providing assistance with the duties of the compliance officer · Managing the compliance program · Publishing and distributing the Compliance Guidebook
Program Supervision	Legal Affairs Office	· Managing the response to incidents related to the Fair Trade Act · Providing advisory and counseling on the Fair Trade Act · Managing attorneys in charge of matters concerning the Fair Trade Act · Providing support related to laws and company rules concerning the compliance program (training, etc.)
	Audit Office	· Daily audits for proactive prevention · Operating the system to report abuse of power · Investigating and taking actions against incidents of power abuse · Protecting those who report cases of power abuse

Practicing Compliance with the Principles of Fair Trade

Establishing a Fair Subcontracting Culture

LH has established a fair subcontracting culture and is practicing fair trading activities to enhance the transparency and fairness of design contests, material selection, bidding, contract signing, and project operation.

Operating the Unfair Subcontract Solution Center and preventing overdue wages at construction sites through the Subcontract Protector system

· Expanding the application of the Subcontract Protector system to prevent overdue wages, forming an exclusive organization for the Unfair Subcontract Solution Center, and inspecting the status of subcontract implementation

· Planning to build a monitoring system for the payment of construction costs, publish Subcontract 119, and provide tailored support for districts where processes are delayed (2022)

Operating Procedure of Unfair Subcontract Solution Center



Improving the Fairness of Public Housing Design Contests

Secured the objectivity of projects through preliminary verification by external experts → Zero controversy over the fairness of design contests in 83 districts (2021)

Planning to build an exclusive website for construction design contests, improve the system, and hold a special design contest for communicating with the public (2022)

	As Is	To Be
Design Contests	Planning Stage · Project plans established by the department in charge of the housing project, in accordance with internal procedures	· Preliminary review conducted by the Architecture & Urban Research Institute (external) · Assessing feasibility through the Public Building Deliberation Committee (new)
	Review Stage · Composed of 5 external and 2 internal reviewers · Communicating the outcomes of review to the parties concerned	· 100% composed of external reviewers (15 persons) · Live-streaming via YouTube for the public
	Follow-up Management · Lack of effective restrictions on external reviewers and companies to prevent acts of corruption	· Permanent exclusion from reviews upon discovery of corruption, companies subjected to restrictions on participation (2 years), and deduction of scores (10 points)

Improving the Material Selection and Management Procedure for Housing Construction

Completed system improvements and published the Q&A Casebook (2021) → Conducting material selection inspections and surveys and finding points for improvement (2022)

	As Is	To Be
Selection of Construction Materials	Selection of Suppliers of Finishing Materials · Selecting the supplier for finishing materials during construction → Concern over intervention of the ordering body in the selection process	· Finishing material supplier selected by the bidder → Fundamentally blocking undue intervention in the material supplier selection process
	Approval of Materials · 33% of materials requiring approval (159 items) → Concern over intervention by the supervisor in the material selection process	· Drastically reducing the ratio of approved materials (6%, 29 items) → Only approving key structural and functional materials
	Determination of Design · Supervisor of each construction type participating in reviews → Concern over intervention by the supervisor and a lack of transparency	· Selected by a council of experts and customers → Preventing intervention by the supervisor and enhancing expertise

Improving the Bidding Procedure to Establish a Fair Contract Culture

Improving the bidding system for transparent disclosure of information and improved fairness

· Building order notice system: Establishing an order plan and open system, enforcing the real name system for managers of each case

· Contact-free online review: Real-time review of contracts based on negotiations to prevent the manipulation of scores

Managing external judges and increasing the transparency of evaluation

· Enhancing the ex-post evaluation system: Shortening the time taken for investigation (1 week → 1-2 days), gathering opinions (1 lead manager → all joint subcontractors)

· Disclosing the entire technology review process: Live streaming the review process YouTube (249 cases in 2021) and citizen review participation system (139 opinions submitted in 2021)

Fair Management of Public Rental Houses

Conducting comprehensive inspections on service quality and maintenance fees of the management offices to strengthen the supervision of housing management and increase transparency

Creating channels for cooperation at housing management sites (shared growth meetings with contracted companies and meetings with the Director of the Happiness Support Center) and developing the ‘LH Integrated Housing Management Information System’

Calculating reasonable prices and preparing contract terms in consideration of the contracting party (payment of appropriate prices and clarification of the reasons for contract revocation)

Increasing bidding opportunities for comprehensive and specialized companies by reorganizing the bidding contract system (250 orders a year, including 87 comprehensive constructors and 163 specialized constructors)

Granting incentives for new SMEs to participate in construction project management services

Operating a communication network for construction stakeholders, such as associations, construction companies, and service companies

· Held Win-Win meetings with the Korea Construction Engineering Association (May 2022)

CLEAN LH

Driving Healthy Ethical Management

Ethical Management Promotion System

Reorganizing the Ethical Management System

LH has reorganized its ethical management system to become a public institution that realizes integrity, a fair and transparent organization, and public interests based on ethical awareness and work ethics.

Public trust was damaged due to some employees pursuing private interests through real estate speculation (lowest integrity grade assigned by the Anti-Corruption & Civil Rights Commission)

· Lack of an efficient internal control system, lack of fairness in work procedures, and lack of ethical awareness and work ethics as a public institution → Reorganizing the ethical management system from scratch to restore public trust

LH Ethical Management System

Goals	To establish the highest compliance and ethics system for public institutions						
Strategy	Promoting two track innovation, which proactively establishes an autonomous innovation method and implements the government's innovation tasks						
Tasks	LH's innovation measures (May 2021, 88 tasks in total)		Government's innovation measures (June 2021, 35 tasks in total)				
	<div>1. Building powerful control devices</div> <div>2. Strengthening processes and ethical standards</div> <div>3. Innovating the organization and personnel</div>		<div>1. Strengthening restrictions against speculation</div> <div>2. Eradicating privileges enjoyed by ex-officials</div> <div>3. Strengthening management</div> <div>4. Adjusting functions and human resources</div>				
Committees	<div>LH Innovation Committee</div> <div>New</div>	<div>Compliance Committee</div> <div>New</div>	<div>Ethical Management Committee</div>	<div>Human Rights Management Committee</div>			
Exclusive Organizations	<div>Compliance Ethics Observer Group</div> <div>New</div> <div>Monitoring ethical management and real estate speculation</div>	+	<div>LH Human Rights Center</div> <div>Human rights management, prevention of sexual harassment and bullying</div>	+	<div>Audit Office</div> <div>Internal checks</div>	+	<div>Legal Affairs Office</div> <div>Compliance management</div>
Standard Systems	Charter of Ethics		Code of Conduct for Employees		12 systems, including the Guideline on Reporting Irregularities		
Reporting Channels	<div>Reporting of real estate speculation by employees</div> <div>New</div>	<div>Secure reporting attorney system (proxy report by attorneys)</div>		<div>Red Whistle Help Line (reporting irregularities)</div>		<div>Counseling centers for sexual harassment and bullying, etc.</div>	
Assessment Processes	<div>External assessment</div>	<div>Assessments of integrity and anti-corruption policy</div>	<div>Internal assessment</div>	<div>Ethical management index, in-house integrity, anti-corruption assessment</div>	<div>Compensation systems</div>	<div>Reflection in internal assessments, integrity mileage awards</div>	

Operating the Ethical Management Committee

- Composed of five civil integrity audits (external experts such as attorneys and academicians), management, and directors of related departments at the headquarters
- Deliberating, resolving, and providing advisory on important policies to promote integrity and ethical management by means such as anti-corruption policies
- Converted to in-person meetings to carry out deliberations and make decisions on system improvements, anti-corruption, and ethical innovation measures (held 2 times in 2021)

Creating a standard model for ethical management

- Participated as a demonstrating institution in the ‘Ethical Compliance Management Certification’ and ‘Ethical Compliance Management Program’ of the Anti-Corruption & Civil Rights Commission (July 2021)
 - A program that certifies public enterprises and private companies that demonstrate outstanding practices of compliance and ethical management, granting incentives based on the results
- Collaborating with the Ministry of Economy and Finance to create the ‘Standard Model For Ethical Management’

Participation in the system built by the Ministry of Economy and Finance (September 2021)	Selection of research tasks (March 2022)	Planning and implementation (From June to December 2022)
Interviews to identify corruption vulnerabilities	Enhancement of the ethical management program	Establishment and implementation of measures to practice ethical management

Acquiring the ISO 37001 certification for anti-corruption management systems (2022)

- Preparing an anti-corruption and compliance system in line with international standards and implementing specific anti-corruption plans



Agreement ceremony for demonstrating ethical and compliance management

Driving Ethical Management

Expanding Human Rights Management

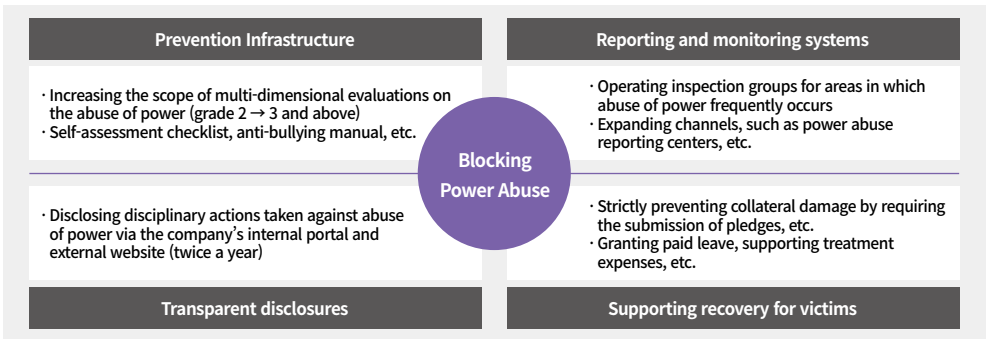
Based on human rights management, LH advances healthy ethical management by handling grievances promptly and protecting the rights of field workers and emotional laborers.

Strengthening human rights management through human rights impact assessments, the Human Rights Management Committee, prevention of violations such as bullying and sexual harassment at work, and prompt handling of grievances

Classification	Activities and Plans
Human rights impact assessment	· Performed human rights impact assessments on major projects and derived points for improvement (13 items in 2021) · Urban development (2019), housing welfare (2020), urban regeneration (2021), global projects (2022)
Human Rights Management Committee	· Appointed new members in line with the termination of some members' terms and reorganized the committee (two internal members, three external members)
Prevention of human rights violations at work	· Designated the 11th day of each month as the Mutual Respect Day to deliver various human rights messages and organize events · Conducting tailored education for new employees, promoted employees, and personnel in senior positions · Protecting the human rights of employees by preventing workplace bullying and prompt handling of grievances
Certification for excellence in human rights management	· Promoting certification of companies that practice human rights management by reflecting human rights compliance criteria by the National Human Rights Commission and the UN (supervised by the Korean Standards Association)

Eradicating Power Abuse in the Public Sector

Establishing annual measures to eradicate power abuse, verifying the outcomes each quarter, and submitting results to the government (Ministry of Economy and Finance, Ministry of Land, Infrastructure and Transport)



Resolving Grievances of Workers at Construction Sites

Protection of Emotional Labor Rights

Operating the ‘Together Grievance Handling Team’ to resolve the grievances of field workers, helping to establish a worker-friendly construction culture centered on construction sites (from April 2022)

Preparing a response system at the LH Happiness Support Center (rental house management offices) to address special complaints about repeat verbal violence, protecting employees through legal actions, and fostering a fair complaint handling culture

Classification	Activities and Plans	
Protection of employees	Special complaint task force (Regional headquarters)	Protecting employees and responding directly to complaints when situations occur
	Complaint service group (HQ)	Supporting preemptive grievance investigations and handling of complaints
Strong action against special complaints	Legal action against special complaints	Commencing a framework to take legal action against special complaints (in progress)
	Expanding the legal advisory group	Forming a group of attorneys in charge of special complaints
Improvement of complaint response environment	Blocking abusive phone calls	Blocking verbally abusive phone calls to maintain the mental health of employees
	Building a crime prevention environment	Rearranging office spaces and expanding video and voice recording devices
Reinforcement of complaint response capabilities	Education on responding to special complaints	Counseling and complaint response education for emotional laborers
	Active counseling	Expanding the number of mind shelters and mental health counselors
Compensation for complaints	Complaint compensation system	Providing compensation for people having to revisit due to mistakes made by employees

ESG Activities with Stakeholders

Suppliers

Holding Win-Win cooperation meetings with construction associations, suppliers, and professional agencies for continual communication



Korea Specialty Construction Association



Korea Electrical Contractors Association



Korea Information & Communication Contractors Association



Construction management companies

Operating the Construction Culture Innovation Center and publishing LH Insight to communicate with suppliers



Operation of the Construction Culture Innovation Center



Communication of Trends and Issues through LH Insight



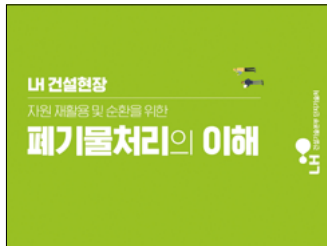
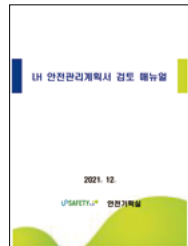
Using proper construction language, promoting a fair construction culture, and sharing LH's safety management and waste treatment know-how with suppliers



Guidebooks on Proper Construction Language and the Settlement of Subcontract Disputes



Guidebooks on Safety and Environmental Law Information and Practice



Collaboration on the environment by Industry-University-Research Institute

- Joint governance by industry-university-government partnerships to attain Net Zero: Launched the Net Zero Digital Innovation Platform Lab (Chung-Ang University)
- Holding a future park development forum to attain Net Zero, working with constructors and societies



Net Zero Digital Innovation Platform Lab



Forum to Attain Net Zero



Residents

Holding various events to support residents of rental houses



Happy Companion Wedding for residents of rental houses



Mental Health Committee for Residents



Operating various rental house support activities and a youth press group for housing welfare



Visiting Rental Housing Sites



Supporting Education for Children



Integrated Agreement Ceremony for Insolvent Rental Housing



Kick-off Ceremony of the Youth Press Group for Housing Welfare

Creating an on-site cooperative channel for housing management

- LH Housing Management Master Meeting: appointment of directors of Happiness Support Centers, as recommended by the director at regional headquarters (11 persons in 2021 → 16 persons in 2022), and discussing pending issues
- Regular meeting of directors of Happiness Support Centers: Conducting regular meetings of the heads of the Happiness Support Centers from each regional headquarters (quarterly)



LH Housing Management Master Meeting



Regular Meeting of Directors of Happiness Support Centers

Holding the Future Forum on Housing Welfare and the Academic Seminar on National Rental Housing to improve the quality of life for residents

- Proactively responding to the changing population structure and social and economic changes, communicating with academic experts and authorities for the new paradigm shift in housing welfare, identifying policy agenda for housing welfare, and exploring alternatives (held 3 forums in 2021, with plans to hold 4 forums in 2022)



Future Forum on Housing Welfare



Academic Seminar on National Rental Housing

ESG Activities with Stakeholders

Local Communities

Conducting meetings with residents and local governments to communicate with local communities and signing various business agreements to solve the pending issues in each region



Resident Meeting on the February 4 Policy



Local Government Meeting in Gyeonggi-do



Relocation Agreement for the Daejeon Correctional Institution



Housing Platform Business Agreement

Operating research centers to collaborate with experts to enable balanced regional development, and communicating with residents through company newsletters

- Supporting research and holding seminars to support balanced regional development
- Sharing regional issues and status with subscribers of LH newsletters (7,507 persons)



Operating the LH Balanced Regional Development Center



LH Newsletters (with LH)

Operating ESG forums at each regional headquarters to strengthen communication and cooperation with local communities



Gyeonggi HQ



Sejong Special HQ



Incheon HQ



Seoul HQ

Promoting ESG in local communities by identifying regional ESG tasks together with residents



Forest Fire Restoration by Employees (Changnyeong)



Local ESG Practice Campaign (Jinju)



Sponsoring Disabled Persons (Daegu)

Employees

Carrying out various integrity practice activities, such as integrity resolutions and agreements at all regional headquarters



Busan & Ulsan HQ



Gangwon HQ



Chungbuk HQ



Daegu & Gyeongbuk HQ

Practicing and internalizing safety management through measures such as safety education, safety cultural events, and safety management declarations at each regional headquarters



Busan & Ulsan HQ



Jeonbuk HQ



Gyeongnam HQ

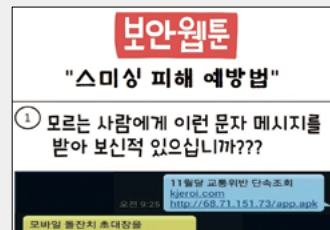


Gangwon HQ

Published security newsletters (53 issues) and customer satisfaction webtoons (9 episodes) in 2021, internalizing social values through a contest to recognize and reward exemplary cases



Security Newsletter



Security Webtoon



Customer Satisfaction Webtoon



Exemplary Customer Satisfaction Case Contest

Conducting various ESG activities with employees



Net Zero Practice Week



ESG Declaration Ceremony by Labor-Management Joint



Sharing Briquettes of Love

OUR ESG FACTBOOK

094	Economic Performance
096	Environmental Performance
099	Social Performance
104	Business performance
106	ESG Value Creation Performance

Economic Performance

Summary of Financial Statements

Unit: KRW million

Classification		2019	2020	2021
Assets	Current assets	75,530,453	78,221,433	87,102,906
	Non-current assets	100,984,623	107,065,024	114,547,159
	Total	176,515,076	185,286,457	201,650,065
Liabilities	Current liabilities	52,401,548	48,464,468	54,049,456
	Non-current liabilities	74,278,483	81,280,626	84,838,958
	Total	126,680,031	129,745,094	138,888,414
Capital	Issued capital	33,463,842	36,313,050	39,980,049
	Others	16,363,120	19,220,692	22,781,602
	Owners of the parent company	49,826,962	55,533,742	62,761,651
	Non-controlling interest	8,083	7,620	6,989
	Total	49,835,045	55,541,362	62,768,640

Summary of Consolidated Income Statement

Unit: KRW million

Classification		2019	2020	2021
Sales		20,529,772	24,433,563	27,345,907
Cost of sales		17,086,316	19,389,010	21,039,191
Gross profit		3,443,456	5,044,553	6,306,716
Selling and administrative expenses		660,711	709,981	658,133
Operating profit		2,782,745	4,334,572	5,648,583
Other revenue		984,901	859,652	803,260
Other expense		454,981	354,834	507,505
Other profit (loss)		(11,702)	(42,649)	(19,392)
Finance income		193,291	169,607	205,217
Financial expense		712,295	563,424	490,086
Profit (loss) from associates and joint ventures		(17,113)	(31,771)	(49,187)
Net profit on continuing operations before income tax		2,764,846	4,371,153	5,590,890
Income tax expense (profit)		520,128	1,068,273	1,427,574
Net income		2,244,718	3,302,880	4,163,316
Other comprehensive income		29,429	6,529	89,030
Total comprehensive income		2,274,147	3,309,409	4,252,346
Current net income attributable to owners of the parent company		2,245,375	3,303,073	4,163,436
Current net income attributable to non-controlling shareholders' equity		(657)	(193)	(120)

Securing Financial Soundness

Unit: %

Classification		2019	2020	2021
Financial ratio management	Debt to equity ratio	132.3	123.9	119.9
	Debt ratio	254.2	233.6	221.3
	Return on equity	4.7	6.3	7.0
	Interest coverage rate	272.0	357.0	470.0

Creating Economic Values

Unit: KRW 100 million

Classification		2019	2020	2021
Sales		205,298	244,336	273,459
Sales by business area	Land project	151,170	148,542	134,112
	Housing project	34,076	76,147	119,080
	Housing welfare	14,411	14,567	14,773
	Subsidiary business	5,641	5,080	5,494
Operating profit		27,827	43,346	56,486
Net income		22,447	33,029	41,633

Distribution of Economic Values

Unit: KRW 100 million

Classification		2019	2020	2021
Shareholders	Dividends	4,524	6,666	8,378
Government	Income tax	8,642	12,978	17,046
Local Communities	Local tax, social contributions	5,209	5,944	6,410
Suppliers	Total purchase from suppliers	88,221	121,689	74,117
Employees	Wage and welfare	6,639	7,159	6,553
	Wage	5,922	6,325	5,668
	Retiring allowance	382	469	575
	Fringe benefits	335	365	310

· Income tax was calculated on the basis of the 2019 revised report. Construction payments were calculated on the basis of the value of the contracts signed in the corresponding year.
· Fringe benefits were calculated on the basis of the ALIO (All Public Information In-One) disclosure.

Payment of Government Contributions and Receipt of Government Subsidies

Unit: KRW 100 million

Classification		2019	2020	2021
Payment of Government Contributions		26,814	28,630	36,725
Receipt of Government Subsidies		1,760	2,013	1,924

Purchases from Suppliers by Type

Unit: KRW 100 million

Classification		2019	2020	2021
Construction		71,121	102,363	52,306
Service		10,439	12,974	12,783
Material		6,661	6,352	9,028
Total		88,221	121,689	74,117

Environmental Performance

Energy Consumption

Classification		2019	2020	2021
Non-renewable Energy Consumption	Fossil Fuel	0.03	0.05	0.03
	Gas	2.34	2.45	2.67
	Electricity	44.88	45.44	51.25
	Heating	8.02	7.90	8.65
	Total	55.27	55.84	62.60
Renewable energy purchase and production		6.00	7.27	4.57
Total non-renewable energy usage		49.27	48.57	58.03

· Data were based on the LH HQ Office Building in Jinju.

Greenhouse Gas (GHG) Emissions

Classification		2019	2020	2021
Direct GHG emissions (Scope 1)		169,339	180,105	194,088
Indirect GHG emissions (Scope 2)		5,473	4,930	26,330
Total		174,812	185,035	220,418

· Data includes collective energy facilities, LH headquarters, and 15 regional business sites based on the Registration of National Greenhouse Gas Management System (NGMS) and third-party verification.
· Verification Principles and Criteria: Guidelines on reporting and certification of emissions under the GHG Emissions Trading Scheme/Guidelines on verification of operation under the GHG Emissions Trading Scheme
· Verification Method: LH's GHG emissions and energy consumption statements, GHG data management and collection, GHG emission calculation and reporting process

Implementation of Emissions Trading Scheme

Classification		2019	2020	2021
Emissions		174,812	185,035	220,418
Quota		124,322	125,981	196,062
Carrying over and borrowing of emission rights		(27,563)	0	0
Carbon credits		17,481	0	11,020
Purchase of emission rights		60,572	59,054	13,336

· Quota: GHG reduction target notified to LH by the Government
· Emissions: Based on the Registration of National Greenhouse Gas Management System (NGMS) and third-party verification.

Water Consumption and Reuse

Classification		2019	2020	2021
Water supply	Consumption	109,662	110,995	113,494
	Reuse	6,556	13,649	6,453
	Reuse rate (%)	5.98	12.30	5.69
Heavy water	Consumption	22,576	26,008	24,523
	Reuse	4,602	12,079	12,772
	Reuse rate (%)	20.38	46.44	52.08
Storm water	Consumption	3,393	2,413	2,257
	Reuse	1,950	1,570	940
	Reuse rate (%)	57.47	65.06	41.65

· Data were based on the LH HQ Office Building in Jinju.

Waste Emissions, Recycling and Disposal

Classification		2019	2020	2021	
Emissions	Industrial waste (general)	35,217	26,887	18,590	
	Construction waste	4,287,362	3,534,194	2,804,549	
	Total	4,322,579	3,561,081	2,823,139	
Recycling	Recycled	Industrial waste (general)	2,088	915	3,163
		Construction waste	24,673	20,734	25,781
		Total	26,761	21,649	28,944
	Sold	Industrial waste (general)	212	591	151
		Construction waste	4,205,947	3,467,704	2,724,264
		Total	4,206,159	3,468,295	2,724,415
	Ratio of recycled waste (%)		97.9	98.0	97.5
Total emissions (Emissions - Recycled - Sold)		89,659	71,137	69,780	
Disposal	Landfill	Industrial waste (general)	1,375	1,283	1,454
		Construction waste	268	1	223
		Total	1,643	1,284	1,677
	Incineration	Industrial waste (general)	31,542	24,097	13,822
		Construction waste	56,474	45,756	54,281
		Total	88,016	69,853	68,103

· Construction waste was calculated based on construction site waste data from the Korean Environment Corporation's Waste Allbaro system.
· Ratio of Recycled Waste: (Recycled + Sold) / Emission*100

Energy Consumption Reduction and Efficiency

Classification		2019	2020	2021
Green remodeling	Old public rental houses (units)	-	10,300	75,497
	Public buildings (units)	-	821	895
	Total (units)	-	11,121	76,392
Zero energy housing	Number of houses (units)	1,735	2,035	2,784
	Energy saving (kwh)	3,119,802	3,921,249	5,128,334
	Green Building Certifications (units)	2	4	9
Smart green industrial complex	Number of complexes (units)	-	-	2
	Carbon emission reduction ratio (%)	-	-	(New Designation Phase)
Carbon offset forest	Carbon absorption (ton)	-	-	69
DR (Demand Management)	Cumulative number of participating households (units)	-	361	1,880
ESG Green Bond	Domestic issuance (KRW 100 million)	-	-	6,300
	Overseas issuance (USD 1 million)	-	-	-
ESG Social Bond	Domestic issuance (KRW 100 million)	-	-	4,400
	Overseas issuance (USD 1 million)	200	500	260

Environmental Performance

Air Pollutant Emissions

		Unit: ton		
Classification		2019	2020	2021
Nitrogen oxides (NOx)		87.5	84.6	87.8
Sulfur oxides (SOx)		-	-	-
Volatile organic compounds (VOCs)		-	-	-
Dust		-	-	-
· Emission estimation: Asan Energy Project Team and Daejeon Energy Project Team, where combined heat and power plants are located				

Water pollutant emissions

		Unit: ton, ppm		
Classification		2019	2020	2021
Biological Oxygen Demand (BOD)	Emissions (ton)	0.09	0.02	0.05
	Emission concentration (ppm)	3.20	0.80	0.95
	Legal limit (ppm)	120	80	80
Chemical Oxygen Demand (COD)	Emissions (ton)	0.18	0.17	0.10
	Emission concentration (ppm)	2.80	3.15	1.80
	Legal limit (ppm)	130	40	40
Suspended Solids (SS)	Emissions (ton)	0.19	0.12	0.07
	Emission concentration (ppm)	5.00	0.55	1.20
	Legal limit (ppm)	120	30	30
· Emission estimation: Asan Energy Project Team and Daejeon Energy Project Team, where combined heat and power plants are located				
· We comply with the legal standards for the acquisition of integrated permits pursuant to Article 6 of the Act on the Integrated Management of Environmental Pollution Facilities in 2020.				

Green purchasing

		Unit: KRW 100 million		
Classification		2019	2020	2021
Purchase of green products	Purchase amount of green products	3,281	2,667	2,587

Application of New Environmental Technologies

		Unit: Cases		
Classification		2019	2020	2021
Performance of New Environmental Technologies	Number of construction sites	7	8	16
· Disclosed via the Korea Environmental Industry & Technology Institute (www.koetv.or.kr) of the Ministry of Environment				

Environment Education

		Unit: cases, persons		
Classification		2019	2020	2021
Employees	No. of environment education courses	20	15	10
	No. of employees who completed environment education	84	163	188

Social Performance

Workforce

		Unit: persons		
Classification		2019	2020	2021
Total number of employees		9,677	9,951	10,078
Employment type	Regular (Permanent)	6,995	7,151	7,117
	Regular (Indefinite Term)	2,217	2,299	2,160
	Non-regular	465	501	801
Gender	Male	6,419	6,531	6,374
	Female	3,258	3,420	3,704
	Female managers	343	422	526
	Female executives	4	3	3
Age	Below 30	2,063	2,179	1,978
	Between 30~40	4,900	4,983	5,323
	Above 40	2,714	2,789	2,777

New hires

New hires

Unit: persons

Classification		2019	2020	2021	
Gender	Male	Regular (Permanent)	434	215	20
		Regular (Indefinite Term)	76	78	-
		Non-regular	277	252	470
	Female	Regular (Permanent)	233	148	3
		Regular (Indefinite Term)	98	83	-
		Non-regular	338	322	873
	Total	Regular (Permanent)	667	363	23
		Regular (Indefinite Term)	174	161	-
		Non-regular	615	574	1,343
Age	Below 30	Regular (Permanent)	589	305	6
		Regular (Indefinite Term)	124	108	-
		Non-regular	179	216	518
	Between 30~50	Regular (Permanent)	73	52	9
		Regular (Indefinite Term)	46	51	-
		Non-regular	280	230	511
	Above 50	Regular (Permanent)	5	6	8
		Regular (Indefinite Term)	4	2	-
		Non-regular	156	128	314
	Total	Regular (Permanent)	667	363	23
		Regular (Indefinite Term)	174	161	-
		Non-regular	615	574	1,343

Social Performance

Employee Turnover

Unit: persons, (%)

Classification		2019	2020	2021
Gender	Male	235	277	466
	Female	74	63	112
	Total	309	340	578
Age	Below 30	95	67	118
	Between 30~50	49	56	93
	Above 50	165	217	367
	Total	309	340	578
Total Turnover Rate (%)		3.2	3.4	5.7
Outplacement Training Service		148	299	309

Respect for Diversity

Unit: persons, (%)

Classification		2019	2020	2021
Workforce Composition (persons, %)	Female regular workers	Persons (%) 2,985(32.4%)	3,133(33.2%)	3,419(36.9%)
	Female managers	Persons (%) 343(9.2%)	423(10.6%)	528(12.6%)
	Percentage of persons with disabilities in permanent positions	Persons (%) 188(2.0%)	202(2.1%)	206(2.2%)
Open Recruitment (persons)	STEM	Persons 428	197	4
	Female	Persons 233	148	3
	Local talent	Persons 327	175	4
	High school graduates	Persons 68	45	1
	Persons with disabilities	Persons 16	8	-

• No new hires due to a reduction in the number of employees in 2021.

Education and Training

Unit: hours, KRW 1 million

Classification		2019	2020	2021
Training Hours	Total Training Hours	1,055,148	903,229	933,733
	Training Hours per Person	112	93	104
Training Expenses	Total Training Expenses	15,803	12,932	13,308
	Training Expenses per Person	1.67	1.34	1.48

Welfare and Benefit

Unit: KRW million

Classification		2019	2020	2021
Welfare Expenses	Total Support Expenses	33,535	36,557	31,058
	Support Expenses per Person	3.92	3.91	3.23

Ratio of New Employees' Starting Salary to Minimum Wage/Ratio of Female Wage to Male Wage

Unit: KRW, %

Classification		2019	2020	2021
Wage	Minimum wage	1,745,150	1,795,310	1,822,480
	Ratio of New Employees' Starting Wage to Minimum Wage (%)	148	147	153
Ratio of Female Wage to Male Wage	Ratio of New Female Employees' Wage to New Employees' Starting Wage (%)	100	100	100
	Overall Female Employees' Wage to Average Wage (%)	67	69	72

· Data were based on the ALIO (All Public Information In-One) disclosure. There is no discrimination in the remuneration system according to gender, but there is a difference due to length of service, etc.

Maternity Protection Programs and Work-Life Balance

Unit: persons, units

Classification			2019	2020	2021
Parental leave	No. of employees who used parental leave	Male	76	84	98
		Female	236	285	301
		Total	312	369	399
No. of employees who used reduced working hours during child-rearing period		Total	65	88	103
No. of employees who used maternity leave		Childbirth	64	83	95
		Spouse's childbirth	99	80	114
		Total	163	163	209
No. of employees who used family care leave		Total	-	92	40
No. of employees who used flexible working		Total	2,173	10,393	10,079
Facility	In-house Daycare Center	Number of Facilities (units)	4	4	5
Management	Counseling Room	Number of Facilities (units)	13	13	19

Use of Flexible Working

Unit: persons

Classification		2019	2020	2021
Selective hours system		104	102	90
Flexible work hour system		2,069	1,807	1,586
Remote working system (Work from home system)		-	8,484	8,403
Total		2,173	10,393	10,079

· Data were based on ALIO (All Public Information In-One) disclosures.

Social Performance

Freedom of Association

Classification		2019	2020	2021
Labor union membership	Persons	8,243	8,571	8,120
	Ratio (%)	99.3	99.3	99.0
Number of regular meetings between labor and management (times)		6	4	2

· Those eligible for union membership are regular workers of Grade 3 or lower, and the number of regular meetings between labor and management is based on the Labor-Management Council.

Safety and Health Management

Classification			2019	2020	2021
Accident rate	Employees	Industrial accident rate (%)	0.18	0.11	0.15
	Suppliers	Industrial accident rate (%)	0.57	0.58	0.70
Number of deaths	Employees	Persons	5	5	8
	Suppliers	Persons	4	6	2
Number of injured	Employees	Persons	23	13	15
	Suppliers	Persons	308	274	340
Safety Management Budget (KRW 100 million)			2,053	2,469	2,959
Safety and health personnel (persons)	Employee safety and health		-	-	30
	Site safety management		85	229	229
	Total		85	229	259
Health and safety training	Employees	No. of employees subject to training (persons)	9,485	10,034	10,317
		No. of employees who completed training (persons)	9,485	10,034	10,317
		Completion rate (%)	100	100	100

· Industrial accident rate : (Number of victims / Average number of workers per year) * 100
· Safety management budget and site safety management personnel (based on fixed number) are based on the annual safety management responsibility plan approved by the Board of Directors.
· Employees in charge of safety and health changed to direct employment from 2021 due to the revision of the relevant law (service contract was implemented until 2020)
· Data for health and safety training include the number of non-regular employee (term-limited employees).

Supply Chain Management

Classification		2019	2020	2021
Supplier Status (companies)	Construction	2,906	3,904	1,104
	Service	925	1,189	1,075
	Material	2,034	1,874	2,963
	Total	5,865	6,967	5,142
Communication with suppliers (times)		62	46	30
Handling of difficulties relating to suppliers (cases)		336	287	191
Support for suppliers' sustainable management activities (companies)	Construction site safety consulting	88	97	83
	Environmental management consulting	-	-	3
	Technology proposal performance shares	3	2	1

· Communication with suppliers and handling of difficulties relating to suppliers cover the number of meetings held with suppliers and the number of cases of difficulties handled, respectively.
· Sustainability management risk assessment: document/onsite evaluation to ensure that there are no risks in terms of labor, human rights, environment, safety and health, and ethics
· Support for sustainability management activities: Support for direct and indirect related activities such as education, consulting, and technology development investment for suppliers to establish their sustainable management policies/systems

Win-Win Growth Support for SMEs/Socioeconomic Enterprises

Classification		2019	2020	2021
Startup Support	Number of teams	44	59	13
	Amount of support (KRW 100 million)	15.0	17.0	3.9
New product development for purchasing conditions	Cases	6	16	10
	Amount of support (KRW 100 million)	7	32	19
LH Certified New Technology Application	Cases	66	86	69
	Amount of support (KRW 100 million)	264	273	216
Innovation partners	Number of companies	-	10	10
	Amount of support (KRW 100 million)	-	3	3
Creation of Win-Win Smart Factories	Number of companies	-	13	20
	Amount of support (KRW 100 million)	-	4.9	2.3
Financial Support	Cases	158	178	135
	Amount of support (KRW 100 million)	384	454	357
Employment support	Number of companies	32	31	32
	Amount of support (KRW 100 million)	2	2	2
Product Purchase	Purchase amount from SMEs	52,913	63,705	72,504
Hope Shopping Complex	Number of shopping complex (Unit)	146	195	212

Community Involvement and Development

Classification		2019	2020	2021
	National Industrial Complex	Number of complexes (units)	5	9
		Number of employees (persons)	23,623	23,623
Infrastructure Investment	Innovation Growth Center	Number of centers (units)	-	(Under construction planning)
		Number of employees (persons)	-	-
	Campus Innovation Park	Number of participating universities (units)	3	-
Revitalization of the local economy and balanced development	Housing platform project	Number of regions (units)	-	1
	Housing for village renovation	Number of regions (units)	2	3
		Number of households (units)	239	264
Social contribution with local community	Donation to Local Community	Beneficiary (persons)	96,106	174,561
		Amount of donation (KRW 100 million)	175	198
	Employee Volunteer	Number of participants (persons)	7,866	7,617
		Total participation time (hours)	69,908	63,142

· Housing platform was calculated based on the LH pilot project (Hamyang) in 2020 and Ministry of Land, Infrastructure, and Transport projects in 2021.

Social Performance

Customer Information Protection and Customer Satisfaction

Unit: cases, degree

Classification		2019	2020	2021
Leakage and infringement of personal information	Cases	0	0	0
	Management of customer satisfaction	Satisfaction (degree)	Inadequate	Inadequate

· Based on the Public-service Customer Satisfaction Index (PCSI). 2019 grade was not announced.

Product/Service Safety

Unit: companies, sites, %

Classification		2019	2020	2021
Material quality inspection	Number of companies	34	55	52
Expert quality improvement project	Number of sites	19	19	18
Defect management within 15 days	Ratio (%)	57.8	67.5	76.2
Defect management after 90 days	Ratio (%)	1.8	0.8	0.5

Human Rights Impact Assessment

Unit: cases

Classification		2019	2020	2021
Evaluation target	Urban development project Housing welfare project			Urban regeneration project
Improvements derived		4	6	13

· Human rights impact assessment was conducted for each business area in accordance with the Human Rights Management Manual (established by the National Human Rights Commission of Korea).

Business Performance

Order Performance

Unit: KRW 100 million

Classification		2019	2020	2021
Construction		106,546	144,203	83,695
Service		1,248	13,668	12,877
Total		107,794	157,871	96,572

Project Performance

Unit: separate

Classification		2019	2020	2021
Land	Selecting candidate pieces of land (1,000 m ²)	30,260	19,397	41,506
	District selection (1,000 m ²)	31,492	23,023	2,491
	Construction commenced (1,000 m ²)	20,623	16,975	17,105
	Land compensation area (1,000 m ²)	7,348	12,909	12,714
	Land supply area (1,000 m ²)	8,730	9,029	8,177
Housing	Project approved (units)	76,607	70,562	48,728
	Construction commenced (units)	84,187	78,804	25,488
	Completed (units)	53,093	69,891	48,701
	Public sales (units)	12,265	11,223	19,921
	Construction rental (units)	38,003	38,875	55,081
Housing welfare	Pre-subscription (units)	-	-	32,154
	Purchased rental (units)	22,090	24,739	28,396
	Leased rental (units)	41,483	43,188	37,412
	Housing benefit (units)	1,091,918	1,104,172	1,387,074
Business expenses	Expenditure (KRW 100 million)	210,799	285,650	301,844

· Criteria for housing supply: Public sale and construction rental houses are based on the public announcement for occupants, while purchased rental and leased rental houses are based on the supply contract.
· Housing benefit: The housing benefit is the sum of housing survey quantity and housing renovation quantity.
· Business expense: The project expense is based on the public announcement of investments on ALIO for public institutions.

Rental Housing Inventory

Unit: units

Classification		2019	2020	2021
Construction rental		823,801	866,189	884,427
Purchased rental		146,018	163,674	179,201
Leased rental		232,176	248,327	257,207
Total		1,201,995	1,278,190	1,320,835

My Home Housing Support Service

Unit: cases, units

Classification		2019	2020	2021
Online Portal	Portal	2,054,173	3,342,677	5,637,645
	Mobile	1,370,756	2,039,972	2,130,478
	Total	3,424,929	5,382,649	7,768,123
Counseling	Visit	180,088	214,743	165,855
	Phone	142,164	136,755	112,258
	Outreach counseling	14,119	5,293	2,448
	Call Center	2,631,002	2,047,576	2,130,314
	Total	2,967,373	2,404,367	2,410,875
Regional My Home Center (No. of facilities)		56	62	62

· Counseling: Online - Portal (myhome.go.kr) and call center (1600-1004) / Offline: Local My Home Centers

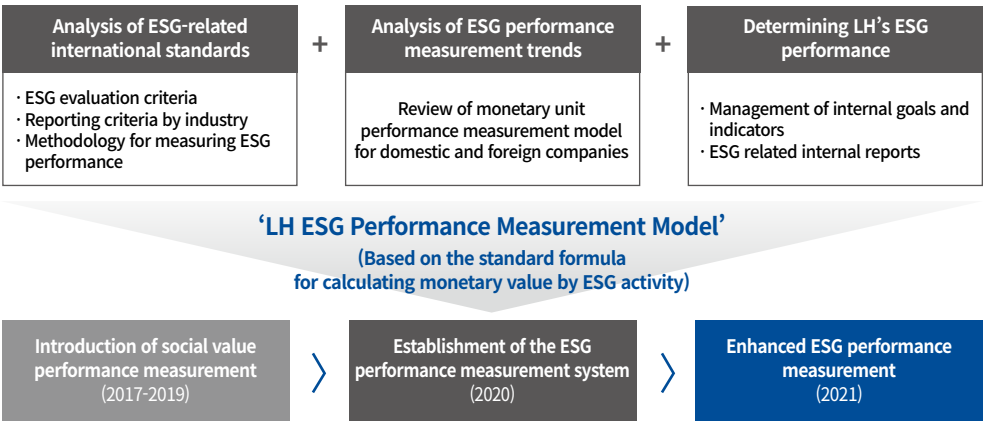
ESG Value Creation Performance

ESG Performance Measurement

ESG Performance Measurement Model

LH has prepared an ESG performance measurement model that converts and measures social value performance into monetary value so that people can easily understand our performance in terms of social value. We quantitatively measure and disclose ESG performance every year.

We identified internal goals and indicators for management based on internal ESG-related reports, global ESG evaluation criteria, industry-specific reporting criteria, and ESG performance measurement methodology, as well as analysis of the external environment – such as the ESG performance measurement trends of domestic and foreign companies. Through this, we have set the direction and scope of our performance measurement and developed the ‘LH ESG Performance Measurement Model’ to measure performance based on a standard formula to calculate monetary value for each ESG activity. (Verifier: Korea Social Value Assessment)



Principles for ESG Performance Measurement

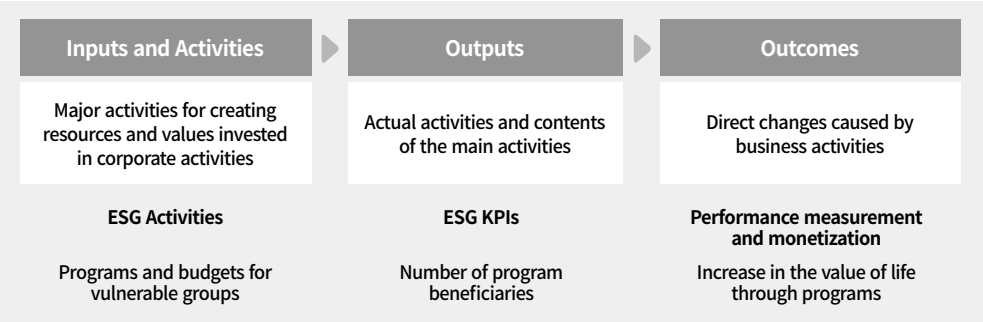
Five principles for performance measurement were applied to improve the reliability of measurement methods and results, as well as to enable comparison with the performance of other companies.

Performance measurement by year	Measurement of actual performance in the measurement year
Reflecting the contribution of the company to be measured	Should be reflected only in the contribution of the company to be measured in case of the performance generated with suppliers
Benefit/Cost measurement	Includes both positive and negative results generated through business activities
Outcomes-oriented measurement	Outcomes of changes to stakeholder values through management activities
Exceeding social expectations	Value exceeding the baseline expected by society should be counted as performance

· Based on typical ESG performance measurement initiatives, such as the Value Balancing Alliance (VBA) and Capitals Coalition, and ESG or social value performance measurement principles adopted by domestic and foreign companies

ESG Performance Measurement Process

Course



Example

Performance in ESG Value Creation

In a first for a public enterprise, LH implemented social value performance measurements in the period from 2017 to 2019. We have measured ESG performance every year since the ESG performance measurement system was established in 2020. In 2021, we generated ESG outcomes of KRW 15,474.2 billion, an increase of KRW 4 trillion from the previous year. (KRW 11,497.4 billion in 2020)

ESG Performance: KRW **15.4** trillion (Business + Management)

Job creation

KRW **2,625.1** billion

- Created jobs in the construction area
- Created jobs, such as youth internships



Housing stability

KRW **6,177.1** billion

- Reduction of housing costs
- Reduction of moving costs



Balanced development of regions

KRW **0.5** billion

- Regional Balanced Development Fund



Workforce Health & Safety

KRW **135.1** billion

- Decrease in occupational deaths
- Enhancement of the safety management system and education



Improving residential quality

KRW **194.7** billion

- Enhancement of safety in rental housing



Support for small business owners

KRW **4.7** billion

- Support for the Hope Shopping Complex
- Support for socioeconomic enterprises



Contribution to social overhead capital

KRW **1,147.7** billion

- Free contribution of social overhead capital



Support for housing for vulnerable groups

KRW **10.3** billion

- Supply of housing for vulnerable groups
- Barrier-free design



Protection of the ecosystem

KRW **88.5** billion

- Green remodeling
- Environment conservation project



Reduction of GHG emissions

KRW **15.5** billion

- GHG emissions reduction from the purchase of green products



Climate change response

KRW **260.9** billion

- Photovoltaic power generation facilities
- Low power lighting



Business
KRW
10.6
trillion

Urban development and housing construction

KRW **3,923.4** billion

Residential stability

KRW **6,643** billion

Balanced development

KRW **93.8** billion

Creation of new jobs

KRW **8.6** billion

- Creation of new jobs

Diversity and inclusion

KRW **-17.3** billion

- Employment of vulnerable groups, etc.

Support for SMEs

KRW **2,515.9** billion

- R&D support and purchase of products

Social contribution

KRW **37.4** billion

- Social contribution through goods and donations

Climate change response

KRW **-1.9** billion

- Reduction of energy use and pollutant emissions

Taxes and dividends

KRW **2,265.4** billion

- Income tax paid
- Government dividend

Work and life balance and improvement of working conditions

KRW **5.8** billion

- Flexible working system
- Parental leave for employees

Management
KRW
4.8
trillion

Contribution to the national economy

KRW **2,274** billion

Healthy working environment

KRW **-11.5** billion

Win-Win growth

KRW **2,515.9** billion

Communication with citizens

KRW **37.4** billion

Environmental conservation

KRW **-1.9** billion

APPENDIX

110	Third-Party Assurance Statement
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114	GRI Standards
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Third-Party Assurance Statement

To the stakeholders of Korea Land and Housing Corporation (LH)

KOSRI (hereinafter the assurance provider) was requested by the Korea Land and Housing Corporation (LH) for a third-party assurance opinion on the 2021 Sustainability Report (hereinafter the Report). The assurance provider reviewed the report based on international standards and assurance principles. Opinions reflecting professional views are provided to Korea Land and Housing Corporation (LH) management and shared with Korea Land and Housing Corporation (LH) stakeholders. Korea Land and Housing Corporation (LH) is solely responsible for the collection, aggregation, analysis and assertion of all information and data within the Report.

Scope of Assurance

From January 1, 2021 to December 31, 2021, the main contents of the sustainability management policies, strategies, goals, implementations, and performances of Korea Land and Housing Corporation (LH)'s domestic headquarters and regional headquarters, as well as major issues that are included as a result of the materiality test, were subject to assurance. Among the financial information included in the Appendix, the contents posted on the Korea Land and Housing Corporation (LH) website, and the reporting boundary of the report, data and information outside the organization, such as Korea Land and Housing Corporation (LH)'s suppliers and contractors, were excluded from the scope of assurance.

Criteria of Assurance

It was verified with the Type 1 and Moderate level of the international assurance standard AA1000AS v3, and confirms it followed 4 principles (Inclusivity, Matereality, Responsiveness, Impact) presented by AA1000AP (2018). It was verified that the report was prepared in accordance with the GRI Standards and the report content specified below conforms to the Core Option of the GRI Gudielines.

[Universal Standards]

Organizational Profile 102-1~13 / Strategy 102-14~15 / Ethics and integrity 102-16~17 / Governance 102-18~19, 102-22~24, 102-26~29, 102-31 / Stakeholder Engagement 102-40~44 / Reporting Practices 102-45~56 / Management Approach 103-1~3

[Topic-specific Standards]

- Economy: 201-1~2 / 203-1~2 / 204-1 / 205-1~3
- Environment: 302-1~2, 4~5 / 303-3~5 / 304-3~4 / 305-1~2, 5~7 / 306-3~5 / 307-1
- Social: 401-1~3 / 403-1~10 / 404-1~3 / 405-1~2 / 406-1 / 412-1~2 / 413-1 / 418-1 / 419-1

Methodology of Assurance

The assurance provider has performed the following activities for this assurance.

- The assurance provider checked whether the issues of stakeholder interest were properly identified through Korea Land and Housing Corporation (LH)'s approach, such as stakeholder setting and participation. It was checked whether related documents and records were subject to review and were faithfully reflected in the report.
- Reviewed Korea Land and Housing Corporation (LH)'s issue identification, decision process and results to ensure material issues are properly included in the report.
- The assurance provider checked errors and supplementary verification targets in the draft report, collected and edited data, and interviewed key managers who participated in the drafting.
- Supplementary items that require proof, such as performance figures and certifications, were checked through on-site inspections and verified whether the revised and supplemented report met the standards.

Limitations and Responses to mitigate

This assurance statement has limitations as it is focusing on verifying validity on the premise that the information and data presented in the report statements are complete and sufficient. In order to confirm wheter the information, data, and presented figures are consistent with the description, we conducted on-site verification at the Korea Land and Housing Corporation (LH) headquarters and verified external certification materials and internal reports.

Independency

The assurance provider has a license officially certified by AccountAbility UK. This assurance statement was conducted based on sufficient expertise in sustainability management and ESG. The assurance provider does not have any other interests with Korea Land and Housing Corporation (LH), that may impair independence and fairness of this assurance, than providing third-party assurance statement.

Conclusion

The assurance provider has confirmed that this report reflects Korea Land and Housing Corporation (LH)'s sustainability management activities and performances faithfully and fairly, and that this report meets the requirements of the Core Option of GRI Standards. Compliance with the 4 principles presented by AA1000AP (2018) is as follows.

Inclusivity

Korea Land and Housing Corporation (LH) identifies residents and the public, the government and the National Assembly, business partners, local communities, employees and investors as key stakeholders, and reflects the expectations of key stakeholders in decision-making on sustainability management through various communication channels. The assurance provider confirmed that no significant stakeholders were omitted from the sustainability management process.

Materiality

Korea Land and Housing Corporation (LH) established a pool of issues based on key items commonly identified in the standard sustainability management indicators and performance indicators of public institutions, and then decided priorities in consideration of stakeholder and business impacts. The assurance provider did not find any procedures or contents that infringe on the materiality of the issues reflected in the report.

Responsiveness

Korea Land and Housing Corporation (LH) is responding appropriately to issues of interest through communication with stakeholders. Activities such as monitoring the implementation of major issues and checking the priority and maturity of responses were confirmed.

Impact

Korea Land and Housing Corporation (LH) has a structured process in place to understand, measure, evaluate and manage organizational impact. Efforts to minimize negative impacts on contribution to the national economy, Win-Win growth, environmental preservation, and communication with the public were confirmed by quantifying the impact of each stakeholder in the implementation of major issues with specific figures.

Recommendations

Korea Land and Housing Corporation (LH) clearly shows that they recognize transparency and integrity management, which has been national issues, as its core task by explaining its efforts in detail. LH's transparency and integrity management were identified as core and material issues in the materiality evaluation as well. However, assurance provider recommend to intensively explain related issues to help stakeholders understand better rather than explaining various issues in various ways. Also, even though we understand explanations need numerous figures due to business characteristic of Korea Land and Housing Corporation (LH), assurance provider recommend to focus on describing responsiveness and impact, then use fact books and others to explain figure related issues which will help stakeholders understand better.

Greenhouse Gas Emissions Assurance Statement

Introduction

DNV Business Assurance Korea Ltd. (“DNV”) was commissioned by KOREA LAND & HOUSING CORPORATION (“LH”) to verify the LH’s Greenhouse Gas Inventory Report for the calendar year 2021 (“the report”) based upon a reasonable level of assurance. LH is responsible for the preparation of the GHG emissions and Energy consumption data on the basis set out within the guidelines on the operation of GHG emission trading scheme (“ETS” (Notification No. 2021-278 of Ministry of Environment)). Our responsibility in performing this work is to the management of LH only and in accordance with terms of reference agreed with them. DNV expressly disclaims any liability or responsibility for any decisions, whether investment or otherwise, based upon this assurance statement.

Scope of Assurance

The GHG emissions data covered by our examination comprise Direct emissions (Scope 1 emissions) and Energy indirect emissions (Scope 2 emissions) from LH boundary of the report;

- **Organizational boundary for reporting:** Domestic business sites of LH
- **GHG emissions under verification:** GHG emissions & energy consumption from 2021

Verification Approach

The verification has been conducted by DNV from February to March 2022 and performed in accordance with the verification principles and tasks outlined in the guidelines on the operation of GHG ETS (Notification No. 2021-278, Korean Ministry of Environment) and the verification guideline for GHG ETS (Notification No. 2021-115, Korean Ministry of Environment). We planned and performed our work to obtain all the information and explanations deemed necessary to provide us with sufficient evidence to provide a reasonable verification opinion concerning the completeness of the emission inventory as well as the reported emission figures in ton CO₂ equivalent. As part of the verification process;

- We have reviewed and verified the GHG emissions and energy consumption report for the calendar year 2021
- We have reviewed and verified the process to generate, aggregate and report the emissions and energy data

Scope of Organization and Verification details

Heating value, emission coefficient, and others used to calculate emissions are checked to verify if they were proper, and relevant results are stated. Whether or not the emission coefficient suggested in the submitted 「monitoring plan」 is used, whether or not the subject actually uses fuel and others suggested in the submitted 「monitoring plan」, etc., may be included.

Serial Number	Business Site Name	Details	Examiners
001	Korea Land and housing Corporation HQs	Parameters such as calorific value, emission coefficient, and conversion coefficient applied to the activity data were applied in accordance with the guidelines.	Jang Sang-Rye
002	Korea Land and housing Corporation's Asan Energy Project Team	Parameters applied to active data were all properly applied in accordance with guidelines. 1. In case of LNG for cogeneration facilities, the nation’s own emission coefficient and heating values in Tier 2 were applied in consideration of the increase of emissions in the future. For other fixed combustions and moving combustions, heating values and emission coefficient in Tier 1 level were applied. 2. In case of using indirect-emission outside electricity, the nation’s own electricity emission coefficient was applied according to guidelines. 3. In case of SF6, emission volume was estimated by applying the same value after receiving rated capacity from the manufacturer, Hyosung. 4. As for the emergency generators and firefighting pumps, emission volume was calculated by reflecting their design values. 5. Other emission activities were also applied in accordance with stipulated guidelines.	Jang Sang-Rye

Serial Number	Business Site Name	Details	Examiners
003	Korea Land and housing Corporation's Daejeon Energy Project Team	Parameters applied to active data were all properly applied in accordance with guidelines. 1. In the case of gas fuel combustions for cogeneration facilities, the nation’s own emission coefficient and heating values in Tier 2 were applied in consideration of the increase of emissions in the future. For other fixed combustions and moving combustions, heating values and emission coefficient in Tier 1 level were applied. 2. In the case of using indirect-emission outside electricity, the nation’s own electricity emission coefficient was applied according to guidelines. 3. In the case of SF6, emission volume was estimated by applying the same value after receiving rated capacity from the manufacturer, Hyosung. 4. As for the emergency generators, emission volume was calculated by reflecting their design values. 5. Other emission activities were also applied in accordance with stipulated guidelines.	Jang Sang-Rye, Choi Yong-Chul
004	Korea Land and housing Corporation's Seoul HQ etc.	14 regional business sites other than Seoul Regional Headquarters are the same as follows. Parameters such as heat emission, emission coefficient, and conversion coefficient are all properly applied in accordance with guidelines.	Jang Sang-Rye

Conclusions

As a result of the work described above, in our opinion nothing has come to our attention that would cause us to believe that the GHG emissions and energy consumption set out in LH’s report are not fairly stated. The GHG emissions and energy consumption of LH for the year 2021 were confirmed as below;

< Greenhouse Gas Emissions of LH Domestic business site for Yr 2021 >

Unit: ton CO ₂ equivalent.			
LH	Direct emissions (Scope 1)	Indirect emissions (Scope 2)	Total emissions
Domestic (in Korea)	194,088	26,330	220,418

- Total emissions is the sum of direct and indirect emissions.

Greenhouse Gas Emissions Assurance Statement Number

NO. PRJN-291559-2021-AST-KOR

24th August 2022
Seoul, Korea



Jang-Sub Lee
Country Manager

DNV Business Assurance Korea Ltd

This Assurance Statement is valid as of the date of the issuance 24th August 2022. Please note that this Assurance statement would be revised if any material discrepancy which may impact on the Greenhouse Gas Emissions of LH is subsequently brought to our attention. In the event of ambiguity or contradiction in this statement between English version and Korean version, Korean shall be given precedent.

GRI Standards (Global Reporting Initiative Standards)

Universal Standards (GRI 100)

Classification	Index	Index Description	Reporting Page	Remarks
Organizational profile	102-1	Name of organization	4	
	102-2	Activities, brands, products, and services	4	
	102-3	Location of headquarters	4	
	102-4	Location of operations	4	
	102-5	Ownership and legal form	4	
	102-6	Markets served	4	
	102-7	Scale of the organization	4	
	102-8	Information on employees and other workers	4, 99~100	
	102-9	Supply chain	64~65, 95	
	102-10	Significant changes to the organization and its supply chain	19	Phased reduction of headquarter employees (2021-2025)
	102-11	Precautionary Principle or approach	69, 78~87	
	102-12	External initiatives	116~121	
	102-13	Membership of associations	123	
	102-14	Statement from senior decision-maker	2~3	
	102-15	Key impacts, risks, and opportunities	44, 58, 74	
Strategy				
Ethics and Integrity	102-16	Missions, core values, code of conduct, principles prepared internally in relation with economic, environment and social performances and activities	12, 69, 86	
	102-17	Internal and external mechanism for advice on compliance with ethics and statutes	69, 86~87	
Governance structure	102-18	Governance structure	76~77	
	102-19	Delegating authority	76~77	
	102-21	Management responsibility for economic, environmental and social topics	14~15, 81, 88~91	
	102-22	Composition of the highest governance body and its committees	77	
	102-23	Chair of the highest governance body	76	
	102-24	Nominating and selecting the highest governance body	76~77	
	102-25	Conflicts of interest	82	
	102-26	Role of highest governance body in setting purpose, values, and strategy	77	
	102-27	Collective knowledge of highest governance body	76~77	
	102-28	Evaluating the highest governance body's performance	77	
	102-29	Identifying and managing economic, environmental, and social impacts	14~17, 77, 81	
	102-31	Review of economic, environmental, and social topics	13, 76~77	
	102-33	Communicating critical concerns	14~15, 81	
	102-34	Nature and total number of critical concerns	16~17, 77	
	102-35	Remuneration policies	77	
	102-40	List of stakeholder groups	14~15	

Classification	Index	Index Description	Reporting Page	Remarks
Governance structure	102-41	Ratio of employees subject to collective agreement	102	
	102-42	Identifying and selecting stakeholders	14~15	
	102-43	Approach to stakeholder engagement	14~15, 88~91	
	102-44	Key topics and concerns raised through stakeholder engagement	14~17	
	102-45	Entities included in the consolidated financial statements	-	2021 Auditor Report (p.18)
Report Practice	102-46	Defining report content and topic Boundaries	About this Report	
	102-47	List of material topics	16~17	
	102-48	Restatements of information	-	
	102-49	Changes in reporting	19	Phased reduction of headquarter employees (2021-2025)
	102-50	Reporting Period	About this Report	
	102-51	Date of most recent report	About this Report	
	102-52	Reporting cycle	About this Report	
	102-53	Contact point for questions regarding the report	About this Report	
	102-54	Claims of reporting in accordance with the GRI Standards	About this Report	
	102-55	GRI content index	114~117	
	102-56	External assurance	110~111	
	103-1	Explanation of the material topic and its Boundary	16~17	
	103-2,3	The management approach and its components, Evaluation of the management approach	24~25, 44, 58, 74	

Topic-specific Standards_ Economic Performance (GRI 200)

Classification	Index	Index Description	Reporting Page	Remarks
Economic Performance	201-1	Direct economic value generated and distributed	95, 106~107	
	201-2	Financial implications and other risks and opportunities due to climate change	24~25, 30~33	
Market Presence	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	101	
Indirect Economic Impacts	203-1	Development and impact of infrastructure investments and services supported	70~73, 106~107	
	203-2	Significant indirect economic impacts	64~65, 70~73, 106~107	
Procurement Practice	204-1	Ratio of local purchases in major business areas	95	
Anti-corruption	205-1	Operations assessed for risks related to corruption	69, 87	
	205-2	Communication and training on anti-corruption policies and procedures	40~41, 83	
	205-3	Confirmed corruption cases and actions against them	40~41	

GRI Standards (Global Reporting Initiative Standards)

Topic-specific Standards_ Environmental Performance (GRI 300)

Classification	Index	Index Description	Reporting Page	Remarks
Energy Management	302-1	Energy consumption within the company	96	
	302-2	Energy consumption outside of the organization	96	
	302-4	Reduction of energy consumption	50~51, 97	
	302-5	Reductions in energy requirements of products and services	50~51, 97	
Water and Effluents	303-3	Water withdrawal	95	
	303-4	Water discharge	98	
	303-5	Water use	95	
Biodiversity	304-3	Habitats protected or restored	48	
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	48	
Air Emissions	305-1	Direct (Scope 1) GHG emissions	88	
	305-2	Energy indirect (Scope 2) GHG emissions	88	
	305-5	Reduction of GHG emissions	28~29, 88	
	305-6	Emissions of ozone-depleting substances (ODS)	90	
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	90	
Waste	306-3	Waste generated	89	
	306-4	Waste diverted from disposal	89	
	306-5	Waste directed to disposal	89	
Compliance	307-1	Non-compliance with environmental laws and regulations	48	

Topic-specific Standards_ Social Performance (GRI 400)

Classification	Index	Index Description	Reporting Page	Remarks
Employment	401-1	Total number and rates of new employee hires and employee turnover by age group, gender and region	66, 99~100	
	401-2	Benefits provided to full-time employee that are not provided to temporary or part-time employees	101	
	401-3	Use of Parental Leave	101	
Occupational Health and Safety	403-1	Occupational health and safety management system	34~35	LH Safety and Health Management Policy and Safety and Disaster Organization
	403-2	Hazard identification, risk assessment, and incident investigation	34~35	LH Main tasks of safety disaster
	403-3	Occupational health services	67	
	403-4	Worker participation, consultation, and communication on occupational health and safety	36~37	
	403-5	Worker training on occupational health and safety	36~37	
	403-6	Promotion of worker health	36~37, 67	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	36~37	
	403-8	Workers covered by an occupational health and safety management system	102	

Topic-specific Standards_ Social Performance (GRI 400)

Classification	Index	Index Description	Reporting Page	Remarks
Occupational Health and Safety	403-9	Work-related injuries	102	
	403-10	Work-related ill health	102	
Training and Education	404-1	Average hours of training per year per employee	100	
	404-2	Programs for upgrading employee skills and transition assistance programs	67~68	
	404-3	Percentage of employees that receive regular performance and career development reviews	67	
Diversity and Equal Opportunity	405-1	Composition of governance bodies and breakdown of employees per employee category	68, 76, 100	
	405-2	Ratio of basic salary and remuneration of women to men	101	
Non-discrimination	406-1	Total Number of Incidents of Discrimination and Corrective Actions Taken	68	No violations
Human Rights Assessment	412-1	Workplace subjected to human rights impact assessment	69, 87	
	412-2	Employee training on human rights policies or procedures	69, 87	
Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	70~73, 88~91	
Protecting customer information	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	63, 104	No violations
Compliance	419-1	Incidents of non-compliance concerning the health and safety impacts of products and services	20~23	Previous year's sustainability report (pp.20-21)

SASB (Sustainability Accounting Standards Board)

Classification	Metric	LH Activities	Reporting Page
Land Use & Ecological Impacts	Number of (1) lots and (2) homes delivered on redevelopment sites	Urban regeneration project	29, 57
	Number of (1) lots and (2) homes delivered in regions with High or Extremely High Baseline Water Stress	-	-
	Total amount of monetary losses as a result of legal proceedings associated with environmental regulations	-	56
Workforce Health & Safety	Discussion of process to integrate environmental considerations into site selection, site design, and site development and construction	Strengthening environment management system at construction sites	56
	(1) Total recordable incident rate ("TRIR") and (2) fatality rate for (a) direct employees and (b) contract employees	On-Site Safety and Health Management to Prevent Safety Accidents	34~37, 102
Design for Resource Efficiency	(1) Number of homes that obtained a certified HERS® Index Score and (2) average score	Zero energy housing project	50, 97
	Percentage of installed water fixtures certified to WaterSense® specifications	Safe houses with clean air and water	62
	Number of homes delivered certified to a third-party multi-attribute green building Standard	Zero energy housing project	50, 97
	Description of risks and opportunities related to incorporating resource efficiency into home design, and how benefits are communicated to customers	Zero energy housing project, Green remodeling, Green technology product and service development	50~53
Community Impacts of New Developments	Description of how proximity and access to infrastructure, services, and economic centres affect site selection and development decisions	Revitalization of the local economy, Balanced Development, Infrastructure investment	70~71
	Number of (1) lots and (2) homes delivered on infill sites	Long-life modular housing project	48
	(1) Number of homes delivered in compact developments and (2) average density	-	-
Climate Change Adaptation	Number of lots located in 100-year flood zones	-	-
	Description of climate change risk exposure analysis, degree of systematic portfolio exposure, and strategies for mitigating risks	Climate Change Response to Realize Carbon Neutrality	30~33

TCFD (Taskforce on Climate-related Financial Disclosures)

Classification	Principle	LH Activities	Reporting Page
Governance	Describe the board's oversight of climate-related risks and opportunities	The ESG Subcommittee under the BOD reviews and decides on directions, goals, risks, and opportunities in terms of our climate change response, the environment, society, and governance	13, 77
	Describe management's role in assessing and managing climate-related risks and opportunities		
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Establishment/execution of short-term, mid-to-long-term ESG management strategies and tasks through risk and opportunity analysis	21, 24~25, 30~33, 44~45
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	Risk identification and response activities based on ESG management strategies and the internal and external management environment	30~33, 44~45, 78~79
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	-	-
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks	LH 2030 Zero Energy vision, implementation strategy, implementation roadmap development process	30~33
	Describe the organization's processes for managing climate-related risks	LH 2030 Zero Energy vision, implementation strategy, implementation roadmap development process	30~33
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	Risk identification and response activities based on ESG management strategies and the internal and external management environment	30~33, 24~25, 44~45, 78~79
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	KPIs for LH 2030 Zero Energy vision, implementation strategy, implementation roadmap and LH ESG management strategy	21, 24~25, 30~33, 44~45
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	LH's GHG emissions and reduction plan	30~33, 96
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	LH's ESG management implementation goals and performance	21, 30~33, 46~57, 96~98

K-ESG Guideline

Classification	Section	Subsection	Reporting Page	Remark (Website)
Information Disclosure (P)	Information Disclosure Type	Method, period, and scope of ESG information disclosure	About this Report	
	Information Disclosure Content	ESG core issues and KPIs	16~17, 21	
	Information Disclosure Verification	ESG information disclosure verification	110~111	
Environment (E)	Environmental Management Objective	Establishment of environmental management objectives	13, 21, 24~25, 30~33, 44~45	
		Environmental management system	13, 30~33	
	Raw and Subsidiary Materials	Raw and subsidiary material consumption	-	
		Ratio of recycled raw materials	-	
	GHG	Greenhouse gas (GHG) emissions (Scope 1, 2)	96	
		Greenhouse gas (GHG) emissions (Scope 3)	-	
		Greenhouse gas (GHG) emissions verification	112~113	
	Energy Management	Energy consumption	96	
		Ratio of renewable energy use	96	
	Water	Amount of water used	96	
		Ratio of re-used water	96	
	Waste	Waste generated	97	
		Waste recycling rate	97	
	Pollutants	Air pollutant emissions	98	
		Water pollutant emissions	98	
Social (S)	Violation of environmental laws/regulations	Violation of environmental laws/regulations	56	
	Environmental Labeling	Ratio of environment-friendly eco-certified products and services	52~53, 97~98	
	Targets	Target setting and disclosure	13, 21, 24~25, 58~59	
	Labor	New employee hiring and employment retention	66, 99~100	
		Ratio of permanent employees	99	
		Voluntary turnover rate	100	
		Training expense	100	
		Fringe benefits	101	
		Guarantee of freedom of association	102	
	Diversity and Gender Equality	Ratio of female employees	68, 99~100	
		Ratio of female employees' wages (compared to average wage)	101	
		Employment rate for persons with disabilities	100	
	Industrial Safety	Safety and health management system	34~37	LH Safety and Health Management Policy and Safety and Disaster Organization
		Rate of occupational accidents	102	
	Human Rights	Human rights policy	69, 87	LH Human Rights Management Charter and Human Rights Implementation Guidelines
		Human rights risk assessment	69, 87	
	Win-Win growth	ESG management of suppliers	64~65	
		ESG support for suppliers	64~65	
		ESG agreements with suppliers	64~65	
Governance (G)	Local Communities	Strategic social contribution	70~72	
		Employees' participation in volunteer work	73	
	Information protection	Establishment of information protection system	63	
		Infringement and recovery of personal information	63, 104	
	Violation of Social Laws/Regulations	Violation of social laws/regulations	20~23	Previous year's sustainability report (pp.20-21)
	Composition of the BOD	Presenting ESG issues within the BOD	77	
		Ratio of independent directors	76	
		Separation of the CEO and the chairman of Board of Directors	76	
		Gender diversity in the BOD	76	
		Expertise of independent directors	76~77	
		Attendance rate of all directors	76	
	BOD Activities	Attendance rate of executive directors	76	
		BOD Committees	77	
		Handling of issues within the BOD	76~77	
	Shareholder Rights	Announcement of general shareholder meetings	-	
		General shareholder meeting held on an ordinary day not coinciding with other companies' AGMs	-	Reporting/Disclosure
		Concentrated/Electronic/Written voting system	-	
		Dividend policy and implementation	95	
	Ethical Management	Disclosure of violations of the Code of Ethics	40	Integrity reminder
Audit Organization	Internal audit department	Internal audit department	77, 80, 82, 84, 86	
		Expertise in audit organization	77, 80~82	
	Violation of Governance Laws/Regulations	Violation of governance-related laws/regulations	-	No violations

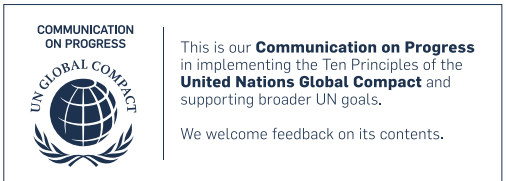
ISO 26000

ISO 26000 (Guidance on social responsibility) defines social responsibility issues and provides guidelines and recommendations for seven core topics: governance, human rights, labor practices, environment, fair trade, consumer issues, and community participation and development. LH manages core topics and issues important to stakeholders based on these seven topics, in accordance with ISO 26000.

Topics	Core issues	Reporting Page	Remark (Website)
Organizational Governance	Decision-making processes and structure, delegation of authority	76~77	
Human Rights	Due diligence		See Website
	Human rights risk situations		
	Avoidance of Complicity		LH Human Rights Management Charter and Human Rights Implementation Guidelines
	Resolving grievances	67~69, 87,	
	Discrimination and vulnerable groups	100~102, 104	
	Civil and political rights		
	Economic, social and cultural rights		Provisions of LH Company Rules
	Fundamental principles and rights at work		
Labor Practices	Employment and employment relationships		See Website
	Conditions of work and social protection	34~37,	
	Social dialogue	66~67,	LH Safety and Health Management Policy and Safety and Disaster Organization
	Health and safety at work	100~102	
	Human development and training in the workplace		
Environment	Prevention of pollution		-
	Sustainable resource use	30~33,	
	Climate change mitigation and adaptation	44~57,	
	Protection of the environment, biodiversity, and restoration of natural habitats	96~98	
Fair Operating Practices	Anti-corruption		See Website
	Responsible political involvement	38~41,	Ethical Management
	Fair competition	64~65,	Compliance Program
	Promoting social responsibility in the value chain	80~87,	Win-Win growth
	Respect for property rights	88~91,	Reporting Channels, etc.
Consumer Issues		102~103	
	Fair marketing, factual and unbiased information and fair contractual practices		See Website
	Protecting consumers' health and safety		Personal information management status
	Sustainable consumption	14~15,	
	Consumer service, support, dispute resolution	26~29,	Incorrect service correction and compensation
	Consumer data protection and privacy	62~63,	
Community involvement and development	Access to essential services	88~91,	Commnication with People
	Education and awareness	104~105	
	Community involvement		-
	Education and culture	60~61,	
	Employment creation and skills development	62~63,	
	Technology development and access	64~65,	
	Wealth and income creation	66,	
	Health	70~73,	
	Social investment	103, 105	

UNGC (UN Global Compact)

In support of the Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, the United Nations Convention Against Corruption, and the UN Guiding Principles on Business and Human Rights, the UN Global Compact (UNGC) has defined 10 Principles covering four areas: human rights, labor, environment and anti-corruption. LH joined the UN Global Compact in October 2005 and complies with the 10 UNGC Principles throughout our management activities.



Classification	Principle	LH Activities	Reporting Page
Human Rights	1. Businesses should support and respect the protection of internationally proclaimed human rights; and	Respecting diversity and preventing human rights violations	68~69, 87, 100, 104
	2. make sure that they are not complicit in human rights abuses.		
Labor	3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	Mutual respect and communication between labor and management, Respecting diversity and prohibition against discrimination, Prevention of human rights violations	68~69, 87, 100, 102, 104
	4. the elimination of all forms of forced and compulsory labour;		
	5. the effective abolition of child labour; and		
	6. the elimination of discrimination in respect of employment and occupation.		
Environment	7. Businesses should support a precautionary approach to environmental challenges;	Climate change response, Low-carbon and green cities, Zero energy housing, Clean energy	30~33, 44~57, 96~98
	8. undertake initiatives to promote greater environmental responsibility; and		
	9. encourage the development and diffusion of environmentally friendly technologies.		
Anti-corruption	10. Businesses should work against corruption in all its forms, including extortion and bribery.	Strengthening the internal control system, Compliance ethical management and integrity, Compliance culture, etc.	38~41, 80~87

UN SDGs (UN Sustainable Development Goals)

LH contributes to solving social problems and creating public value by operating programs based on our core business strategies and the UN Sustainable Development Goals.

Classification	Definition of LH SDGs	Reporting Page	Classification	Definition of LH SDGs	Reporting Page
	End poverty in all its forms everywhere	61, 72~73		Reduce income inequality within and among countries	61, 64~65, 68~69, 72~73
	End hunger, achieve food security and improved nutrition, and promote sustainable agriculture	70		Make cities and human settlements inclusive, safe, resilient, and sustainable	70~73
	Ensure healthy lives and promote well-being for all at all ages	60~63		Ensure sustainable consumption and production patterns	88~91, 95, 106~107
	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	70, 73		Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy	30~33, 44~57, 96~98
	Achieve gender equality and empower all women and girls	68, 76		Conserve and sustainably use the oceans, seas and marine resources for sustainable development	51, 57
	Ensure availability and sustainable management of water and sanitation for all	62, 96, 98		Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	56~57
	Ensure access to affordable, reliable, sustainable and modern energy for all	54~55, 96		Enhance human rights management and ethical management	68~69, 87
	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	64, 66, 68, 99~100		Strengthen the means of implementation and revitalize the global partnership for sustainable development	121, 123
	Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation	70~71			

Certifications

ISO Certification



Quality Management (ISO 9001)



Environmental Management (ISO 14001)

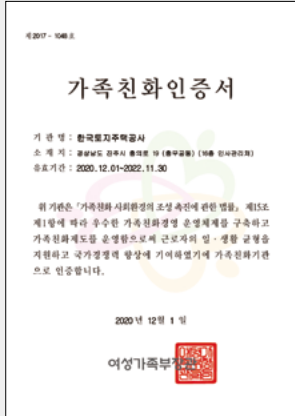


Smart City (ISO 37106)
_ Hanam, Gyeonggi-do



Smart City (ISO 37106)
_ Wonju, Gangwon-do

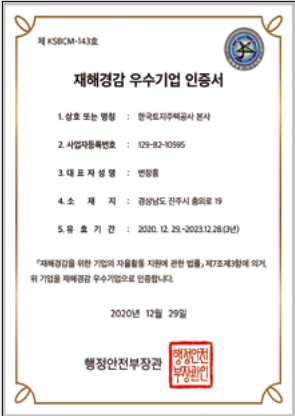
Government and Public Agency certifications



Family-Friendly Institution Certification



Labor-Management Culture Enterprise Certification



Business Continuity Management System Certification



Safety and Health Management (KOSHA-MS)



Web Accessibility Certification (LH Korean Website)



Web Accessibility Certification (LH English Website)



Web Accessibility Certification (LH Pre-subscription Website)

Awards & Recognitions / Memberships

Awards & Recognitions

* As of January 1, 2020 ~ December 31, 2021

Date	Organization	Awards
2021.12.31	Ministry of Public Administration and Security	Ministerial Commendation for Education for Disaster Safety Workers
2021.12.31	National Fire Agency	Ministerial Commendation for Improvement of Fire Fighting Systems
2021.12.31	Ministry of Culture, Sports and Tourism	Ministerial Commendation for Promotion of Disability Sport
2021.10.20	Ministry of Land, Infrastructure and Transport/ Korea Institute of Registered Architects	Grand Prize at the 2021 Korea Architecture and Culture Awards (Apartment Housing)
2021.08.12	Ministry of Patriots and Veterans Affairs	Appreciation Plaque for Housing Support for Persons of National Merit
2021.08.05	Ministry of Land, Infrastructure and Transport/ Korean Institute of Landscape Architecture	2021 Prime Minister's Prize at the Korea Landscape Awards
2021.12.16	Ministry of Public Administration and Security	Commendation for Building Disaster Relief Cooperative Systems (Meritorious Service in Fire Safety Welfare Projects)
2021.11.18	Ministry of Environment	Best award at the natural environment contest (Hwaseong Dongtan 2 Carbon Offset Forest, Jaramoe Park)
2021.09.10	Ministry of Land, Infrastructure and Transport	Excellence Award for Smart City Integration Platform (Commendation from the Ministry of Land, Infrastructure, and Transport)
2021.07.02	Korea Self-support Enterprise Association	Appreciation Plaque for Revitalization of Social Economy
2021.02.25	Newsis	2021 Korea Job Awards (Minister of Land, Infrastructure and Transport Award)
2020.12.14	The Presidential Committee on Jobs	2020 Korea Job Awards
2020.12.12	Ministry of Public Administration and Security	2020 Minister's Commendation for Safety and Culture Awards
2020.12.11	Korea CSR Foundation	2020 Korea CSR Awards (Job Creation)
2020.12.11	Ministry of Education	Best Corporation at the 2020 Korea CSR Awards
2020.12.09	Korea Productivity Center	Government Award for Meritorious Service in Sustainable Management
2020.11.19	Ministry of Land, Infrastructure and Transport/ Korea Institute of Registered Architects	2020 Excellence Award at the Korean Architecture Awards
2020.11.04	Ministry of SEMs and Startups	Meritorious Service in Win-Win Cooperation between SMEs and Large Enterprises
2020.09.16	Ministry of Land, Infrastructure and Transport/ Korea Institute of Construction Technology	2020 Grand Prize in the Korea Green Architecture Competition
2020.09.01	Korea Consumer Association	2019 Korean Consumer Prize (for realizing social values)
2020.06.01	IDC (International Data Corporation)	IDC Smart City Asia-Pacific Awards (Public Safety)
2020.01.15	Ministry of Public Administration and Security	2019 Prime Minister's Award for Safety Korea drills

Memberships

* As of December 31, 2021

Urban Land Institute	Smart City Association	Korea Museum Association	The Korean Institute of Landscape Architecture
Gyeongnam MECENAT Association	UN Global Compact Network Korea	Korean Association of Disaster Prevention	Korea Housing Welfare Forum
Gyeongsangnam-do Museum Council	Jinju Chamber of Commerce	Korea Ecological Restoration Association	Korea Housing Service Society
Korea Spatial Information Society	Korea Audit Association	Korea Service Management Society	The Korean Housing Association
Korean Society of Transportation	Korea Institute of Construction Safety	Korea Equipment Technology Association	Residential Environment Institute of Korea
Korea Planners Association	Architecture Design Institute of Korea	Korea Water Resources Association	Korean Geotechnical Society
Korea Institute of Industrial Engineers	Korea Institute of Landscape Architecture	Korea Smart Grid Association	Korean Academic Society of Occupational Health Nursing Association
Korea Industrial Safety Association	Korea Public Authority Audit Council	Korean Wetlands Society	Korea Collective Energy Association
Korea Association of Registered Mechanical Engineering	Korea Structural Diagnosis and Maintenance Engineering Association	Korean Society for Indoor Environment	Korea Quality Management Institute
Korea Electric Association	Korea Library Association	Korea Institute of Safety	Korean Society of Environment Impact Assessment
Urban Regeneration Governance Forum	Korea Institute of Urban Planners	Korea Energy Engineer Association	International Contractors' Association of Korea
Korea Emission Market Association	Urban Design Institute of Korea	Korea Institute of Electrical Engineers	Honam Archaeological Society

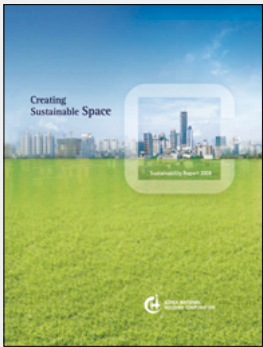
Sustainability Report Publication

Korea National Housing Corporation

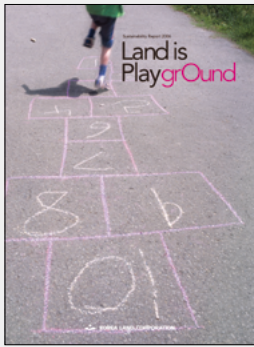


2007

Korea Land Corporation



2008



2006



2007



2008

Korea Land and Housing Corporation (after Launch of LH)



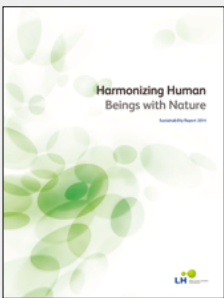
2011(UNGC COP)



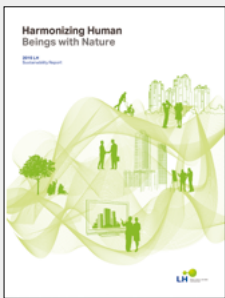
2012



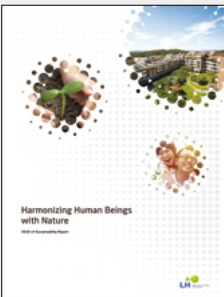
2013



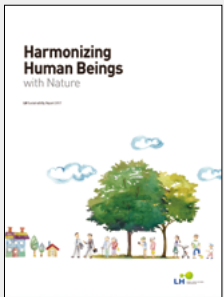
2014



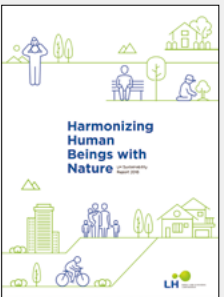
2015



2016



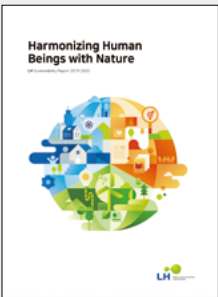
2017



2018



2019(UNGC COP)



2019-2020



2021



2022 LH ESG SUSTAINABILITY REPORT

* This report was published in the format of interactive PDF with the added functions of bringing you to relevant pages and associated web pages.

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